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)	)	January 9, 2015

Oglala Sioux Tribe's Post-Hearing Initial Brief with Findings of Fact and Conclusions of Law

In accordance with this Board's Order dated December 10, 2014 (Order Admitting Exhibits, Closing the Record on Contention 3 and Setting Briefing Dates), Intervenor Oglala Sioux Tribe ("OST" or "Tribe") hereby submits this Post-Hearing Initial Brief with Findings of Fact and Conclusions of Law with respect to Contentions 1A, 1B, 2, 3, 4, 6, and 9 as previously admitted in this proceeding.

INTRODUCTION AND SUMMARY

Throughout this proceeding, NRC Staff has supported the applicant and its mining proposal while inappropriately and illegally deferring necessary and required reviews of significant environmental and cultural impacts to future post-license and non-public analyses. The license now, analyze later approach fails to meet the legal standards of the National Environmental Policy Act and National Historic Preservation Act, and falls short of applicable NRC regulatory requirements. The Board is presented with the opportunity to correct the NRC Staff errors, as promoted by the applicant, by invalidating the license, vacating the application, and remanding the matter to allow Azarga Uranium Corporation to begin the licensing process anew. Powertech (USA), Inc. no longer exists.

Regarding cultural resource impacts, NRC Staff has unreasonably either neglected or refused to incorporate any Sioux perspectives into its cultural resources review. This neglect and refusal comes despite express NRC Staff acknowledgment as to the importance of the Sioux input and the lack of any expertise by those that have to date conducted cultural reviews of the site.

As to groundwater impacts, NRC Staff has similarly refused to give credence to the Tribe's well-supported factual and legal arguments that the applicant must conduct the necessary reconnaissance and hydro-geological analyses to identify flow pathways, including unplugged and improperly abandoned historic boreholes, prior to permitting instead of after. This lack of pre-decision analysis is especially problematic given that NRC Staff and the applicant admit that such studies are necessary prior to commencement of mining operations.

Lastly, NRC Staff's Final Supplemental Environmental Impact Statement defers required analyses of expected impacts to the U.S. EPA and the State of South Dakota, while also pushing off development and review of mitigation measures for known impacts until a post-license, non-public, processes. These tactics illegally deprive the public of the ability to meaningfully participate in NRC Staff's environmental review.

The unfortunate result of NRC Staff's refusal to take the requisite "hard look" at the environmental impacts prior to licensing is a failure to obtain, analyze, and consider the necessary information to achieve compliance with NRC rules and the National Environmental Policy Act ("NEPA").

As set forth herein, the Tribe respectfully requests that the Board reject NRC Staff's approach, formally declare this approach in contravention of law and, order the denial of the application, remand the FSEIS back to the Staff to conduct the necessary analyses and reviews,

and require that any further NRC Staff review be conducted on an application or pre-application materials filed by an extant entity.

BACKGROUND ON NEPA REQUIREMENTS

NEPA is an action-forcing statute applicable to all federal agencies. Its sweeping commitment is to "prevent or eliminate 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). The statute requires "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).

As the United States Supreme Court has explained when examining the statute, in a NEPA document, the government must disclose and take a "hard look" at the foreseeable environmental consequences of its decision. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21, 96 S. Ct. 2718, 2730 n.21 (1976); *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971).

Closely related to NEPA's mandate that agencies take a "hard look" at environmental impacts, NEPA prohibits reliance upon conclusions or assumptions that are not supported by scientific or objective data. *Citizens Against Toxic Sprays, Inc. v. Bergeland*, 428 F.Supp. 908 (1977). "Unsubstantiated determinations or claims lacking in specificity can be fatal for an [environmental study] …. Such documents must not only reflect the agency's thoughtful and probing reflection of the possible impacts associated with the proposed project, but also provide the reviewing court with the necessary factual specificity to conduct its review." *Committee to Preserve Boomer Lake Park v. Dept. of Transportation*, 4 F.3d 1543, 1553 (10th Cir. 1993).

NEPA's implementing regulations require agencies to:

> [I]nsure the professional integrity, including scientific integrity of the discussions and analysis in environmental impact statements. [Agencies] shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement.

40 C.F.R. § 1502.24 (Methodology and Scientific Accuracy). Further, where data is not presented in the NEPA document, the agency must justify not requiring that data to be obtained. 40 C.F.R. § 1502.22.

The CEQ regulations require that: "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)(emphasis added). As the federal circuit courts have held:

> NEPA ensures that a federal agency makes informed, carefully calculated decisions when acting in such a way as to affect the environment and also enables dissemination of relevant information to external audiences potentially affected by the agency's decision. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). ... NEPA documentation notifies the public and relevant government officials of the proposed action and its environmental consequences and informs the public that the acting agency has considered those consequences.

