

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
POWERTECH (USA) INC.,)	Docket No. 40-9075-MLA
)	ASLBP No. 10-898-02-MLA-BD01
(Dewey-Burdock In Situ Uranium Recovery)	
Facility))	

LIST OF CONTENTIONS OF THE OGLALA SIOUX TRIBE
BASED ON THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309, and this Board’s Scheduling Orders dated November 2, 2010, October 16, 2012, and December 18, 2012, Intervenor Oglala Sioux Tribe (Tribe) hereby sets forth the following additional contentions in this proceeding regarding the Draft Supplemental Environmental Impact Statement (DSEIS) for Powertech (USA) Inc.’s proposed Dewey-Burdock Project in-situ leach (ISL) uranium mine. The Tribe’s standing to was confirmed in this Board’s Order of August 5, 2010, which was not appealed. As such, pursuant to 10 C.F.R. § 2.309(c)(4), the Tribe is not required to address issues related to standing in this filing.

The Oglala Sioux Tribe is a federally-recognized Indian Tribe, located on the Pine Ridge Reservation. The Oglala Sioux Tribe is a body politic comprised of approximately 41,000 citizens, with territory of over 4,700 square miles in the southwestern portion of South Dakota. The Oglala Sioux Tribe is the freely and democratically-elected government of the Oglala Sioux people, with a governing body duly recognized by the Secretary of Interior. The Oglala Sioux Tribe is the successor in interest to the Oglala Band of the Teton Division of the Sioux Nation, and is a protectorate nation of the United States of America. The Oglala Band reorganized in

1936 as the “Oglala Sioux Tribe of the Pine Ridge Indian Reservation” under section 16 of the Indian Reorganization Act of June 18, 1934, ch. 576, 48 Stat. 987, 25 U.S.C. § 476, and enjoys all of the rights and privileges guaranteed under its existing treaties with the United States in accordance with 25 U.S.C. § 478b. The Tribe’s address is P.O. Box 2070, Pine Ridge, South Dakota 57770-2070.

As discussed at length in the Tribe’s Petition for Hearing filed on April 6, 2010, and supported by declarations of Tribal government officials, the Tribe opted to enter these proceedings because the project may pose serious threats to the Tribe’s cultural, historic, economic, and conservation interests. As detailed herein, the Draft Supplemental Environmental Impact Statement (DSEIS) fails to meet the requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4231, *et seq.*, the National Historic Preservation Act (NHPA), 16 U.S.C. § 470, *et seq.*, and implementing regulations, including NRC regulations in 40 C.F.R. Part 51. These failures are particularly troubling given that many of the same issues were identified in the Tribe’s initial statement of contentions premised on Powertech’s Environmental Report, Technical Report, and Supplemental Report that comprised the application. Despite the intervening two and one-half years, it appears that very little, if any, additional information was collected by Powertech or required by NRC Staff to resolve the serious environmental and cultural issues identified by the Tribe in its April 6, 2010 filing.

The Tribe also provided substantial comments to the NRC during the public comment period which ended January 10, 2013. These comments are incorporated by reference herein and attached for inclusion within the adjudicatory hearing docket record, to the extent they are not already so included. See Exhibit 1, Comments of the Oglala Sioux Tribe on the Dewey-Burdock Draft Supplemental Environmental Impact Statement, with attachments (referred to herein as

“OST comments on the DSEIS”). Although the Board has applied NRC regulations in a manner that compels presentation of NEPA contentions during an ongoing NEPA process, the Tribe reserves the right to pursue these and additional NEPA claims once the NEPA process is complete.

As discussed herein, substantial issues remain concerning undetermined impacts to the Tribe’s cultural and historic resources, and the lack of information necessary to determine the hydrogeology and geochemistry of the site. The latter includes, but is not limited to, the lack of a defensible baseline ground water characterization, the lack of a thorough review of the natural and manmade interconnections between aquifers in the area that may allow for cross-contamination with the aquifer slated for chemical mining, and the lack of the required analysis of proposed mitigation measures.

Regarding cultural and historic resources, the DSEIS carries forward serious problems from the application stage. Despite having years to do so, neither Powertech nor NRC Staff have provided the Tribe a meaningful opportunity to be involved in the assessment or determination of the significance of the identified sites, nor a meaningful opportunity to identify additional sites that may warrant evaluation or listing. The Applicant has entered into a Memorandum of Agreement with the State of South Dakota regarding analysis and evaluation of historic, cultural, and archaeological sites, but has not included the Tribe in this Memorandum.

The attached Supplemental Declaration of Dr. Robert E. Moran details the lack of scientifically-defensible analysis in the DSEIS regarding potential impacts to ground water associated with the proposed Project. See Supplemental Declaration of Dr. Robert E. Moran, attached as Exhibit 2. Importantly, while Dr. Moran’s supplemental declaration supports many of the contentions raised herein, several of the contentions arise from errors of omission – failure

of the DSEIS to conduct required analyses and failure to review necessary components of the project – and thus do not require an expert opinion in support.

II. DSEIS CONTENTIONS

As required by 10 C.F.R. § 2.309, the Tribe sets forth below the specific contentions that it seeks to have litigated in this proceeding. Each contention raises issues with respect to the sufficiency of the DSEIS under the National Environmental Policy Act (“NEPA”), National Historic Preservation Act (“NHPA”), and applicable regulations, including those of NRC, the federal Advisory Council on Historic Preservation (“ACHP”), and the Council on Environmental Quality (“CEQ”). At minimum, each contention set forth below implicates and asserts violations of 10 C.F.R. §§ 51.10, 51.70, and 51.71, which require NRC compliance with all provisions of NEPA as well as the NHPA, and any other applicable federal, state, and local requirements.

DSEIS Contention 1: Failure to Meet Applicable Legal Requirements Regarding Protection of Historical and Cultural Resources, and Failure to Involve or Consult the Oglala Sioux Tribe as Required by Federal Law

The DSEIS fails to meet the requirements of NEPA, the NHPA, and 40 C.F.R. §§ 51.10, 51.70 and 51.71, along with the NRC, ACHP, and CEQ regulations because it lacks an adequate description of either the affected environment or the impacts of the project on archaeological, historical, and traditional cultural resources. The DSEIS also fails to analyze or demonstrate compliance with the relevant portions of NRC guidance included at NUREG-1569 section 2.4.

Basis and Discussion:

This contention is supported by the Declaration of Wilmer Mesteth, Oglala Sioux Tribe Tribal Historic Preservation Officer (Attached as Exhibit 7 to the Tribe’s April 6, 2010 Petition to Intervene), record documents referenced below and attached hereto, as well as omissions in the DSEIS.

10 C.F.R. § 51.71(d) and NEPA require each draft DEIS to include an analysis of all environmental impacts of a proposed action, including cultural impacts. 10 C.F.R. § 51.70(a) places an affirmative duty on NRC Staff to conduct all NEPA analysis in conjunction with other surveys or studies required under federal law. This includes necessary surveys required under NEPA and the NHPA. In this case, the DSEIS demonstrates that a significant number of archaeological, historical, and traditional cultural resources on site have not been evaluated because the agency has not completed its cultural resource inventory (DSEIS at xxxix); therefore, the potential impacts to these resources have not been addressed. Despite this confirmed lack of adequate survey, the DSEIS prematurely determines that the impacts from operations fit within the “small” category. Such pre-ordained and categorical conclusions, without the benefit of necessary information and a competent analysis raise serious legal and procedural questions regarding the integrity of the entire DSEIS analysis, and form the basis for a contention as to whether or not the DSEIS conforms with NRC regulations, the NHPA, and NEPA, and the implementing regulations for these laws.

These same problems were identified in the Tribe’s April 6, 2010 filing, yet despite ample time to do so in the interim time period, no additional analysis has been performed by NRC Staff. While the DSEIS identifies some of the known cultural sites, given the lack of involvement by the Tribe, as discussed below, this number is undoubtedly higher.

Among the applicable requirements are those under the National Historic Preservation Act (“NHPA”) and related Executive Orders. Under these authorities, the NRC is required to fully involve Native American Tribes in all aspects of decision-making affecting Tribal interests such as those directly impacted by the project. These mandates require NRC to consult with Tribes as early as possible in the decisionmaking process. Here, despite having the applicant’s

materials since 2009, and the Tribe's contentions regarding lack of adequate surveys since April 6, 2010, the NRC has not meaningfully engaged in the required consultation process. These problems have been further described in email and letter correspondence between affected Tribes and the NRC Staff. See communications regarding NEPA and NHPA compliance attached to OST comments on the DSEIS as Exhibit 10; Letter from OST President John Yellow Bird Steele to Mr. Kevin Hsueh, Chief, NRC Environmental Review Branch, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs dated November 5, 2012 (attached as Exhibit 3). In the letter from OST President Steele, the Tribe expresses its "deep dismay" with NRC Staff's proposals for furthering its cultural resources review of the Dewey-Burdock project area. As the letter makes abundantly clear, these problems are a significant issue and reveal that NRC Staff is not carrying out its agency responsibilities in a manner that recognizes and respects the government-to-government relationship. The failure to engage the Tribe on NHPA issues in a meaningful way at the earliest possible time and within the NEPA process presents a ripe contention in this proceeding.

The federal courts have addressed the strict mandates of the National Historic Preservation Act:

Under the NHPA, a federal agency must make a reasonable and good faith effort to identify historic properties, 36 C.F.R. § 800.4(b); determine whether identified properties are eligible for listing on the National Register based on criteria in 36 C.F.R. § 60.4; assess the effects of the undertaking on any eligible historic properties found, 36 C.F.R. §§ 800.4(c), 800.5, 800.9(a); determine whether the effect will be adverse, 36 C.F.R. §§ 800.5(c), 800.9(b); and avoid or mitigate any adverse effects, 36 C.F.R. §§ 800.8[c], 800.9(c). The [federal agency] must confer with the State Historic Preservation Officer ("SHPO") and seek the approval of the Advisory Council on Historic Preservation ("Council").

Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 805 (9th Cir. 1999). See also 36 CFR § 800.8(c)(1)(v)(agency must “[d]evelop in consultation with identified consulting parties alternatives and proposed measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties and describe them in the [NEPA document].”)

NRC Staff interpretations of these requirements are not entitled to deference. The Advisory Council on Historic Preservation (“ACHP”), the independent federal agency created by Congress to implement and enforce the NHPA, has exclusive authority to determine the methods for compliance with the NHPA’s requirements. See *National Center for Preservation Law v. Landrieu*, 496 F. Supp. 716, 742 (D.S.C.), *aff’d per curiam*, 635 F.2d 324 (4th Cir. 1980). The ACHP’s regulations “govern the implementation of Section 106,” not only for the Council itself, but for all other federal agencies. *Id.* See *National Trust for Historic Preservation v. U.S. Army Corps of Eng’rs*, 552 F. Supp. 784, 790-91 (S.D. Ohio 1982).

NHPA § 106 (“Section 106”) requires federal agencies, prior to approving any “undertaking,” such as this Project, to “take into account the effect of the undertaking on any district, site, building, structure or object that is included in or eligible for inclusion in the National Register.” 16 U.S.C. § 470(f). Section 106 applies to properties already listed in the National Register, as well as those properties that may be eligible for listing. See *Pueblo of Sandia v. United States*, 50 F.3d 856, 859 (10th Cir. 1995). Section 106 provides a mechanism by which governmental agencies may play an important role in “preserving, restoring, and maintaining the historic and cultural foundations of the nation.” 16 U.S.C. § 470.