Catron County Board of Commissioners v. U.S. Fish and Wildlife Service, 75 F.3d 1429, 1437 (10th Cir. 1996). The statutory prohibition against taking agency action before NEPA compliance applies to NRC decisionmaking. 42 U.S.C. § 4332(2)(C) *cited by New York v. NRC*, 681 F.3d 471, 476 (D.C. Cir. 2012). Otherwise, NEPA's mandate that agencies "shall […] utilize a systematic, interdisciplinary approach" is reduced to an after-the-fact formality. 42 U.S.C. § 4332(2)(A).

In order to meet these requirements "an agency must set forth a reasoned explanation for its decision and cannot simply assert that its decision will have an insignificant effect on the environment." *Marble Mountain Audubon Society v. Rice*, 914 F.2d 179, 182 (9th Cir. 1990),

citing Jones v. Gordon, 792 F.2d 821 (9th Cir. 1986). "An agency cannot avoid its statutory responsibilities under NEPA merely by asserting that an activity it wishes to pursue will have an insignificant effect on the environment. The agency must supply a convincing statement of reasons why potential effects are insignificant." *Public Service Co. of Colorado v. Andrus*, 825 F.Supp. 1483, 1496 (D. Idaho 1993) *citing The Steamboaters v. FERC*, 759 F.2d 1383, 1393 (9th Cir. 1985) (internal quotes and citations omitted).

NEPA also requires that all connected, similar and cumulative actions be considered in the same environmental review. NEPA defines connected actions as those which are "closely related," including those that "[c]annot or will not proceed unless other actions are taken," or those that are "interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25(a)(1). Cumulative actions are those that "have cumulatively significant impacts and should therefore be discussed in the same impact statement." *Id*. at § 1508.25(a)(2). Similar actions include those that have "common timing or geography." *Id*. at § 1508.25(a)(3).

A federal agency may not simply claim that it lacks sufficient information to assess the impacts of its actions. The courts are very clear with respect to an agency's statements in a NEPA document that "[a] conclusory statement unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind not only fails to crystallize the issues, but affords no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives." *Seattle Audubon Society v. Moseley*, 798 F. Supp. 1473, 1479 (W.D. Wash. 1992), *aff'd* 998 F.2d (9th Cir. 1993).

NEPA requires that mitigation measures be reviewed in the NEPA process. "[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), *accord New York v. NRC*, 681 F.3d 471, 476 (D.C. Cir. 2012).

NEPA regulations require that an EIS: (1) "include appropriate mitigation measures not already included in the proposed action or alternatives," 40 C.F.R. § 1502.14(f); and (2) "include discussions of: . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f))." 40 C.F.R. § 1502.16(h). In a similar case involving the Forest Service, the federal courts ruled:

> The Forest Service's perfunctory description of mitigation measures is inconsistent with the "hard look" it is required to render under NEPA. "Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Carmel-By-The-Sea v. Dept. of Transportation*, 123 F.3d 1142, 1154 (9th Cir. 1997) (*quoting Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989)). "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Northwest Indian Cemetery Protective Association v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev'd on other grounds*, 485 U.S. 439 (1988).
> * * *
> It is also not clear whether any mitigating measures would in fact be adopted. Nor has the Forest Service provided an estimate of how effective the mitigation measures would be if adopted, or given a reasoned explanation as to why such an estimate is not possible. … The Forest Service'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 Forest Service is required to provide.

Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1380-81 (9th Cir. 1998).

> Federal regulations define "mitigation" as a way to avoid, minimize, rectify, or compensate for the impact of a potentially harmful action. 40 CFR §§ 1508.20(a)-(e). ... In order to be effective, a mitigation measure must be supported by analytical data demonstrating why it will "constitute an adequate buffer against the negative impacts that may result from the authorized activity." **The proposed monitoring program fails this test, as it could detect impacts only after they have occurred.** [The agency's] statement that it would reserve the authority to modify approved operations does not provide enough protection under this standard. A court must be able to review, in advance, how specific measures will bring projects into compliance with environmental standards. *See Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 733 ("The Parks Service proposes to increase the risk of harm to the environment and then perform

> its studies.... This approach has the process exactly backwards."). **Monitoring may serve to confirm the appropriateness of a mitigation measure, but that does not make it an adequate mitigation measure in itself.**

*Alaska Wilderness League v. Kempthorne***,** 548 F.3d 815, 827-828 (9th Cir. 2008)(emphasis added).

NEPA requires that all of the relevant information necessary for an agency to demonstrate compliance with NEPA be included in an environmental impact statement, and not in additional documents outside of the public comment and review procedures applicable to that environmental impact statement. See, *Massachusetts v. Watt*, 716 F.2d 946, 951 (1st Cir. 1983) ("[U]nless a document has been publicly circulated and available for public comment, it does not satisfy NEPA's EIS requirements."); *Village of False Pass v. Watt*, 565 F. Supp. 1123, 1141 (D. Alaska 1983), *aff'd sub nom Village of False Pass v. Clark*, 735 F.2d 605 (9th Cir. 1984) ("The adequacy of the environmental impact statement itself is to be judged solely by the information contained in that document. Documents not incorporated in the environmental impact statement by reference or contained in a supplemental environmental impact statement cannot be used to bolster an inadequate discussion in the environmental impact statement."); *Dubois v. U.S. Dept. of Agriculture*, 102F.3d1273, 1287 (1st Cir. 1996), *cert. denied sub nom. Loon Mountain Recreation Corp. v. Dubois*, 117S. Ct.2510 (1997)("Even the existence of supportive studies and memoranda contained in the administrative record but not incorporated in the EIS cannot 'bring into compliance with NEPA an EIS that by itself is inadequate.' . . . Because of the importance of NEPA's procedural and informational aspects, if the agency fails to properly circulate the required issues for review by interested parties, then the EIS is insufficient even if the agency's actual decision was informed and well-reasoned.") (*citations omitted*); *Grazing Fields Farm v. Goldschmidt*, 626 F.2d 1068, 1072 (1st Cir.1980) (even the existence of supportive studies and

memoranda contained in the administrative record but not incorporated in the EIS cannot "bring into compliance with NEPA an EIS that by itself is inadequate.").

Last, "for contentions based on NEPA, such as the one at issue here, the burden shifts to the Staff, because the NRC, not the applicant, bears the ultimate burden of establishing compliance with NEPA." *In re Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-12-17, 76 N.R.C. 71, 80 (2012); *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.").

BACKGROUND ON NATIONAL HISTORIC PRESERVATION ACT STANDARDS

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 C.F.R. § 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 EA.")

The Advisory Council on Historic Preservation ("ACHP"), the independent federal agency created by Congress to implement and enforce the NHPA, determines 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 also *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. 36 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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").

Whenever the Board is presented with ambiguity interpreting or applying NHPA, NEPA or other laws, the NRC Staff is not entitled to "deference to an agency interpretation of an ambiguous statutory provision involving Indian affairs. In the usual circumstance, '[t]he

governing canon of construction requires that 'statutes are to be construed liberally in favor of the Indians, with ambiguous provisions interpreted to their benefit.' This departure from the [normal deference to agencies] arises from the fact that the rule of liberally construing statutes to the benefit of the Indians arises not from the ordinary exegesis, but 'from principles of equitable obligations and normative rules of behavior,' applicable to the trust relationship between the United States and the Native American people." *California Valley Miwok Tribe v. United States*, 515 F.3d 1262 (D.C. Cir. 2008) *quoting Albuquerque Indian Rights v. Lujan*, 930 F.2d 49, 59 (D.C. Cir. 1991); *Cobell v. Norton*, 240 F.3d 1081, 1101 (D.C. Cir. 2001)(*quoting Montana v. Blackfeet Tribe of Indians*, 471 U.S. 759, 766, (1985)). NRC Staff and applicant alignment and vigorous opposition of the Tribe's position throughout each stage of this license proceeding confirms that the Board must provide extra attention to the agency's obligation to honor and give meaning to the trust relationship between the United States and the Oglala Sioux Tribe.

Contention 1: Protection of Historical and Cultural Resources

Read together, the Board's August 5, 2010 Order (LBP-10-06) and July 22, 2013 Order (LBP-13-09) admitted Contention 1 in two parts based on (1A) the failure to meet the requirements of NEPA, and 40 C.F.R. §§ 51.10, 51.70 and 51.71, along with the NRC, and CEQ regulations because the application and FSEIS lacked an adequate description of either the affected environment or the impacts of the project on archaeological, historical, and traditional cultural resources, and (1B) the failure to involve or consult with all interested tribes as required by the NHPA. The Board recognized in LBP-13-09 that these contentions "question the adequacy of the protection of historic and cultural resources" and "the adequacy of the consultation process with interested tribes." LBP-13-09 at 15.