If an undertaking is the type that “may affect” an eligible site, the agency must make a reasonable and good faith effort to seek information from consulting parties, other members of the public, and Native American tribes to identify historic properties in the area of potential

effect. *See* 36 CFR § 800.4(d)(2). See also *Pueblo of Sandia*, 50 F.3d at 859-863 (agency failed to make reasonable and good faith effort to identify historic properties).

The NHPA also requires that federal agencies consult with any “Indian tribe ... that attaches religious and cultural significance” to the sites. 16 U.S.C. § 470(a)(d)(6)(B). Consultation must provide the tribe “a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects.” 36 C.F.R. § 800.2(c)(2)(ii).

Apart from requiring that an affected tribe be involved in the identification and evaluation of historic properties, the NHPA requires that “[t]he agency official **shall ensure that the section 106 process is initiated early in the undertaking’s planning**, so that a broad range of alternatives may be considered during the planning process for the undertaking.” 36 CFR § 800.1(c) (emphasis added). The ACHP has published guidance specifically on this point, reiterating in multiple places that consultation must begin at the earliest possible time in an agency’s consideration of an undertaking, even framing such early engagement with the Tribe as an issue of respect for tribal sovereignty. ACHP, *Consultation with Indian Tribes in the Section 106 Review Process: A Handbook* (November 2008), at 3, 7, 12, and 29.

Regarding respect for tribal sovereignty, the NHPA requires that consultation with Indian tribes “recognize the government-to-government relationship between the Federal Government and Indian tribes.” 36 CFR § 800.2(c)(2)(ii)(C). See also Presidential Executive Memorandum entitled “Government-to-Government Relations with Native American Tribal Governments” (April 29, 1994), 59 Fed. Reg. 22951, and Presidential Executive Order 13007, “Indian Sacred

Sites” (May 24, 1996), 61 Fed. Reg. 26771. The federal courts echo this principle in mandating all federal agencies to fully implement the federal government’s trust responsibility. See Nance v. EPA, 645 F.2d 701, 711 (9th Cir. 1981) (“any Federal Government action is subject to the United States’ fiduciary responsibilities toward the Indian tribes”).

Here, the application was initially submitted to the NRC in February of 2009, almost a full four years ago. Yet, the SDEIS was released for comment even though no competent cultural survey of the site has yet been conducted with any Tribal participation. To exclude the Tribe from the NEPA/NHPA process until after a draft NEPA document is prepared contravenes the requirements of the NHPA and NEPA, and NRC and NHPA regulations, and harms the Tribe’s ability to participate in the initial identification of historic/cultural properties and hampers its ability to effectively participate at the later stage when the specific impacts from a particular project are analyzed. See, e.g., 36 CFR §§ 800.4 (“Identification of historic properties”) and 800.5 (“Assessment of adverse effects”). Given these requirement of the NHPA, NEPA, and applicable regulations, the harms to the Tribe began accruing immediately upon NRC consideration of the Application in a manner that segregated the Tribe’s interdisciplinary, culturally-based consultation on the project from what NRC Staff considers technical and environmental concerns. These harms are exacerbated by the NRC Staff’s decision to issue the DSEIS despite the lack of any meaningful involvement in any survey of the affected areas.

The only meaningful relief available in a case as egregious as this is to reissue a draft SEIS for public review and comment. While NRC staff states that it is continuing to consult with certain Tribes, some of this consultation has not been as productive or inclusive as anticipated by the Tribes, including the Oglala Sioux Tribe with respect to historical and cultural survey. See letters from the Tribes to NRC regarding the proposed contract by KLJ with the

Turtle Mountain Band of Chippewa Indians and the Three Affiliated Tribes attached as Exhibit 10 to the OST comments on the DSEIS. These two Tribes contacted the NRC by letter and stated that the proposed project would not affect historic properties of importance and the THPO also stated that “determination of No Historic Properties Affected Is granted for the project to proceed. DSEIS at 1-17to 1-18. Despite this response to project, the NRC accepted their participation and contract for the survey.

Another great concern as expressed by Oglala Sioux Tribe is that the NRC and Powertech have suggested either enclosing any cultural and religious sites or giving the location so that their employees or contractors will avoid these areas during ground moving activities. DSEIS at 4-141, -142, -148, -150-151. The protection and privacy of the location of these sites must be kept confidential and undisclosed to the public. Otherwise, these identified cultural and religious sites will be open to looting or desecration before, during and after the project area has been deemed reclaimed.

In sum, this contention seeks to reintegrate the interdisciplinary study requirements of NEPA to ensure that the purposes of NEPA, the NHPA, and the government-to-government relationship are honored by NRC Staff, and included in a new, comprehensive SDEIS issued for review and comment for the Tribe, Tribal members, the public, and other interested persons.

DSEIS Contention 2: The DSEIS Fails to Include Necessary Information for Adequate Determination of Baseline Ground Water Quality

The DSEIS violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations – each requiring a description of the affected environment and impacts to the environment – in that it fails to provide an adequate

baseline groundwater characterization or demonstrate that ground water samples were collected in a scientifically defensible manner, using proper sample methodologies.

Basis and Discussion:

This contention is one of omission, and as such does not require expert support. However, the Supplemental Declaration of Dr. Robert E. Moran (attached as Exhibit 2)(hereinafter “Moran Suppl. Decl.”) provides additional support for this contention. *See e.g.* Moran Suppl. Decl. at ¶58(“The DSEIS, like the Powertech Application, fails to define pre-operational baseline water quality and quantity—both in the ore zones and peripheral zones, both vertically and horizontally.”); ¶¶ 47-74, 75, 82-84, 92-94, 95.

10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations, require a description of the affected environment containing sufficient data to aid the Commission in its conduct of an independent analysis. Further, 10 C.F.R. Part 40, Appendix A, criterion 7 requires the applicant to provide “complete baseline data on a milling site and its environs.” NUREG-1569 section 2.7.1(4) requires that ISL applications must provide an “assessment of available ground-water resources and ground-water quality within the proposed permit boundaries and adjacent properties, including a quantitative description of the chemical and radiological characteristics of the ground water and potential changes in water quality caused by operations.” NUREG-1569 section 2.7.3(4) sets forth acceptance criteria for the Application requiring a “reasonably comprehensive chemical and radiochemical analysis of water samples, obtained within and at locations away from the mineralized zone(s)...to determine pre-operational baseline conditions.” NUREG-1569, section 2.7.3(4). This acceptance criteria also requires an applicant to “show that water samples were collected by acceptable sample procedures....” *Id.* See also NUREG-1569 Section 2.7.4. Lastly,

NUREG-1569 requires that “[t]he applicant should identify the list of constituents to be sampled for baseline concentrations. The list of constituents in Table 2.7.3-1 is accepted by the NRC for *in situ* leach facilities.” NUREG-1569, section 2.7.3.

Under NEPA, an agency is required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 C.F.R. § 1502.15. The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process:

NEPA clearly requires that consideration of environmental impacts of proposed projects take place *before* [a final decision] is made.” *LaFlamme v. FERC*, 842 F.2d 1063, 1071 (9th Cir.1988) (emphasis in original). **Once a project begins, the “pre-project environment” becomes a thing of the past, thereby making evaluation of the project's effect on pre-project resources impossible. *Id.* Without establishing the baseline conditions which exist in the vicinity ... before [the project] begins, there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.**

Half Moon Bay Fisherman's Mark't Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988)

(emphasis added). **“In analyzing the affected environment, NEPA requires the agency to set forth the baseline conditions.”** *Western Watersheds Project v. BLM*, 552 F.Supp.2d 1113, 1126 (D. Nev. 2008) (emphasis added). “The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.” Council of Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act (May 11, 1999). 40 C.F.R. § 1502.22 imposes detailed requirements and justifications necessary for any agency to decline to provide necessary and relevant information.

Importantly, the details of how the baseline is established and documented is critical to an understanding of the potential impacts associated with the proposed mine. The manner in which

baseline water quality information is gathered is crucial to any analysis that relies on the data. The problems that can flow from analysis and models based on poorly gathered information is often characterized as a garbage in/garbage out. This colloquialism is more technically addressed in the attached memo from Dr. Richard Abitz and confirms that the scientific methodology employed for establishing baseline at a proposed ISL mine is important. Abitz Report (2009) attached to the OST comments on the DSEIS as Exhibit 2. As a precondition to conducting modeling and analysis, NRC must confirm that a credible scientific method is employed to establish an accurate baseline.

Unfortunately, no details with regard to methodology of acquiring baseline are described in the DSEIS. As described by Dr. Abitz, valid statistical methods and a systematic grid covering all horizons of the aquifer must be employed with respect to baseline ground water quality collection. This includes water quality information throughout the vertical extent of the affected aquifers and a spatially representative sampling protocol to provide the necessary information on ground water characteristics outside of the proposed mining zone, to accurately characterize site conditions. Lastly, as noted by Dr. Abitz, any proposed methodology that seeks to average site conditions is inappropriate, as it results in a baseline plan which is inappropriately skewed toward demonstrating a lower overall water quality. Such an approach could exaggerate the true extent of any naturally diminished water quality resulting from the presence of uranium and other heavy metals in the aquifer region. Apart from failing to set forth a competent baseline in the DSEIS, the issues described in Dr. Abitz' memo have not been described or otherwise addressed in the DSEIS. See Moran Suppl. Decl. at ¶ 73.

Instead of completing a competent baseline analysis, the DSEIS admits that NRC currently lacks information necessary to establish the baseline groundwater quality at the site.

For example, the DSEIS admits that substantial water quality data collection will only be conducted after license issuance. E.g., DSEIS at 2-16, 7-8, 7-14, 7-17.

One aspect of the baseline characterization that lacks scientific basis is the DSEIS' frequent reliance on Powertech's decision to only consider, review, and proposed monitoring (both quality and quantity) for groundwater wells within 2km of the proposed mining area. E.g., DSEIS at xxxiv, xxxv, 3-6, 4-54, 4-56, 4-57, 4-59, 5-31, 7-4. However, this 2 km figure was derived exclusively using NRC Regulatory Guide 4.14 (1980), which is relied upon by the DSEIS throughout. E.g., DSEIS at 3-94, 3-98, 7-1, 7-4, 7-13, 7-14. However, Regulatory Guide 4.14 was drafted over 30 years ago, in 1980 – and not updated since. Further, the document specifically considers and applies exclusively to conventional uranium mills – and contains no analysis or guidance premised upon any review of in-situ leach uranium mining activities. Thus, reliance on Regulatory Guide 4.14 for determining the extent of the baseline characterization and the subsequent monitoring requirements for impacts is not justified. At minimum, as required by NRC regulations, the DSEIS reliance on Regulatory Guide 4.14 in this regard is required to “be supported by evidence” substantiating that constraining these important baseline characterizing activities to a 2 km review is appropriate. The DSEIS provides no such analysis. See Supplemental Decl. of Dr. Moran at ¶¶ 92-93.

Based on this evidence, the DSEIS fails to adequately describe the affected aquifers at the site and on adjacent lands and fails to provide the required quantitative description of the chemical and radiological characteristics of these waters necessary to assess the impacts of the operation, including potential changes in water quality caused by the operations.