Thus, these two contentions are separate in their legal bases and supporting facts. Contention 1A deals with the failure of NRC Staff to comply with NEPA, and implementing regulations, before issuing the FSEIS. Contention 1B deals with NRC Staff's failure to comply with the NHPA, and implementing regulations before issuing the license. Where the original contention is now split into two separate contentions, NRC Staff can no longer defend a lack of proper NEPA review by relying on non-NEPA documents that attempt to achieve post-licensing compliance with the NHPA. The caselaw supports the independent review of NEPA and NHPA compliance where "compliance with the NHPA 'does not relieve a federal agency of the duty of complying with the impact statement requirement 'to the fullest extent possible.''" *Lemon v. McHugh*, 668 F. Supp. 2d 133, 144 (D.D.C. 2009) *quoting Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851 (9th Cir. Idaho 1982) *quoting* 42 U.S.C. § 4332.

Contention 1A: **Failure to Meet NEPA Requirements Regarding Protection of Historical and Cultural Resources.**

Contention 1A asserts that NRC Staff failed to adequately analyze cultural and historic resources under NEPA in an environmental document before the license issues. "'Environmental document' includes the documents specified in 40 C.F.R. § 1508.9 (environmental assessment), § 1508.11 (environmental impact statement), § 1508.13 (finding of no significant impact), and § 1508.22 (notice of intent). 40 C.F.R. § 1508.10. NEPA and its implementing regulations from both NRC and CEQ require that the environmental document on which action is based must contain analysis beyond that contained in the FSEIS here.

Specifically, 10 C.F.R. § 51.71(d) and NEPA require each FSEIS to include an analysis of all environmental impacts of a proposed action, including cultural impacts. See also, August 19, 2014 Transcript (Ms. Yilma) at p. 785, lines 14-19. 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 NHPA. 10 C.F.R. § 51.60 requires the presentation of the information specified in 10 C.F.R. § 51.45. In turn, 10 C.F.R. § 51.45(b) requires a "description of the environment affected" and a discussion of the "impacts of the proposed action on the environment." These requirements are also mandated under the National Environmental Policy Act.

In this case, the FSEIS contains an inadequate analysis of cultural impacts. These concerns have been repeatedly presented to NRC Staff and the applicant. Yet, despite having years to do so, neither has conducted an adequate and competent cultural resources survey, impacts analysis, or mitigation review within the project area, as required by NEPA. This is even despite express promises from NRC Staff to do so. As stated in the NRC Staff Answer to Contentions on the Draft Supplemental Environmental Impact Statement:

> As the Staff explained when it issued the DSEIS, however, it is working to facilitate a field survey of the Dewey-Burdock site in order to obtain additional information on historic properties. When the survey is complete, the Staff will supplement its analysis in the DSEIS and circulate the new analysis for public comment.

NRC Staff Answer at 13.

Despite this promise, the only Class III level archaeological survey conducted in this case is the original survey by applicant witness Dr. Hannus and the students at Augustana College. The Augustana College survey was presented by the applicant in the Environmental Report, at Appendix 4.10-A. Exhibit APP-009. This submittal demonstrates that the Augustana College survey left a significant number of archaeological, historical, and traditional cultural resources on site unevaluated; therefore, the potential impacts to these resources have not been addressed. Among these are 87 known sites. ER, Appendix 4.10-A at ii. Importantly, the Environmental Report fails to provide any identifiable survey protocol or methodology developed with any involvement by the Tribe. As a result, this number is undoubtedly higher.

Further, there are discrepancies between the number of sites identified in the report included in the Application at ER, Appendix 4.10-A and sworn testimony given by the state historic preservation officer in a State of South Dakota proceeding related to this matter, such that significant sites are not be included or discussed in the Application. See Declaration of Wilmer Mesteth at ¶¶ 15-19; Exhibit OST-15. The result is that no NEPA environmental document contains a scientifically-defensible protocol and methodology for analysis of cultural resources, in violation of NEPA. The FSEIS admits this deficiency by discussing the NRC Staff's unsuccessful attempt to secure a scientifically-valid independent cultural survey of the project area, and further confirms that instead of having such a survey completed, NRC Staff abandoned that approach and did not pursue it any further. FSEIS at 1-23 to 24; Exhibit NRC-008-A.

The primary reliance by NRC Staff and the applicant on the Augustana study is not supportable – particularly given the testimony at the hearing. Dr. Hannus, who lead the Augustana study at the behest of the applicant admitted that his team is not "in any way qualified to be conducting TCP surveys" and further conceded that given the heightened cultural issues of the Sioux Tribes that "there will be sites that will need to be addressed archaeologically and there will be probably sites that need to be addressed as traditional cultural properties." August 19, 2014 Transcript at p. 858, lines 4-8; 12-20. See also August 19, 2014 Transcript at p. 859, lines 18-24 (Dr. Hannus)("And again, that really should clearly, I think, show us that for us to then be able to make some kind of in roads ourselves, being not of Native background, to identification of sites that are traditional cultural properties that have a tie to spirituality and so on, it is not in our purview to do that.").

Applicant witness Dr. Luhman reiterated this point, confirming that "a traditional Level 3 survey may, in fact, encounter some resources that would be associated with Native American groups or which they would identify. But, they wouldn't necessarily identify all of the resources primarily because some of the knowledge is not available to those conducting the Level 3 survey. That would be provided by the Native American groups themselves." August 19, 2014 Transcript at p. 762, line 24 to p. 763, line 6. See also, August 19, 2014 Transcript at p. 764, lines 14-18 (OST witness Mr. Mesteth)("[w]e're the ones that are the experts, not the archaeologists. They make assumptions and hypotheses about our cultural ways and it's not accurate. Some of the information is not accurate. And that's why we object in certain situations."); p. 765, line 25 to p. 766, line 9 (Mr. Mesteth).

Importantly, despite NRC Staff's heavy reliance on Augustana's initial work included in the application material and on Augustana to conduct all the additional field work, Dr. Hannus testified that his office has never worked on any projects that considered the cultural resources at a site. August 19, 2014 Transcript at p. 843, lines 4-7. Despite this fact, NRC Staff witness Dr. Luhman testified that NRC Staff relied on Augustana to conduct all of the initial and follow up field survey work at the site, with the exception of the three non-Sioux tribes that submitted reports. August 19, 2014 Transcript at p. 818, lines19-22.

Upon the Sioux Tribes' request as early as 2011 that cultural resource surveys be conducted at the site, NRC Staff prompted the applicant to bring in Dr. Sabastian and her firm to coordinate this review. August 19, 2014 Transcript at p. 784, lines 20-25 (Dr. Sabastian). However, Dr. Sabastian also testified that she also has never been involved in any kind of "actual physical on-the-ground TCP survey-kind of thing that we're talking about." August 19, 2014 Transcript at p. 846, lines 9-21.

Lastly, Mr. Fosha testified that he worked with the applicant and Augustana "from the very start of the project, so the bulk of this material is a result of myself reviewing what Augustana College had been doing in the field." August 19, 2014 Transcript at p. 865, lines 3-6. Mr. Fosha testified that he met with the applicant and between them discussed methods for identification of sites and the methods and steps to take "throughout the process," but only related to the State of South Dakota permit, and having "nothing to do with the NRC permit or anything like that" – even remarking that "up until the point where Augustana was nearly finished I was the only review agency on this project." August 19, 2014 Transcript at p. 865, line 23 to p. 866, line 5. Despite Mr. Fosha being the only person giving any direction to Dr. Hannus' Augustana team, Mr. Fosha testified that his experience and focus was solely "the field of archaeology" and not culturally as to the concerns of the Tribes. August 19, 2014 Transcript at p. 867, lines 14-20.

The only NRC Staff or applicant witness that testified to having any experience in conducting cultural resource field surveys was NRC Staff witness Dr. Luhman. However, as stated, Dr. Luhman admitted to relying exclusively on Augustana for both the initial field work and the follow up field studies, even though Dr. Hannus' testimony had confirmed that Augustana had no culturally relevant experience. August 19, 2014 Transcript at p. 818, lines19-22 (Dr. Luhman). Dr. Luhman did testify that "in those projects in which I have been involved [a cultural survey] it is typically that [the Tribes] are working alongside with the archaeological survey team as they are going about doing the survey. It could be in the preliminary stages of doing the generalized recognizance (sic) of the project area. Oftentimes the federal agency and other parties will be along that process so that there can be discussions while out in the field, and these are for sometimes very large projects. But in my experience it typically is at the same time

when there is an ongoing consultative and survey process." August 19, 2014 Transcript at p. 836, line 18 to p. 837, line 2.