DSEIS Contention 3: The DSEIS Fails to Include An Adequate Hydrogeological Analysis To Assess Potential Impacts to Groundwater

The DSEIS fails to provide sufficient information regarding the hydrologic and geological setting of the area to meet the requirements of 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. As a result, the DSEIS similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

Basis and Discussion:

This contention is one of omission and thus requires no expert support. However, the Supplemental Declaration of Dr. Robert E. Moran (attached as Exhibit 2) provides additional support for this contention. See e.g., Moran Suppl. Decl. at ¶33. (“The DSEIS fails to provide detailed, site-specific information / data on the hydrogeologic characteristics of the relevant D-B water-bearing and other bounding geologic units, including the mineralized zones.”), see also e.g., ¶¶33-36, 39-48, 49, 54-56, 82-84, 85.

10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations, require each Draft EIS to include a description of the affected environment and the impact of the proposed project on the environment, with sufficient data to enable the agency and the public to assess and review the potential impacts associated with the proposed mine. 10 C.F.R. Part 40, Appendix A, Criterion 4(e) requires that uranium processing facilities, including ISL uranium mining facilities, be located away from faults that may cause impoundment failure. Criterion 5G(2) requires an adequate description of the characteristics of the underlying soils and geologic formations.

The descriptions of the affected environment under the above authorities must be sufficient to establish the potential effects of the proposed ISL operation on the adjacent surface water and ground water resources. As discussed in NUREG-1569 at 2.7.1(3), the application must include a description of the “effective porosity, hydraulic conductivity, and hydraulic gradient” of site hydrogeology, including any “other information relative to the control and prevention of excursions.” At minimum, the applicant must develop an acceptable conceptual model of site hydrology adequately supported by the data presented in the site characterization. NUREG-1569 section 2.7.2. This data and model must demonstrate with scientific confidence that the area hydrogeology, including horizontal and vertical hydraulic conductivity, will result in the confinement of extraction fluids and expected operational and restoration performance.

In this case, the DSEIS fails to present sufficient information in a scientifically-defensible manner to adequately characterize the site and off-site hydrogeology to enable a meaningful review of the potential impacts of the proposed mine, particularly on groundwater resources. These deficiencies include unsubstantiated assumptions as to the isolation of the aquifers in the ore-bearing zones and failure to account for natural and man-made hydraulic conductivity through natural breccias pipe formations and the historic drilling of literally thousands of drill holes in the aquifers and ore-bearing zones in question, which were not properly abandoned.

As discussed above, NEPA CEQ regulations and applicable federal case law require this precise information to be included in an EIS in order to comply with NEPA. See supra at *11. Here, the DSEIS admits that hydrogeologic information necessary to determine the impacts to groundwater from the project is lacking, and will only be obtained at a future time outside of the NEPA process. For example, the DSEIS admits that substantial and necessary hydrogeologic data collection and aquifer pump tests will only be conducted after license issuance. E.g., DSEIS

at 2-16, 7-8, 7-14, 7-17. The DSEIS further admits that un-abandoned bore holes exist and could cause serious environmental impacts by providing a pathway for spread of contamination in the groundwater. DSEIS at 3-20. The DSEIS also admits that pump test data is necessary “to demonstrate that solutions can be controlled with typical wellfield bleed rates and to detect and identify leakage due to anomalies such as improperly plugged wells and exploration boreholes.” DSEIS 2-18. However, instead of requiring that Powertech collect the necessary data for analysis in the DSEIS, NRC attempts to entirely evade this issue with statements that “[w]hile the applicant cannot confirm that all historic borings were properly plugged and abandoned, the applicant has made commitments to ensure that unplugged drill holes will not impact human health or the environment during operations.” DSEIS at 3-20.

The DSEIS states that in the southwest corner of the Burdock area there is “groundwater [] discharging to the ground surface from the Fall River aquifer and Chilson aquifer (Chilson Member of the Lakota Formation) through improperly plugged exploratory boreholes.” DSEIS at 3-23. This information necessitates a more detailed review of the issue of historic wells or bore holes – and requires that any feasible pump tests or other analysis be performed as part of the NEPA process, with necessary opportunities for public and agency review and comment, in order to assess the potential impacts of the project.

Additionally, the DSEIS identifies areas where the Fall River aquifer proposed to be mined is not hydrologically confined. Instead of requiring the collection of the data necessary to determine the potential impacts of mining in this unconfined aquifer, NRC instead suggests that “[t]he applicant has committed, as part of the license condition, to conduct additional hydrogeological investigations....” DSEIS at 3-37. As with the other fundamental gaps in meaningful data, this lack of baseline data collection as part of the NEPA process severely

undermines the public's (and the agencies') ability to understand and evaluate the potential impacts of the operation. Indeed, it appears throughout the DSEIS that any time there is a question about the impacts, instead of requiring collection of the data necessary to do a proper analysis, NRC staff simply allows the company to defer collection of any data to a later (post-NEPA) time. This is not allowable under NEPA and applicable regulatory provisions.

Based on this demonstration, the DSEIS fails to provide an adequate site characterization of geology and hydrogeology and as a result fails to adequately analyze the impacts associated with the proposed mine, particularly on groundwater resources.

DSEIS Contention 4: The DSEIS Fails to Adequately Analyze Ground Water Quantity Impacts

The DSEIS violates the National Environmental Policy Act in its failure to provide an analysis of the ground water quantity impacts of the project. Further, the DSEIS presents conflicting information on ground water consumption such that the water consumption impacts of the project cannot be accurately evaluated. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

Basis and Discussion:

This contention is one of omission and thus need not be supported by an expert. However, the Supplemental Declaration of Dr. Robert E. Moran (attached as Exhibit 2) provides additional support for this contention. See e.g., Moran Suppl. Decl. at ¶21 (“the DSEIS provides imprecise, conflicting information on the volumes of water to be used throughout the various sections of the DSEIS”); ¶¶ 20-32, 37-38, 50-51, 86-91,101.

10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations, require the agency to provide sufficient data for a scientifically-

defensible review of the environmental impacts of the operation and for the Commission to conduct an independent analysis. The DSEIS as published fails to meet these requirements in that it does not provide reliable and accurate information as to the project's ground water consumption. Thus, the DSEIS has not met the requirements of NRC regulations and NEPA.

The Supplemental Declaration of Dr. Robert E. Moran sets forth the primary concerns related to the DSEIS' lack of credible analysis of ground water quantity impacts:

25. Powertech estimates that approximately 52.6 million gallons of ground water would be required for the Construction phase alone (DSEIS p.5-30). **No data are provided for the volumes of ground water required for the other phases, throughout the life of the project.**

26. Clearly, the DSEIS fails to reveal reliable long-term water use data for all phases of the entire project. Greater uncertainty is shown when one reads the water use data originally presented in the 2009 Powertech Application, ER pg. 8-2 (Table 8.1-1), which states that **ground water consumption will be 320 gpm.**

27. Because no Water Balance is presented, it is unclear how much of this volume is recycled, re-injected as waste in other formations, etc. In addition, one must assume that quality of much of the recycled and re-injected water would be degraded as compared to any reliable preoperational baseline data.

28. Aside from the obvious lack of consistency, the estimates (above) translate into massive amounts of ground water when considered over the full life of the project. Using two of the estimated ground water use rates stated above, total water consumption over the life of the project can be estimated as follows:

65 gpm = 34.2 Million gpy (gals / yr).

After 7 yrs = 239,148,000 gallons, or 239.15 Million gallons.

After 17 yrs = 580,788,000 gals or 580.8 Million gallons.

320 gpm = 168.2 Million gpy (gals. / yr).

After 7 yrs = 1,177,344,000 = 1.2 Billion gallons

After 17 years = 2,859,264,000 gallons = 2.86 Billion gallons.

29. Clearly, this range of estimates indicates that vast quantities of ground water will be extracted from these aquifers over the long-term. At a minimum, Powertech should be required

to construct a credible project water balance and to more seriously investigate the potential that such large-volume water use might impact local / regional ground water levels and well yields.

30. At present, I see no evidence that the Application contains a reliable compilation of *baseline water level and pumping-rate data for the surrounding domestic and stock wells (see discussion below)*. Without such reliable, summarized data, there will be no viable method to demonstrate that ground water levels (and related pumping costs) have not been impacted by project- related activities.

As cited above, apart from the discussion provided herein, other portions of Dr. Moran’s analysis also demonstrate the DSEIS’ lack of adequate analysis with regard to water quantity impacts.

DSEIS Contention 5: The DSEIS Fails to Demonstrate Adequate technical sufficiency and fails to present information in a “clear, concise” manner to enable effective public review

The DSEIS fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers, as required by 10 C.F.R. §§ 51.70(b), 51.120, Part 51 Appendix A to Subpart A, the Administrative Procedure Act, the National Environmental Policy Act and implementing regulations, Regulatory Guide 3.46, and NUREG 1569.

Basis and Discussion:

This contention is one of omission and is additionally supported by the Supplemental Declaration of Dr. Robert E. Moran (Declaration attached as Exhibit 2). See e.g., Moran Suppl. Decl. at ¶¶16-17, 76-77, 78-81.

NRC regulations require that “[t]he draft environmental impact statement will be concise, clear, and analytic, [and] will be written in plain language with appropriate graphics” 10 C.F.R. § 51.70(b). Similarly, CEQ’s NEPA regulations require that environmental documents “be written in plain language and may use appropriate graphics so that decisionmakers and the

public can readily understand them.” 40 C.F.R. § 1502.8. See also 40 C.F.R. § 1500.2(b) (“Environmental impact statements shall be concise, clear, and to the point...”).

Further, while NRC regulations allow incorporation and referencing of material into an EIS document, such incorporation and referencing must be done “without impeding agency and public review of the action.” 10 C.F.R. Part 51, Appendix A to Subpart A (discussion of footnote 1). Lastly, NRC regulations also require that “copies of ... any related comments and environmental documents, will be made available on the NRC web site.” 10 C.F.R. § 51.120.

In this case, the Dewey-Burdock DSEIS fails to meet these requirements, particularly with regard to presentation of the scientific and technical bases for a large number of assumptions made in the DSEIS. The NRC staff’s use of citations to materials incorporated by reference into the DSEIS is inadequate to justify the scientific conclusions presented.

For example, for reference after reference, the document simply refers only to “Powertech 2011” as a source for fundamental conclusions upon which the DSEIS analysis is premised. These assumptions include such basic conclusions as those as to the permeability of the under and over-lying geologic structures (e.g., DSEIS at 2-17, 4-56), and the use of “numerical simulations” to evaluate “groundwater conditions” necessary for evaluating monitoring well spacing to detect impacts from lixiviant excursions (e.g., DSEIS at 2-16). Many more examples exist throughout the entire DSEIS where it is impossible to identify and assess the referenced materials. The generic citation to “(Powertech 2011)” is meaningless without more description and detail of where the information is contained in the document. The Powertech 2011 submittal alone is made up of some 5000 pages of documents. See webpage screen shot showing the list of documents which make up this submittal attached to OST DSEIS comments as Exhibit 1. This problem exists with regard to the NRC’s reliance on other

Powertech submittals as well, including those referenced as “Powertech 2009” and “Powertech 2010” among others. This lack of any specificity makes it virtually impossible to find the precise basis for conclusions made in the DSEIS. The use of generic references obfuscates the technical basis for the analysis and conclusions as to the potential impacts of the project to the point it violates the APA and NEPA, and implementing regulations. See 10 C.F.R. Part 51 (appendix A to subpart A, note 1)(allowing incorporation by reference to material outside a NEPA document, but only “without impeding agency and public review of the action” and only where the material’s content is “briefly described”).