Consistent with the admitted lack of any culturally relevant experience or focus by any of the prior analysts in reviewing sites for cultural resource impacts, at the live hearing NRC Staff witness Ms. Yilma admitted that no written cultural resources analysis prepared during any part of the NEPA analysis included any comments or reports from any Sioux Tribes. August 19, 2014 Transcript at p. 821, lines 3-7; *id*. at p. 875, lines 6-11. This is despite testimony from NRC Staff witness Ms. Yilma as to the Staff's recognition of the importance of the area to the Sioux from a cultural perspective from the earliest stages of the application review stage. August 19, 2014 Transcript at p. 774, line 21 to p. 775, line 1. See also, August 19, 2014 Transcript at p. 771, lines 1-7 (Ms. Yilma). NRC Staff witness Ms. Yilma also testified as to the importance and focus at least as early as 2011 by both the Sioux Tribes and within NRC Staff on the need for culturally-based field surveys in order to fulfill the NEPA and NHPA requirements. August 19, 2014 Transcript at p. 776, line 22 to p. 777, line 3; p. 790, lines 1-17. Indeed, NRC Staff witness Ms. Yilma testified that after meeting in 2011 with the Oglala Sioux, Standing Rock Sioux, Flandreau Santee Sioux, Sisseton Wahpeton (Sioux), Cheyenne River Sioux, and Rosebud Sioux (see August 19, 2014 Transcript at p. 810, lines 16-22), NRC Staff specifically deliberated about conducting an ethnographic study of the site to ensure incorporation of Sioux cultural and historic perspectives, but "the ultimate decision was instead of an ethnographic study a field survey was necessary, so we focused our attention on the field survey approach." August 19, 2014 Transcript at p. 846 line 22 to 847, lines 8. Despite admitting that it was "necessary" to the analysis, no cultural resources review or field study incorporating any Sioux cultural expertise

was ever conducted at the site or incorporated into any NEPA document. August 19, 2014 Transcript at p. 821, lines 3-7 (Ms. Yilma); *id*. at p. 875, lines 6-11 (Ms. Yilma).

Taken together, this testimony and evidence establishes NRC Staff's failure to conduct the necessary hard look under NEPA, as by their own admission, despite it being necessary to the analysis, no Sioux comments or reports were incorporated into the cultural resources reviews, and none of the parties that conducted any cultural review of the site, including field surveys, were trained, experienced, or competent to review or survey the area for, let alone determine impacts from the project to, the cultural resources of Sioux origin. In answering a follow up question by Chairman Froehlich to Dr. Hannus asking whether, as Dr. Sabastian had testified, did Dr. Hannus believe that identification of Sioux traditional sites "depends on the knowledge and traditional culture practitioners," Dr. Hannus responded: "Yes, I mean, I absolutely would have to, because there isn't any other way the framework that I work within functions." August 19, 2014 Transcript at p. 860, lines 1-8. In short, admissions and testimony confirm that NRC Staff deferred to the applicant's unqualified consultants, while rejecting proposals to incorporate Sioux cultural expertise.

The forgoing discussion and testimony helps answer the Board's question presented in the December 10, 2014 Order, asking whether federal courts have held that a Level III cultural survey satisfies NEPA requirements as to places of religious or cultural significance (as opposed to NHPA § 106 requirements). December 10, 2014 Board Order at 4. Counsel represents that despite a lengthy search, he has found no federal case law establishing any bright line rule that a Level III survey, by itself, establishes compliance with NEPA. Given the facts of this case, the answer is "no". NEPA requires a "hard look" – in this case, despite conducting a Level III survey, by their own admission none of the surveyors had any expertise or ability to conduct a

competent identification or analysis of the cultural resources at the site that would satisfy the "hard look" requirement of NEPA.

Ultimately, rather than preparing an environmental document based on a competent survey that included proper scientific expertise, proper methodology, and the participation of the Tribal representatives, NRC Staff instead simply invited Tribes to visit the site for themselves, making no provision for any methodologies or scope. August 19, 2014 Transcript at p. 847, lines 12-20 (Ms. Yilma); August 19, 2014 Transcript at p. 821, lines 3-7 (Ms. Yilma). Several Tribes, including the Oglala Sioux Tribe, rejected the terms of the NRC Staff directed survey as improper and insufficient. FSEIS at 1-25; Exhibit NRC-008-A-1. Instead of resolving these issues in an appropriate and satisfactory, NRC Staff simply charged forward, collecting information from only three (3) Tribes that did participate in the exercise (none of them Sioux) and unilaterally deeming the analysis sufficient. August 19, 2014 Transcript at p. 820, lines 18-25 (Ms. Yilma).

During this time period, NRC Staff also opted to "separate" the NHPA 106 process from the NEPA process. FSEIS at 1-26; Exhibit NRC-008-A-1. The result of this separation is that the NHPA 106 process is still ongoing, despite the finalization of the FSEIS. In and of itself, the separation of these two processes is not contrary to law. However, as it was carried forward in this case, NRC Staff deferred necessary cultural resources impact reviews, and **all** analysis of mitigation measures for these impacts, as well as project alternatives that result from that impact and mitigation analysis, to a process outside any NEPA-recognized environmental documents. As a result, regardless of how NRC Staff attempts to discharge its duties under NHPA, there is no "good faith" exemption from the "hard look" requirements of NEPA. Overall, the fact remains that the FSEIS – the relevant environmental document – lacks the required competent,

adequate, and scientifically-valid cultural resources inventory and mitigation analysis required by NEPA.

The Tribe's position on this contention is supported by the written testimony presented by the Declaration of Wilmer Mesteth, Oglala Sioux Tribe Tribal Historic Preservation Officer (Exhibit OST-15), record documents referenced in the FEIS as described and in Appendix A to the FSEIS (Exhibit NRC-008-A, 008-B), recent letters to the NRC Staff from Oglala Sioux President Bryan Brewer and Standing Rock Sioux Tribe Tribal Historic Preservation Officer (Exhibit NRC-0016), the written testimony in the Declaration of Michael CatchesEnemy (Exhibit OST-14), as well as omissions in the FSEIS. Each of these sources of admitted evidence support a Board finding that the Tribe has established the inadequacy of the cultural resource surveys and analyses conducted at the site as of the legally-critical date of the issuance of the FSEIS, which marked the completion of the NEPA process.

The FSEIS itself concedes that the required cultural resources impact and mitigation analysis had not been completed, despite the issuance of a final NEPA document. FSEIS at 1-16 ("NRC and SD SHPO staff also discussed the possibility of entering into a programmatic agreement or memorandum of agreement, pursuant to Section 106, with all consulting parties to set forth procedures and mitigation measures to preserve existing historic and cultural resources at the proposed Dewey-Burdock ISR Project site. The NRC staff continued to consult with the SD SHPO to evaluate the effects of the proposed project on historic and cultural resources"); Exhibit NRC-008-A-1.

This reliance on the Programmatic Agreement (PA) highlights the NRC Staff failure to comply with NEPA. The PA by its own terms is designed to set forth future processes for identifying impacts, future processes for identifying sites while construction and operations

occur, and future processes for the development and analysis of mitigation measures to be implemented. Exhibit NRC-018-A, at 5-10. Indeed, the PA contemplates the entirety of the development of potential measures to avoid, minimize, or mitigate adverse effects, including to those resources already identified, to a future analysis. *Id*. at 6-8. As such, the PA is yet another NRC Staff promise of future compliance that confirms the lack of necessary information in the FSEIS or any other NEPA environmental document that could satisfy NEPA and implementing regulations. *Sierra Club v. United States DOE*, 255 F. Supp. 2d 1177, 1186 (D. Colo. 2002)("Although Defendants' assurances of future NEPA review possess a certain pragmatic appeal, such assurances cannot obviate the need for compliance with NEPA regulations.").

Also of great significance is the fact that the PA, by its own terms, applies its provisions for future study, analysis, and mitigation only to those sites identified that are eligible for listing on the National Register of Historic Places ("NRHP"). Exhibit NRC-018-A at 9 ("If the NRC, BLM, and SD SHPO make the determination that identified cultural resources are not eligible for listing on the NRHP, no further review or consideration of the properties will be required under this PA."). NEPA requires a "hard look" at impacts and mitigation for all cultural resources, not just those eligible for listing on the NRHP. This confirms that the PA is not a legitimate substitute for NEPA compliance, as it applies only to a small subset of Sioux cultural resources and impacts required to be reviewed within the NEPA process.

In an attempt to carry their burdens of proof and persuasion, NRC Staff and the applicant have continually conflated and confused the NEPA and NHPA requirements, thereby concealing the importance of NEPA mandates to Sioux. Importantly, the Tribe acknowledges that as a general matter, use of a PA may be allowable or appropriate to address NHPA duties. However, that the agency cannot use a PA as a mechanism to defer cultural resource impacts identification,

impacts, and mitigation analysis where NEPA requires the analysis of Sioux cultural resources be integrated into the agency's "hard look" under NEPA. *Cal. Valley Miwok Tribe v. United States*, 515 F.3d 1262, 1266 n.7 (D.C. Cir. 2008)("statutes are to be construed liberally in favor of the Indians, with ambiguous provisions interpreted to their benefit.")(citations omitted).