Further, the DSEIS references the draft license produced by NRC Staff for the Dewey-Burdock proposal as support for the conclusions in the document. DSEIS at 2-71, 4-217. However, it appears that NRC Staff recently issued a revised draft license mere days before the close of the public comment period on the DSEIS, rendering these references stale. This unfortunate timing results in the inability of the Tribe and any member of the public to meaningfully review the new draft license, despite the fact that the DSEIS specifically relies on the draft license as a supporting reference. This document was never made publicly available during the comment period, in violation of NRC regulations which require that “no material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment.” 10 C.F.R. Part 51, Appendix A to Subpart A (discussion of footnote 1). NRC regulations also require that “copies of ... any related comments and environmental documents, will be made available on the NRC web site.” 10 C.F.R. § 51.120. Release of a new draft license within just days of the close of comment, without providing any notice, let alone public distribution of the new draft license document itself, does not provide a reasonable opportunity for the public to review and comment.

As a result of these systemic flaws in the manner in which scientific justifications are presented and the lack of time for the public to review information purported to be relied upon in the DSEIS, the document must be re-published in a manner that provides the necessary information, with the commensurate additional public comment period.

DSEIS Contention 6: Failure to Adequately Describe or Analyze Proposed Mitigation Measures

The DSEIS violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations by failing to include the required discussion of mitigation measures.

Basis and Discussion:

This contention is one of omission and thus requires no expert opinion in support. However, the Supplemental Declaration of Dr. Robert Moran provides additional support for this contention. See e.g., Moran Suppl. Decl. at ¶ 114 (“the mitigation consists only of proposals to make plans to restore groundwater in the future. There is no detail as to the effectiveness of these proposed mitigation measures, nor any analysis of whether any such plans have succeeded in the past.”); ¶¶ 92-94, 102-103, 104-113, 116-119.

NRC regulations at 10 C.F.R. §§ 51.10, 51.70, and 51.71 require all DSEIS documents to include all analyses required under NEPA, and that compliance with NEPA “be supported by evidence that the necessary environmental analysis have been made.” With respect to mitigation, NEPA requires the agencies to: (1) “include appropriate mitigation measures not already included in the proposed action or alternatives,” 40 CFR § 1502.14(f); and (2) “include discussions of: . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f)).” 40 CFR § 1502.16(h). NEPA regulations define “mitigation” as a way to

avoid, minimize, rectify, or compensate for the impact of a potentially harmful action. 40 C.F.R. §§ 1508.20(a)-(e). “[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989).

Specifically in the mining context, federal courts hold that NEPA also requires that the agency fully review whether the mitigation will be effective. See *South Fork Band Council v. Dept. of Interior*, 588 F.3d 718, 728 (9th Cir. 2009). “The [agency’s] broad generalizations and vague references to mitigation measures ... do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the [agency] is required to provide.” *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380-81 (9th Cir. 1998). The DSEIS’s reliance on a future, as yet-unsubmitted, mitigation to prevent/mitigate adverse impacts to these resources also violates NRC duties under NEPA and the National Historic Preservation Act [NHPA]. The NHPA, and its implementing regulations, require full review of these impacts as part of the public review process – something which has not occurred here.

Thus, to the extent NRC relies on mitigation for any impacts, such mitigation must be specifically spelled-out, at least in reasonable detail, and the effectiveness of the proposed mitigation must be analyzed. In this case, the DSEIS expressly relies on mitigation in concluding that impacts are “small” and in justifying a preliminary recommendation to issue the proposed license. DSEIS at xlv, xxx. Unfortunately, the proposed mitigation consists largely, if not exclusively, of a list of plans to be developed later, outside the NEPA process. DSEIS at 6-1 through 6-19. Much like the failure to analyze baseline data, the DSEIS fails to provide the any of the required detailed analysis of proposed mitigation measures, and makes no attempt to

evaluate the effectiveness of any of the proposed mitigation. For instance, the DSEIS repeatedly refers to Powertech's commitment to restore groundwater back to its pre-mining condition.

“The applicant will also be required to restore groundwater parameters affected by ISR operations to levels that are protective of human health and safety.” DSEIS at 2-69. The DSEIS similarly simply states that Powertech will be required to restore aquifers to background concentrations. E.g., DSEIS at 4-51, 5-52, 4-64. However, such assurances, without any evaluation of how effective these restorations efforts are expected to be, do not satisfy NEPA.

Here, historic evidence demonstrates that ISL uranium mines have a very poor record of restoring ground water aquifers – in fact, none have ever actually restored an aquifer. Indeed, as recently described by the U.S. Geological Survey, **“to date, no remediation of an ISR operation in the US has successfully returned the aquifer to baseline conditions. Often at the end of monitoring, contaminants continue to increase by reoxidation and resolubilation of species reduced during remediation.”** J.K. Otton, S. Hall, “In-situ recovery uranium mining in the United States: Overview of production and remediation issues,” U.S. Geological Survey, 2009 (IAEA-CN-175/87)(emphasis added)(attached to OST comments on the DSEIS as Exhibit 4). Similar post-mining increases in contamination levels in impacted aquifers are described in more detail in other USGS publications. See Hall, S. “Groundwater Restoration at Uranium In-Situ Recovery Mines, South Texas Coastal Plain,” USGS Open File Report 2009-1143 (2009)(attached to OST comments on the DSEIS as Exhibit 5). Independent research focused on ISL uranium mining efforts in Texas also demonstrated the ineffectiveness of industry and regulatory agency assurances of the ability to restore aquifers to pre-mining water quality. Darling, B., “Report on Findings Related to the Restoration of In-Situ Uranium Mines in South Texas,” Southwest Groundwater Consulting, LLC (2008) (attached to OST comments on the

DSEIS as Exhibit 6). These issues echo the issues regarding repeated failures of industry and regulators to meet pollution control assurances as set forth in the Oglala Sioux Tribe's successful Petition to Intervene in the Dewey-Burdock licensing process. Petition to Intervene at 1-11 (attached to OST comments on the DSEIS as Exhibit 7). Lastly, recent investigative journalism pieces have also exposed the lack of effective mitigation for ISL uranium mining operations such as that proposed at Dewey-Burdock. See Lustgarten, Abrahm, "On a Wyoming Ranch, Feds Sacrifice Tomorrow's Water to Mine Uranium Today," ProPublica, Dec. 26, 2012 (attached to OST comments on the DSEIS as Exhibit 8).

The ISL industry's historic and ongoing inability to control aquifer contamination and restore groundwater impacted by ISL uranium mining must be acknowledged, documented, and competently addressed within the NEPA process. While the DSEIS presents some general methods for restoration of the groundwater following mining operations, it does not provide detail as to how this proponent expects to succeed where all others have failed, assess any objective criteria to measure the (in)effectiveness of these methods, address any corrective measures should predictable failures occur, nor reveal how these issues affect the potential impacts of the proposed project. This includes the failure in the DSEIS to assess its plan to review groundwater restoration only for a period of 12 months. DSEIS at 2-37. There is no support of basis for this time period, nor any discussion of the basis or effectiveness of such a time period. See Moran Suppl. Decl. at ¶ 115.

A detailed evaluation of the effectiveness of any proposed mitigation measure is required by NEPA. Disclosure and analysis of mitigation alternatives in a DSEIS is particularly necessary in light of the documented inability of the ISL uranium mining industry to operate and close without causing groundwater contamination. This lack of analysis of proposed mitigation

measures is expansive, and not limited to ground water mitigation. The current mitigation measure discussion consists of a multi-page chart which simply lists a series of proposed mitigation measure, with no elaboration or other analysis of how the operator expects to accomplish these items, or the expected effectiveness/limitations of each measure, as required by NEPA. To comply with NEPA, each mitigation measure must be detailed with specific description, supporting data, and analysis of process and effectiveness within the context of a Draft NEPA document. As it stands, the NRC must conduct this necessary work, then re-issue the DSEIS for meaningful public and agency review.

DSEIS Contention 7: The DSEIS Fails to Include a Reviewable Plan for Disposal of 11e2 Byproduct Material

The DSEIS indicates that Powertech may or may not use the White Mesa Uranium Mill in Utah, or some other unidentified facility, for disposal of the 11e2 Byproduct generated at the proposed ISL Facility. It is not sufficient, however, for a DSEIS to avoid a meaningful review of impacts by merely stating that permanent disposal will occur in conformance with applicable laws. This lack of analysis violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations.

The very reason for the NEPA process is to ensure that the problems associated with mill tailings which UMTRCA addresses are fully analyzed and thus do not recur under the modern licensing regime. Nowhere do the regulations or NEPA allow the agency to merely assert that tailings will be handled in accordance with applicable law. The opposite is required by federal law: the DSEIS must analyze all impacts associated with permanent disposal of wastes generated at the facility.

Basis and Discussion:

This contention is one of omission, and thus does not require expert support. The relevant regulations applicable to new uranium processing operations state in plain language:

Every applicant for a license to possess and use source material in conjunction with uranium or thorium milling, or byproduct material at sites formerly associated with such milling, is required by the provisions of § 40.31(h) to include in a license application proposed specifications relating to milling operations and the disposition of tailings or wastes resulting from such milling activities.

40 C.F.R. Part 40 Appendix A (emphasis added). This regulation implements the UMTRCA amendments to the Atomic Energy Act, which require the NRC to ensure that the specific proposal for disposition of tailings and wastes involved in milling is subjected to review in the initial license application. However, it is impossible to determine, based on the DSEIS whether any specific plans exist for the disposition of the 11(e)2 Byproduct that will be produced by Powertech and what impacts such disposition would entail. Although specifically referenced, there is no analysis of whether or not Utah law or the Energy Fuels license would allow the transport and disposal of Powertech's 11(e)2 byproduct. Importantly, although Utah law and license terms may be more stringent than NRC's, no analysis is contained in the SDEIS.

The failure to address disposal requirements for 11e2 byproduct is not a technical deficiency that can be ignored or pushed off until a later time. Rather, the agency has a duty to provide specific information on this major feature of an ISL license in a Draft EIS in order to allow the Tribe, the public, NRC, and other government decisionmakers to conduct a meaningful analysis of the full scope of environmental impacts involved with Powertech's license application.

Moreover, the policies set forth by NEPA prevent the NRC staff from segmenting the disposal issues from the inquiry into whether applicant will be allowed to create 11e2 Byproduct

material in the first instance. *In re Pac. Gas & Elec. Co.*, 67 N.R.C. 1, 13 (N.R.C. Jan. 15, 2008)(“There is no genuine dispute that NEPA and AEA legal requirements are not the same [. . .] and NEPA requirements must be satisfied.”). Failure to identify and analyze the permanent disposal facility in the DSEIS avoids examination of all direct, indirect, and cumulative impacts of the proposal, as required by NEPA. *Custer County Action Ass’n v. Garvey*, 256 F.3d 1024, 1035 (10th Cir. 2001)(Where a “federal action” exists, the NEPA process must “analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of ‘past, present, and reasonable foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.’”).

Where “federal action” triggers NEPA -- here, the applicant’s proposal to conduct ISL mining activities -- an agency cannot define “the project’s purpose in terms so unreasonably narrow as to make [NEPA] ‘a foreordained formality.’” *City of Bridgeton v. FAA*, 212 F.3d 448, 458 (8th Cir. 2000)(citations omitted). Here, NEPA mandates that the NRC consider the ISL mining activities which create tailings at the same time it considers the specific method, transportation requirements, and site for tailings disposal. This mandate of federal law attaches at such time as the need for disposal is reasonably foreseeable, which occurs before publication of the DSEIS, and not at a later time to be determined.

The CEQ regulations that apply to each agency’s implementation of NEPA state that the requisite site-specific environmental impact statement should be available at all stages of the decision-making process, not merely at the end of that process as a “rubber stamp” to approve the environmental impacts of the process. Because the DSEIS requires extensive, site-specific consideration -- including but not limited to, access, geology, hydrogeology, quantitative impacts upon water supplies for domestic use, livestock, agriculture, non-domesticated plants and

animals, and qualitative on-going and subsequent impacts to water supplies of all the same due to releases of chemicals into the surface, groundwater and aquifers flowing through the licensed site -- failure of the site-specific environmental impact statement to inform every step of the license application decision-making process means that the final decision cannot comply with NEPA. At a minimum, without a completed, site-specific environmental impact statement as a guide, NRC staff, the public, other governmental entities, and the Tribe have no basis to identify and access alternatives to the license application and find ways to avoid or mitigate possible adverse environmental impacts of the licensed activity.

These NEPA requirements are consistent with the requirement in Subpart 40, Appendix A's *Criteria One*, which requires that the applicant and the NRC examine "alternative tailings disposal sites" when considering a milling application. *See Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 299 (D.C.Cir. 1988)(citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976)(formulation of alternatives during the NEPA disclosure and study process is at the heart of the NEPA-mandated procedures).

DSEIS Contention 8: Requiring the Tribe to Formulate Contentions before a Final EIS is Released and Failing to Follow Scoping Process Violates NEPA

The procedure used by NRC to consider the Powertech application fails to satisfy the public participation and informed decision-making mandates of NEPA, as implemented through 10 C.F.R. §§ 51.28, 51.29, 51.10, 51.70 and 51.71, and the National Environmental Policy Act's implementing regulations.. The procedural requirements of NEPA are designed to benefit those who participate in agency decision-making processes and to require that the agency take a "hard look" at the impacts, alternatives, mitigation measures, and other aspects of a federal action at the earliest stages of the decision process, in recognition that when a "decision is made without

the information that NEPA seeks to put before the decisionmaker, the harm that NEPA seeks to prevent occurs.” *See: Sierra Club v. Marsh*, 872 F.2d 497, 500 (1st Cir. 1989) *quoting Commonwealth of Massachusetts v. Watt*, 716 F.2d 946 at 953 (1st Cir. 1983).

By contrast, the procedure used in the present proceedings denies the Tribe and the NRC the information that a NEPA analysis provides. Importantly, this interdisciplinary analysis and information is provided during the NEPA process by the applicant, staff, and members of the public. All of these sources of information are recognized by NEPA, but the Tribe is prejudiced here when significant sources of information are not available until the NRC has taken final action to accept or deny its contentions. It is of no consequence that the NRC provides an opportunity to seek permission to pursue new or rejected contentions later in the proceedings, based on information revealed in the NEPA analysis. *See: Id.* (“Once large bureaucracies are committed to a course of action, it is difficult to change that course - even if new, or more thorough, NEPA statements are prepared and the agency is told to ‘redecide.’”).

Basis and Discussion:

NRC Staff has violated NEPA by requiring that the Tribe formulate and submit detailed contentions before the NEPA process is complete, denying the Tribe the benefit of a final NEPA analysis. This statutory violation is not remedied by providing a *post hoc* NEPA analysis, as is contemplated by the NRC regulations. Failure to conform to the timing policies and requirements of NEPA wastes resources of both the NRC Staff and the Tribe. The procedural harms are demonstrated by previously aborted attempts to gain approval of plans to mine in the Dewey-Burdock area: “A Draft Environmental Statement (DES) was prepared by TVA to address the impact of a proposed underground mine in the Dewey-Burdock area, but TVA never completed the NEPA process.” Powertech Environmental Report at 1-4.

Conducting NEPA analysis early in the process is necessary to meet the requirement that NEPA analysis must precede the decision-making process, lest the agency unleash a “bureaucratic steam roller” aimed at approval, but without the public participation and informed decisionmaking requirements of NEPA.” *See Davis v. Mineta*, 302 F.3d 1104, 1115 (10th Cir. 2002). In short, the procedures the NRC used for the present application fail to satisfy NEPA’s purpose, which is to influence the decision making process “by focusing the [federal] agency’s attention on the environmental consequences of a proposed project,” so as to “ensure[] that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). Where NRC Staff has applied regulations in violation of a statutory duty, or where the application of the regulations reveals that such regulations violate a statutory duty, NRC cannot rely on such agency regulations as a basis to violate the a statute. *United States v. Haggart Apparel Co.*, 526 U.S. 380, 392 (U.S. 1999)(where a “regulation is inconsistent with the statutory language or is an unreasonable implementation of it [...], the regulation will not control.”).

Relatedly, the DSEIS was issued without the benefit of a required scoping process. 40 C.F.R. § 51.28(a) speaks in mandatory terms (“shall”) when discussing the parties to which the NRC must invite to scoping. These parties include the Tribe, as an admitted party to this proceeding. Further, 40 C.F.R. § 51.29(a) sets forth a detailed procedure for scoping that is necessary to ensure compliance with NEPA. These steps were not conducted in this case. This denied the Tribe the opportunity, among other things, to provide input to help define the proposed action, identify the issues NRC had identified as significant issues to be analyzed in depth, which would be eliminated from study and why, and to ensure that other environmental

review and consultation requirements related to the proposed action may be prepared concurrently and integrated with the DSEIS. 40 C.F.R. § 51.29(a)(1)-(5).

Further, 40 C.F.R. § 51.29(b) requires that NRC “will prepare a concise summary of the determinations and conclusions reached, including the significant issue identified, and will send a copy to each participant in the scoping process.” In this case, no such summary was prepared. The lack of this process, followed by the requirement that the Tribe provide all of its comments and contentions on the DSEIS instead of during scoping deprives the Tribe of the ability to have its concerns raised at the proper time (“as soon as practicable”)(§ 51.29(a)) and to have significant issues identified and addressed, as contemplated by the regulations. The result is a ‘back-ended’ process that requires the Tribe to identify those significant issues only now at the DSEIS stage, and denies the Tribe the opportunity to provide comment on a DSEIS that takes full account of those significant issues. This process fails to comply with NEPA or NRC regulations.

DSEIS Contention 9: The DSEIS Fails to Consider Connected Actions

The Powertech proposal to conduct ISL operations and conduct associated waste disposal activities is being considered by multiple federal agencies. However, NRC, the lead agency for purposes of NEPA - has failed engage these other agencies and therefore has failed to comply with the “action-forcing” mandate and purpose of NEPA. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations.

Basis and Discussion:

The mandate and purpose of NEPA is to influence the decision making process “by focusing the [federal] agency’s attention on the environmental consequences of a proposed

project,” so as to “ensure[] that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The NEPA analysis must be prepared by the NRC in a manner which timely addresses, identifies, and analyzes any actions that are “connected” to the project under review. See 40 C.F.R. § 1508.25; *Utahns for Better Transp. v. United States Dep’t of Transp.*, 305 F.3d 1152, 1182 (10th Cir. 2002), *modified in part on other grounds*, 319 F.3d 1207 (2003). NRC regulations allude to this requirement in providing that “[t]o the **fullest extent** practicable, environmental impact statements will be prepared concurrently or integrated with environmental impacts analyses and related surveys and studies required by other Federal law.” 10 C.F.R. § 51.70(a)(emphasis added).

For example, Powertech has filed an applications with the Environmental Protection Agency (“EPA”) for both a Class III injection well and a Class V injection well. However, the DSEIS fails to conduct any NEPA analysis of the proposal for these injection wells. Both the Class III and Class V injection wells are “connected actions” and even though EPA is the permitting agency, the injection well proposals must be analyzed in the same NEPA analysis as the full Powertech proposal. To the extent NRC Staff or Powertech may argue that the injection well plans could somehow avoid analysis as “connected actions”, these injection well activities must still be fully analyzed in the “cumulative impacts” analysis, or even just as part of the NRC’s “hard look” review – and are expressly incorporated into the contentions presented herein with respect to those issues.

The DSEIS repeatedly relies upon EPA analyses to require appropriate mitigation measures to lessen impacts, and uses those permitting processes to simply defer analysis of impacts to EPA. For instance, in making its determination that impacts from the use of Class V

underground waste injection wells is “small”, the DSEIS defers to the fact that “EPA will evaluate the suitability of the formations proposed for Class V well injection. Class V injection disposal will be allowed only when the applicant demonstrates liquid waste can be isolated safely in a deep aquifer.” DSEIS at 4-44. NRC similarly defers to a future EPA analysis related to the UIC Class III well permitting process and to the South Dakota state processes. DSEIS at 3-39, 4-54, 4-67, 4-68, B-3. In this way, the DSEIS simply defers analysis of the potential impacts to EPA permits under the Safe Drinking Water Act (SDWA) and South Dakota permitting processes. Critically, however, neither EPA UIC permits nor any South Dakota state permits are subject to NEPA. See, 40 C.F.R. § 124.9(b)(6)(explicitly excusing EPA UIC permitting processes from NEPA review).

The NRC is prohibited from such blind reliance on other agencies to conduct its analysis of the baseline, potential impacts, and proposed mitigation associated with a uranium mine proposal. See 10 C.F.R. § 51.71 (“The environmental impact of the proposed action will be considered in the analysis with respect to matters covered by environmental quality standards and requirements irrespective of whether a certification or license from the appropriate authority has been obtained.”). The DSEIS cannot rely on EPA and South Dakota permitting processes to excuse NRC’s responsibilities to fully review the environmental impacts. *South Fork Band Council v. BLM*, 588 F.3d 718, 726 (9th Cir. 2009)(“A non-NEPA document -- let alone one prepared and adopted by a state government -- cannot satisfy a federal agency's obligations under NEPA.”).

Lastly on this point, the DSEIS discusses Powertech’s intent to dispose of its liquid chemical waste via a Class V underground injection control permit. However, the disposal of waste, and particularly radioactive waste, below the lower-most aquifer that serves as an

Underground Source of Drinking Water (USDW), as proposed here, is not a Class V activity. Rather, such disposal is a Class I underground disposal well. Compare, 40 C.F.R. § 144.80(a) (Class I – deep injection) with 40 C.F.R. § 144.80(e)(Class V – shallow injection). Further demonstrating this fact is the State of South Dakota’s Department of Environment and Natural Resources, which classifies any well that proposes to be used for injection of either hazardous or non-hazardous liquid waste, or municipal waste, as a Class I UIC well. See, Chart located on the State of South Dakota’s website: http://denr.sd.gov/des/gw/UIC/UIC_Chart.aspx. Importantly, the State of South Dakota specifically and unambiguously precludes operation or construction of any Class I UIC wells within its borders. Indeed, the applicable regulatory provision is arguably even broader, stating in its entirety: “Class I and IV disposal wells prohibited. No injection through a well **which can be defined as** Class I or IV is allowed.” S.D. Admin. R. § 74:55:02:02 (emphasis added). This is a significant issue that the DSEIS fails to address in any respect.

Overall, the DSEIS is required to review the proposed activities and the potential impacts associated with the other federal and state permits associated with the project, including any proposal to inject waste underground through an Underground Injection Control permit – and has failed to do so.

DSEIS Contention 10: The Narrow Scope of the NEPA Process Conducted by NRC Staff Excluded Actions, Alternatives, Impacts, and Agencies

The Powertech proposal to conduct ISL operations and conduct associated waste disposal activities is being considered by multiple federal, state, and local agencies. However, NRC, the lead agency for purposes of NEPA - has failed engage these other agencies, has not analyzed impacts subject to jurisdiction and control of these other agencies, and therefore has failed to

comply with the “action-forcing” mandate and purpose of NEPA. As a result, the DSEIS violates 10 C.F.R. §§ 51.10, 51.70, 51.71, and the National Environmental Policy Act and implementing regulations.

Basis and Discussion:

The mandate and purpose of NEPA is to influence the decision making process “by focusing the [federal] agency’s attention on the environmental consequences of a proposed project,” so as to “ensure[] that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The NEPA analysis must be prepared by the NRC in a manner which timely addresses, identifies, and analyzes any actions that are “connected” to the project under review. *See* 40 C.F.R. § 1508.25; *Utahns for Better Transp. v. United States Dep’t of Transp.*, 305 F.3d 1152, 1182 (10th Cir. 2002), *modified in part on other grounds*, 319 F.3d 1207 (2003).

In order to ensure all aspects of a federal action are considered in accordance with the statute, the lead agency must consider the “cumulative impact,” which is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.[...]. 40 C.F.R. § 1508.7. In order for NRC, as lead agency, to satisfy the statutory public participation and informed decisionmaking purposes, these NEPA process must be carried out with the participation of what are termed “cooperating agencies.” See 40 CFR §§ 1501.6, 1508.5. These are key components of NEPA’s “one EIS” requirement, which compels all agencies of the federal government to cooperate with each other, as well as tribes, state, and local governments, to ensure the NEPA documentation of

a federal action provides a comprehensive and efficient analysis of the impacts on the environment from the perspective of present and future generations. 42 U.S.C. §§ 4331(a), 4332(2). Here, the unlawfully limited scope and absence of cooperating agencies in the preparation of the DSEIS has omitted these important components of the NEPA process. 40 C.F.R. §1508.25 (definition of “scope”).

For example, Powertech has filed applications with the Environmental Protection Agency (“EPA”), which has jurisdiction and control over issuance of Class III and a Class V injection wells that are integral parts of the federal action. However, the NRC did not invite EPA to participate in the NEPA analysis of the proposal for these injection wells that is necessary to a lawful NEPA analysis of the full scope of effects and impacts of the pending AEA license application. As discussed herein, both the Class III and Class V injection wells are “connected actions” and even though EPA is the permitting agency, the injection well proposals must be analyzed in the same NEPA analysis as the full Powertech proposal.

NRC staff has similarly omitted and/or delayed analysis of impacts involving safety, cultural resources, endangered species, migratory birds, and solid waste byproduct disposal. These and other omissions involving construction, operations and waste disposal phases of the Powertech proposal are detailed in the DSEIS comments provided to staff on January 10, 2013, and are incorporated here by reference in their entirety. NEPA requires that the substantive protections addressed by the National Historic Preservation Act, Endangered Species Act, Migratory Bird Treaty Act, Utah Agreement State implementation of the Uranium Mill Tailings Radiation Control Act, Safe Drinking Water Act, Clean Air Act, among other laws, be considered in the SDEIS. Instead, the SDEIS treats these actions and impacts, some of which are

outside NRC jurisdiction, as outside of the scope of the NEPA analysis. 40 C.F.R. § 1508.25 (definition of “scope”).

The unlawfully narrow scope of the DSEIS is compounded by the failure to invite governmental agencies with jurisdiction and control over various components of the federal action to participate as cooperating agencies. *See* OST Comments on the DSEIS (attached as Exhibit 1) at 19-20. Federal agencies with expertise and/or jurisdiction over impacts of the project include the Army Corps of Engineers, Fish and Wildlife Service, Environmental Protection Agency, Federal Energy Regulatory Commission, and U.S. Department of Transportation, among others. Local and state entities include agencies from South Dakota, Wyoming, Colorado, and Utah such as the Department of Transportation, Department of Public Health and Environment, Wildlife and Parks, Water Engineers Office, and neighboring municipalities. Relevant Indian Tribes, including the Oglala Sioux Tribe should also have been invited to participate as cooperating agencies on a government-to-government basis. Instead, the Tribal interests have been relegated to cultural and archeological interests. Other Tribal governments, including the Ute Mountain Ute Tribe located next to the proposed 11e2 byproduct disposal cells near the White Mesa Ute Community in Utah, must be invited to participate as cooperating agencies.

Here, the Tribe is harmed by NRC’s failure to provide a NEPA process and documentation based on an adequate scope of analysis and with the participation of the necessary government entities. As such, the “[SD]EIS has neglected to mention a serious environmental consequence, failed adequately to discuss some reasonable alternative, or otherwise swept stubborn problems or serious criticism . . . under the rug.” *Lee v. United States Air Force*, 354 F.3d 1229, 1242 (10th Cir. 2004) *citing* *Sierra Club v. Peterson*, 228 F.3d 559 (5th Cir. 2000).

DSEIS Contention 11: The DSEIS Fails to Adequately Analyze Cumulative Impacts

The DSEIS fails to adequately analyze cumulative impacts associated with the Dewey-Burdock proposal as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

Basis and Discussion:

This contention is one of omission, and therefore does not require an expert in support. “The CEQ regulations require agencies to discuss the cumulative impacts of a project as part of the environmental analysis. 40 C.F.R. § 1508.7.” *Davis v. Mineta*, 302 F.3d at 1125 (10th Cir. 2002). “Of course, effects must be considered cumulatively, and impacts that are insignificant standing alone continue to require analysis if they are significant when combined with other impacts. 40 C.F.R. §1508.25(a)(2).” *New Mexico ex rel. Richardson*, 565 F.3d at 713, n. 36. Federal courts have recently interpreted the cumulative impact requirement in the mining context:

In a cumulative impact analysis, an agency must take a “hard look” at all actions. [A NEPA] analysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. ... Without such information, neither the courts nor the public ... can be assured that the [agency] provided the hard look that it is required to provide.

Te-Moak Tribe of Western Shoshone, 608 F.3d 592, 603 (9th Cir. 2010) (rejecting NEPA document for mineral exploration that had failed to include detailed analysis of impacts from nearby proposed mining operations).

A cumulative impact analysis must provide a “useful analysis” that includes a detailed and **quantified** evaluation of cumulative impacts to allow for informed decision-making and public disclosure. *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1066 (9th Cir. 2002). The NEPA requirement to analyze cumulative impacts prevents agencies from undertaking a piecemeal review of environmental impacts. *Earth Island Institute v. U.S. Forest Service*, 351 F.3d 1291, 1306-07 (9th Cir. 2003).

The NEPA obligation to consider cumulative impacts in the mining context extends to all “past,” “present,” and “reasonably foreseeable” future projects. *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 971-974 (9th Cir. 2006) (requiring “mine-specific ... cumulative data,” a “quantified assessment of their [other projects] combined environmental impacts,” and “objective quantification of the impacts” from other existing and proposed mining operations in the region).

This cumulative impacts analysis thus must address not only past uranium mining in the region, including the abandoned and unreclaimed uranium mines within the project area, but also present and foreseeable uranium development. In particular, Powertech admits that this facility is proposed to be used as a processing site for ongoing uranium mineral development in the region, even identifying specific projects that would provide future feed the Burdock regional processing/milling facility:

It is likely that the CPP at the Burdock site will continue to operate for several years following the decommissioning of the Proposed Action well fields. The CPP may continue to process uranium from other ISL projects such as the nearby Powertech (USA) satellite ISL projects of Aladdin and Dewey Terrace planned in Wyoming, as well as possible tolling arrangements with other operators.

Dewey-Burdock Project Application for NRC Uranium Recovery License Fall River and Custer Counties South Dakota Technical Report at p. 1-8. Indeed, Powertech specifically asserted that

future processing of ore from the Aladdin and Dewey Terrace facilities are part of the “Proposed Action” included in the Dewey-Burdock license application:

It is likely that the CPP at the Burdock site will continue to operate for several years following the D&D of the project well fields. **The Proposed Action is for the plant to continue to receive and process uranium loaded resins from other Proposed Projects such as Powertech’s nearby Aladdin and Dewey Terrace Proposed Satellite Facility Projects planned in Wyoming or from other licensed ISL operators or other licensed facilities generating uranium-loaded resins that are compatible with the Powertech (USA) production process.**

Dewey-Burdock Project Application for NRC Uranium Recovery License Fall River and Custer Counties, South Dakota, Environmental Report, February 2009 at p. 1-25 (emphasis added).

Despite the project proponent’s inclusion of these future activities in the application, the DSEIS mentions these mining projects only briefly in the “affected environment” portion of the document with no analysis of the impacts. See DSEIS at 3-6. This omission is glaring light of acknowledgment that the Aladdin project is only 8 miles away (DSEIS at 3-6) – and Powertech’s aggressive advancement of the Aladdin project and Dewey-Terrace project. See Powertech press release and NI 43-101 report (attached to the OST comments on the DSEIS as Exhibit 9). Other mining development in and around the Black Hills region must be evaluated, including the Cameco operations in Nebraska and the proposed Bear Lodge rare earth minerals mine.

Also in need of study in the context of cumulative impacts are the impacts associated with the Black Hills Ordnance Depot. Issues of soil and ground water contamination associated with this site are well-documented. A competent cumulative impact analysis must address potential exacerbation of ground water contamination associated with chemicals from the Depot caused by the proposed Dewey-Burdock project, including ground water pumping both for mining purposes and for fresh water use, along with deep injection disposal.

DSEIS Contention 12: The DSEIS Failed to Consider All Reasonable Alternatives

The DSEIS fails to adequately analyze all reasonable alternatives as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

Basis and Discussion:

This contention is one of omission, and thus does not require an expert in support. The range of alternatives is “the heart of the environmental impact statement.” 40 C.F.R. § 1502.14. See also, 40 C.F.R. Part 51, Appendix A to Subpart A (5) (acknowledging that consideration of alternatives “is the heart of the environmental impact statement”). NEPA requires agencies to “rigorously explore and objectively evaluate” a range of alternatives to proposed federal actions. See 40 C.F.R. §§ 1502.14(a) and 1508.25(c). “An agency must look at every reasonable alternative.” *Northwest Env'tl. Defense Center v. Bonneville Power Admin.*, 117 F.3d 1520, 1538 (9th Cir. 1997). See also, 40 C.F.R. Part 51, Appendix A to Subpart A (5) (acknowledging that “All reasonable alternatives will be identified.”). An agency violates NEPA by failing to “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. See e.g., *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122-1123 (9th Cir. 2002) (and cases cited therein).

NEPA requires that an actual “range” of alternatives be considered, so that the Act will “preclude agencies from defining the objectives of their actions in terms so unreasonably narrow

that they can be accomplished by only one alternative (i.e. the applicant's proposed project).” *Colorado Env'tl. Coalition v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999), citing *Simmons v. United States Corps of Engineers*, 120 F.3d 664, 669 (7th Cir. 1997). This requirement prevents the EIS from becoming “a foreordained formality.” *City of New York v. Department of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983). See also *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002).

Numerous unexplored and unreviewed alternatives exist in violation of NEPA. For instance, the NRC should consider an alternative that precludes adoption of any Alternate Concentration Limits (ACL's) for ground water restoration. This is a reasonable alternative, as this is the state-wide law in places such as Colorado. Further, NRC should consider an alternative of allowing the proponent to move forward with mining of additional well-fields only upon a demonstration that it has operated without excursions, and has restored and demonstrated long-term stability of restoration in previously-mined well-fields. Along these lines, NRC should consider an alternative of allowing operations at either the Dewey or Burdock areas only upon a demonstration that the other area has been successfully mined without excursion and with full, stable, restoration, and only allowing uranium extraction to occur in areas of the aquifers demonstrated to be confined – and disallow any extraction from aquifers, or portions of aquifers, for which the applicant has not yet demonstrated confined conditions.

DEIS Contention 13: Failure to Take a Hard Look at Impacts Associated with Air Emissions and Liquid Waste.

The DSEIS violates 10 C.F.R. §§ 51.10, 51.70, 51.71, the National Environmental Policy Act and implementing regulations, by failing to conduct the required “hard look” analysis at impacts of the proposed mine associated with air emissions and liquid waste disposal.

Basis and Discussion:

This contention is one of omission and thus does not require expert support. However, this contention is supported by the Supplemental Declaration of Dr. Robert E. Moran (attached as Exhibit 2). See e.g., Moran Suppl. Decl. at ¶¶ 52-53, 99-100.

NEPA “prevent[s] or eliminate[s] damage to the environment and biosphere by focusing government and public attention on the environmental effects of proposed agency action.” *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). It requires the federal agency to ensure “that the agency will inform the public that it has indeed considered environmental concerns in its decision making process.” *Baltimore Gas and Electric Company v. NRDC*, 462 U.S. 87, 97 (1983). Federal courts have ruled that in the mining context specifically, “[w]e must also ensure that the agency took a hard look at the environmental consequences of its action.” *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 962 (9th Cir. 2006).

NEPA’s analysis and disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) “to insure that the public has sufficient information to challenge the agency.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). By focusing the agency’s attention on the environmental consequences of its proposed action, NEPA “ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson*, 490 U.S. at 349. “NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.” 40 C.F.R. § 1500.1(b). BLM must consider all direct, indirect, and cumulative environmental impacts of the proposed action. 40 C.F.R. §§ 1502.16; 1508.8;

1508.25(c). NRC regulations at 10 C.F.R. §§ 51.10, 51.70, and 51.71 carry forward and supplement these requirements.

In this case, with respect to air emissions, the DSEIS lacks current and confirmed information on air emissions and their impacts on various “receptors” in the region. Although not identified or analyzed in the DSEIS, these “receptors” include people, plants, animals, water bodies, soil, National Parks, etc. Instead of analysis based on a competent air emission dispersion model, the DSEIS provides a model based on admittedly incomplete and erroneous information.

This modeling used the initial emission inventory the applicant provided (Powertech, 2010a). However, the applicant revised the mobile source emission inventory in part to incorporate mitigation measures and improve the accuracy of the emissions expected from the ISR activities (Powertech, 2012d).

DSEIS 4-110. The proper course for NRC staff in the face of such lack of data is to delay the DSEIS to allow Powertech to provide correct information and modeling data. Instead, the DSEIS was released prematurely. As such, the document should be completed, then re-issued for public review and comment.

These same problems pervade the DSEIS air impacts analysis:

The applicant has committed to update the air dispersion modeling before the final SEIS is prepared (Powertech, 2012d). The final SEIS analyses would be based on this updated modeling. SEIS Section 4.7.1 describes the scope of this update, which would include PSD and Air Quality Related Values modeling for the Wind Cave National Park. The applicant has yet to complete the formal air quality permit process including providing any SDDENR-required documentation and information (Powertech, 2010a).

DSEIS at 4-114. Further, an emission inventory for PM_{2.5} particulate emissions, to which radioactive elements may attach and be dispersed via regional dispersion, were not available and were not considered in the DEIS dispersion modeling. DSEIS at C-16.

A DSEIS based on Powertech's "commitment" to provide accurate and useful information on air emissions in a final SEIS does not fulfill NRC's NEPA duties. That portions of the emissions permitting is being done by another agency does not relieve NRC of the NEPA duty to analyze the direct, indirect, and cumulative impacts of the project in the DSEIS that is subjected to comment by the public and other agencies. See 10 C.F.R. § 51.70(a) ("To the fullest extent practicable, environmental impact statements will be prepared concurrently or integrated with environmental impact analyses and related surveys and studies required by other Federal law.").

Further, the DSEIS fails to provide the necessary evidentiary support required for its tactic of averaging of wind speed and direction data across years, days, and hours masks the effects of notorious wind gusts that buffet the region. The annual wind rose data fails to account for seasonal differences in wind direction and velocity. DSEIS at 3-6. Narrower intervals should have been collected and used to provide a reliable impacts analysis. The DSEIS methodology is not compliant with any accepted methodology, resulting in an analysis that masks impacts of wind gusts and major wind storm events. The DSEIS does not analyze the impacts of radioactive and non-radioactive particulate emissions will vary greatly across the range from calm surface to the wind-driven waves that the freeboard is designed to hold. DSEIS at 2-57. However, the varying particulate and radon emission rates from the disposal of liquid $11e2$ byproduct via evaporation is not analyzed.

The DSEIS makes no mention of the foreseeable impact of major wind storm events, including tornadoes, on the facility.

Unresolved questions of radioactive contamination at the site are related to the DSEIS' reliance on incomplete and incorrect emissions and meteorological data. Even though

“[e]levated gamma readings are also present in the northern part of the Dewey area and are likely due to the deposition of windblown dust from the abandoned surface,” (DSEIS at 3-102), the DSEIS does not attempt to explain the meteorological basis for the “Northeast Anomalous Area.” DSEIS at 3-94-96. An explanation is provided by the Custer, S.D. windrose data published that shows the dominant wind direction summer months in many parts of South Dakota blows from southeast, not the northeast, as is assumed by the annually averaged windrose used in the DSEIS. <http://climate.sdstate.edu/windrose/windrose.shtm> . The frequent south and east to north and west dispersal in summer, along with the high wind speeds in July and August, has consequences for “receptors” to the north and east of the Powertech site.

There is no indication that the National Park Service has been invited to participate as a cooperating agency or to otherwise participate in the air emissions analysis, only a suggestion that such input will come after the DSEIS comment period has closed. DSEIS at 4-112. Although the DSEIS does not identify the specific “receptors,” the analysis of the air emissions and the impact on human health and environment must be provided for public review and comment in a DSEIS.

Regarding disposal of liquid wastes, the DSEIS states that the applicant proposes to rely on Reverse Osmosis (RO) for treatment of its liquid wastes. DSEIS 3-105. In fact, for the deep waste disposal alternative, Powertech proposes to rely primarily on RO for water treatment. DSEIS at 2-36, 4-33. However, the DSEIS does not assess the quality of the wastes to be disposed of or the resulting impacts (see Moran Suppl. Decl. at ¶¶ 52-53, 99-100), nor competently account for the extent of the waste that will be generated. The DSEIS states, without any evidentiary support as required by 10 C.F.R. § 51.70(b), that Powertech will recover 70% of the treated water as usable permeate. DSEIS at 2-36, 4-33. However, according to

government estimates, reverse osmosis can result in a loss of upwards to 95% of the liquid, which would be left in the waste, leaving a more significant waste stream than analyzed in the DSEIS. See University of North Dakota State University, “Reverse Osmosis” AE-1047 (2008), attached to OST comments on the DSEIS as Exhibit 11. This government document states that reverse osmosis is also prone to fail if not meticulously maintained, and further is not advised for larger volumes of water due to the significant water loss and waste associated with the process. The DSEIS fails to analyze or otherwise address these potential limitations and failings.

The DSEIS also fails to adequately address disposal options should the Class V Underground Injection Control permit be denied. The DSEIS states that “[i]f EPA does not grant the applicant a UIC permit, the applicant would need to rely solely on the proposed land application or seek an NRC license amendment to approve another disposal option before it initiated operations.” DSEIS at 2-54. Yet, the DSEIS fails to detail these other potential disposal plans as part of its discussion of impacts, alternatives analysis, and discussion of mitigation, in violation of NEPA and NRC regulations.

With respect to the proposed land application disposal, the DSEIS does not detail the water quality expected from the operation, nor detail any anticipated effectiveness of the proposed water treatment proposals. DSEIS at 2-49. The DSEIS does not detail any information regarding plans should the un-reviewed water treatment plan not perform as expected. These gaps are not condonable under NEPA or NRC regulations. The effectiveness of any treatment plan directly affects the anticipated impacts of the proposal. Simply stating that Powertech “would” clean the water to standards, without any detailed analysis, does not meet NEPA’s, and by extension NRC regulatory, analytical requirements.

Further, the DSEIS fails to properly account for impacts to wildlife resulting from land application of ISL wastes. The U.S. Fish and Wildlife Service has expressly stated that the agency “do[es] not recommend land application using center pivot irrigation for the disposal of in-situ mining wastewater.” U.S. Fish and Wildlife Service letter to NRC 9/5/07 (attached to OST comments on the DSEIS as Exhibit 12). This expert wildlife agency has published detailed information on the risks of selenium contamination resulting from disposal of ISL wastes via land application. U.S. Fish and Wildlife Service Contaminant Report Number R6/715C/00 (attached to OST comments on the DSEIS as Exhibit 13). The DSEIS fails to account for these impacts and present credible evidence and scientific evaluation addressing why these concerns do not apply in this instance. Anything short of a full review violates NEPA’s requirement to take a “hard look” at all environmental impacts.

The proposed project does include the option of surface water treatment of the waste produced during the mining process. The applicant identified several federally and state endangered species but failed to state how they will be affected by the project’s waste via land application. DSEIS at 3-43 to 3-60.

DSEIS Contention 14: The DSEIS Fails to Comply with NEPA With Regard to Impacts on Wildlife, and Fails to Comply with the Endangered Species Act and Migratory Bird Treaty Act.

The DSEIS violates 10 C.F.R. §§ 51.10, 51.70, 51.71, the National Environmental Policy Act and implementing regulations, and the Endangered Species Act, 16 U.S.C. § 1531, *et seq.* and implementing regulations, by failing to conduct the required “hard look” analysis at impacts of the proposed mine and the Endangered Species Act, 16 U.S.C. §§ 1531, *et seq.*, and Migratory Bird Treaty Act, 16 U.S.C. § 703-711, and implementing regulations, by failing to consult as required with the U.S. Fish & Wildlife Service.

Basis and Discussion:

This contention is one of omission and thus does not require expert support. However, the Supplemental Declaration of Dr. Robert E. Moran (attached as Exhibit 2) supports this contention. See e.g., Moran Suppl. Decl. at ¶¶ 96-98 (i.e., land disposal waste characterization absent, selenium impacts not addressed).

As discussed herein, NEPA and NRC regulations require all analyses of impacts to the environment, including species, to be conducted and to be supported by evidentiary support. 10 C.F.R. §§ 51.10, 51.70, 51.71. As discussed below, the DSEIS fails to meet these requirements. Further, To ensure federal agencies fulfill the substantive purposes of the ESA, the statute requires that they engage in consultation with the FWS to “insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of habitat of such species ... determined ... to be critical” 16 U.S.C. § 1536(a)(2) (“section 7 consultation”). Additionally, section 7 requires that agencies “conference” with the FWS on any action that is “likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat.” 50 C.F.R. § 402.10(a).

Section 7 consultation is required for “any action [that] may affect listed species or critical habitat.” 50 C.F.R. § 402.14. Under the ESA’s governing regulations, agency “action” means “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to ... (d) actions directly or indirectly causing modifications to the land, water, or air.” 50 C.F.R. § 402.02. Through consultation, the FWS determines whether the federal agency’s proposed action is likely to jeopardize species or their critical habitats. This determination is

made after the FWS completes either a Biological Assessment (“BA”), a Biological Opinion (“BiOp”), or in some cases, both. 50 C.F.R. § 402.14. If the BiOp concludes that the agency’s action is likely to jeopardize a species, then it may specify reasonable and prudent alternatives that will avoid jeopardy and allow the agency to proceed with the action. 16 U.S.C. § 1536(b). Additionally, the FWS may “suggest modifications” to the action during the course of consultation to “avoid the likelihood of adverse effects” to the listed species even when not necessary to avoid jeopardy. 50 C.F.R. § 402.13.

Section 7(d) of the ESA, 16 U.S.C. § 1536(d), provides that once a federal agency initiates consultation on a proposed action, the agency, as well as any applicant for a federal permit, “shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection (a)(2) of this section.” The purpose of section 7(d) is to maintain the environmental status quo pending the completion of interagency consultation. Section 7(d) prohibitions remain in effect throughout the consultation period and until the federal agency has satisfied its obligations under section 7(a)(2) by demonstrating that the action will not result in jeopardy to the species or adverse modification of its critical habitat.

Courts have recognized the importance these procedural requirements play in ensuring that agencies carry out the substantive provisions and intent of the ESA. For example, in *Thomas v. Peterson*, the Ninth Circuit declared:

[T]he strict substantive provisions of the ESA justify *more* stringent enforcement of its procedural requirements, because the procedural requirements are designed to ensure compliance with the substantive provisions.... If an [action] is allowed to proceed without substantial compliance with those procedural requirements, there can be no assurance

that a violation of the ESA's substantive provisions will not result. The latter is, of course, impermissible.

Thomas v. Peterson, 753 F.2d 754, 764 (9th Cir. 1985) (emphasis in original). In addition, courts have also determined that the “act of approving, amending, or revising a land and resource management plan constitutes ‘action’ under § 7(a)(2) of the ESA.” *Forest Guardians v. Forsgren*, 478 F.3d 1149, 1154 (10th Cir. 2007).

Endangered Species Act Section 7 consultation was not completed, and impacts to imperiled species were not analyzed and reviewed as required in the DSEIS, as required by NEPA, NRC regulations, and the Endangered Species Act, 16 U.S.C. § 1531, *et seq.* However, the DSEIS at Section 3.6.1.2.2 “explains that sharp-tailed grouse (*Tympanuchus phasianellus*), ruffed grouse (*Bonasa umbellus*), and Greater sage-grouse (*Centrocercus urophasianus*) could potentially occur in the proposed project area.”

Although the Greater Sage-grouse is a candidate species, NEPA analysis is still required for impacts. While relevant information is available, the DSEIS chose to ignore the studies and draft recommendations.

In August 2012, FWS issued a draft report to help achieve sage-grouse conservation objectives before the 2015 decision. Recommendations from these studies could be implemented at the proposed Dewey-Burdock ISR Project when they are finalized and become available.

DSEIS at 4-84. The DSEIS fails to comply with applicable requirements by failing to incorporate this information into the analysis of impacts, and potential mitigation measures for this imperiled species.

The result is that the DEIS fails to provide the required analysis of the conservation objectives that could be adopted to protect the imperiled Greater sage grouse, and its habitat. There is no valid basis to delay the analysis until after the decision is made. Instead, NEPA

requires that the analysis be conducted at the earliest possible time. To the extent that generation of additional information is anticipated about foreseeable impacts, the supplementation process cannot be used to defeat the timely disclosure and analysis purposes.

Further, language used in the DSEIS could misinform the public and the decisionmaker, particularly where the indirect effects to the endangered whooping crane is expected to occur at the site during migration. DSEIS at 4-92.

No federally listed species are known to occur on the proposed Dewey-Burdock ISR Project site (FWS, 2010). No federal- or state-listed sensitive plant species, endangered or threatened plant species, or designated critical habitats were observed within the proposed project site during baseline wildlife surveys (Powertech, 2009a); therefore, there will be no direct impact to these species.

DSEIS at 4-91. Observation of a listed species within the project site is not a prerequisite to the whether there will be a direct or indirect impact to these species. The DSEIS is required to recognize and assess both on and off-site impacts on wildlife, including but not limited to those species listed under the Endangered Species Act.

Despite the USFWS determination that Whooping Cranes are expected to occur at the site, NRC staff made an arbitrary and contrary conclusion that finds no basis in the record:

NRC staff conclude that migrating whooping cranes will not likely occur at the proposed site based on their traditional migratory pathway (FWS, 2009). If cranes navigate west of the traditional migratory pathway, NRC staff conclude that it is likely cranes will select other appropriate habitat for roosting, resting, and foraging during the proposed ISR facility lifecycle, and that construction activities will not affect the existence of the species' population in the proposed project area.

DSEIS at 4-92.

The appendix contains no effort to consult or gain USFWS concurrence in NRC staff conclusion. Where the action clearly “may adversely effect” the whooping crane, consultation with USFWS must take place. NRC staff has not sought consultation, even though both USFWS

and the DSEIS confirm that a “no effect” determination is not available for the Powertech Project. As confirmed by the Supreme Court, where staff’s conclusions deviate from those of the USFWS regarding species impacts, “the action agency must not only articulate its reasons for disagreement (which ordinarily requires species and habitat investigations that are not within the action agency's expertise), [the action agency] runs a substantial risk if its (inexpert) reasons turn out to be wrong.” *Bennett v. Spear*, 520 U.S. 154, 169 (U.S. 1997)(discussing possible criminal and civil penalties that may be imposed on agencies and “its employees”).

The DEIS also forwards an unreasonably bounded analysis regarding the Black-footed ferret:

Black-footed ferrets (*Mustela nigripes*) are not present in the site vicinity at this time (BLM, 2009a; FWS, 2010; SEIS Section 3.6.3). However, the presence of the black-tailed prairie dog (*Cynomys ludovicianus*) in the northwestern corner of the proposed project area provides potentially suitable habitat for the black-footed ferret. Because there have been no occurrences of black-footed ferrets within the proposed project area and the prairie dog colony on the site is likely too small to support and sustain a breeding population of black-footed ferrets (as described in SEIS Section 3.6.3), NRC staff conclude that the proposed project construction would not result in a direct effect on current or future ferret populations.

DSEIS at 4-92 - 4-93. As with the whooping crane, the DSEIS does not document any attempt to seek USFWS concurrence or consolation regarding a listed species that the Powertech project “may effect.” Instead, the DSEIS reveals that suitable habitat exists within the project area.

On operations, the DSEIS make a “no-jeopardy” conclusion without benefit of the ESA Section 7 consultation process. Although impacts are identified, there is no evidence that NRC’s determination is based on the necessary expertise and investigations.

“the impacts are expected to noticeably alter important attributes of the terrestrial environment; however, staff do not expect these impacts to threaten the continued existence of any species.”

DSEIS at 4-105(emphasis supplied”). See *Bennett v. Spear*, 520 U.S. 154, 158 (U.S. 1997)(describing statutory Section 7 process to ensure an agency does not threaten the “continued existence” of listed species). As described above, the NRC and its employees ignore the ESA consultation requirements “at its own peril.” *Id.* at 169. Further, there is no basis to segregate the ESA consultation from the NEPA analysis.

Similarly, the Migratory Bird Treaty Act, MBTA provides protection to migratory birds (any bird listed in 50 C.F.R. § 10.13) throughout the U.S., Canada, and Mexico. Under the MBTA, taking, killing, and possession of migratory birds, and their eggs, young, or active nest is prohibited unless authorized by permit from the Secretary of the Interior. In conjunction with NEPA analysis, NRC must consult with U.S. FWS concerning potential impacts to migratory birds. 16 U.S.C. § 703.

The individual and combined NEPA/MBTA study and consultation requirements were not met by the DSEIS, and cannot be deferred until a later stage of the licensing proceedings. The need for MTBA consultation is confirmed by the DSEIS, which identifies a “**MODERATE impact on** vegetation, small- to medium-sized mammals, raptors, upland game birds, waterfowl and shorebirds, nongame and **migratory birds**, and reptiles. . .” DSEIS 4-106(emphasis supplied).

Because the action, impacts, and mitigation measures involving impacts to wildlife have not presented in comprehensive manner, the DEIS fails to comply with NEPA. These NEPA violations are interwoven with violations of the ESA and MTBA, all of which must be remedied by invalidating the DSEIS and remanding to NRC Staff for full compliance with NEPA/MBTA/ESA before the next DSEIS issues. By asserting this contention in this limited

administrative proceeding, the Tribe does not waive its rights to pursue these violations in other administrative and judicial forums.

Impacts from disposal of 11e2 byproduct materials, water disposal and decommissioning activities are expected to have a “MODERATE impact on vegetation, small- to medium-sized mammals, raptors, upland game birds, waterfowl and shorebirds, nongame and migratory birds, and reptiles. . .” DSEIS 4-106. However, a detailed examination of the impacts on wildlife from waste disposal is not provided.

Many other impacted and listed species must be examined in a NEPA analysis that is based on a project area for the 11e2 byproduct license that includes the assumed Utah disposal and the transportation routes. Section 7 consultation with USFWS must also be engaged based on a full range of foreseeable impacts of the 11e2 byproduct licensing action, including the confirmed need for off-site disposal of solid radioactive materials during operation and closure.

III. CONCLUSION

For the foregoing reasons, the Tribe has demonstrated that its DSEIS contentions are admissible. Therefore, the Tribe is entitled to a hearing on these contentions.

Respectfully Submitted,

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Dated at Lyons, Colorado
this 25th day of January, 2013

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
POWERTECH (USA) INC.,)	Docket No. 40-9075-MLA
)	ASLBP No. 10-898-02-MLA-BD01
(Dewey-Burdock In Situ Uranium Recovery)	
Facility))	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Statement of Contentions in the captioned proceeding were served via the Electronic Information Exchange (“EIE”) on the 25th day of January 2013, which to the best of my knowledge resulted in transmittal of same to those on the EIE Service List for the captioned proceeding.

/s/ signed electronically by _____

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