In this case, NRC Staff and the applicant request the Board to construe the statute against the Tribe by allowing the agency to use the future, non-public, non-NEPA, processes contemplated in the PA to comply with NEPA's requirements. This fact was highlighted at the hearing, where the applicant's witness Dr. Sabastian characterized the difference between a "Memorandum of Agreement" and a "Programmatic Agreement". August 19, 2014 Transcript at p. 871, line 15 to p. 872, line 9. Specifically, Dr. Sabastian confirmed that, as opposed to the use of a Memorandum of Agreement, the use of a Programmatic Agreement does not demonstrate that the necessary resource identification or mitigation measure development have been completed: "Usually with a Memorandum of Agreement, which is the other kind of 106 document, pretty much all of the 106 activity is done at that point. Everything has been identified with minor exceptions, all the property (sic) have been evaluated, everybody knows what the effects are, and there's been the discussion about how to resolve the effects, so in an MOA all of those standard steps of the 106 process are done. With a Programmatic Agreement, the idea is that it sets out a process for completing the 106 process, and it can pick up anywhere. Sometimes it picks up after all the properties have been identified and the effects are known, but the discussion about mitigation hasn't happened. Sometimes it picks up before any identification is done." *Id*.

NRC Staff witness Ms. Yilma also highlighted the heavy reliance on the post-NEPA PA, testifying in response Chairman Froehlich's question as to whether it was indeed true that a full

thirty (30) percent of the identified cultural sites within the Area of Potential Effect remained unevaluated by NRC Staff even after the NEPA process concluded: "There are a large number of unevaluated sites. However, Your Honor, we do have a Programmatic Agreement which captures how those unevaluated sites will be identified and evaluated in the future should the need arise before any ground disturbing activities occur." August 19, 2014 Transcript at p. 875, lines 12-20. This testimony demonstrates the problem with NRC Staff relying so heavily on the PA analyses that post-date the FSEIS and Record of Decision – a license has issued without the identification of cultural resources, without an impact analysis, and without integrated NEPA review of mitigation, alternatives and impacts. Instead, NRC Staff takes the untenable position that the NEPA process can conclude even before the cultural resource information is gathered. Such heavy reliance on future analysis via a PA cannot stand up under the typical application of NEPA, let alone here where the Board must interpret and implement NEPA to favor the Sioux, not NRC Staff.

As a result of the confirmed lack of an adequate survey or any mitigation plans for cultural resource impacts, the FSEIS determines that the impacts from the proposed action will range from "small to large." FSEIS at xli; Exhibit NRC-008-A-1. This broad range of impacts may be appropriate for a generic analysis, but demonstrates the lack of information necessary for the site-specific NEPA analysis of the current licensing action.

At the hearing, NRC Staff also relied heavily on Exhibit NRC-048, which is a guidance document entitled "NEPA and NHPA: A Handbook for Integrating NEPA and Section 106" to attempt to justify using the Programmatic Agreement to satisfy NEPA. August 19, 2014 Transcript at p. 752, lines 12-15 (Mr. Clark). However, this document undermines, rather than supports NRC Staff's position. For instance, instead of purporting to allow NRC Staff to defer

analysis of cultural resource impacts and mitigation measures until some time in the future, as it has done here, Exhibit NRC-048 specifically states that a "key concept" for integrating NEPA and NHPA is to "complete Section 106 and the appropriate NEPA (Categorical Exclusion, EA, EIS) before issuing a final agency decision." Exhibit NRC-048 at 5. Further, the document presents a graphic that demonstrates that activities such as identifying historic properties, assessing adverse effects, and resolving adverse effects (mitigation) must be conducted during the public review, comment, and involvement phase of the NEPA process. *Id*. at 26. See also, *id*. at 28 (confirming that information "on affected environment, impacts, and potential mitigation" must be presented for public review and comment as part of the NEPA process).

NRC guidance documents further demonstrate that state of the NRC Staff's NEPA analysis of cultural resources is insufficient. For instance, NUREG-1569 Section 2.4 imposes several requirements in terms of Section 2.4.3 Acceptance Criteria that have not been met in this case. In particular, Section 2.4.3(1) requires a listing for all properties included in, or eligible for inclusion in, the National Register. Rather than provide this information, the application materials and FSEIS, PA, along with testimony from the hearing, admit that even without incorporating any Sioux input into the identification process, scores of sites have not been evaluated for listing eligibility.

The Tribe's view is confirmed by NEPA provisions requiring participation of cooperating agencies, tribes, and the public, at the earliest possible stages of the analysis, not after the decision issues. 40 C.F.R. §§ 1501.2, 1501.6, 1508.5. Similarly NUREG-1569.Section 2.4.3(3) specifically mandates consultation with tribal authorities on the likely impacts on Native American cultural resources, which has not yet occurred in this case – but was relegated to post-NEPA processes as spelled out in the PA. To effect NRC and United States duties to Tribes,

section 2.4.3(4) requires evidence of NRC Staff contact with appropriate state historical preservation office and tribal authorities – information lacking in the application with respect to tribal contact. Lastly, section 2.4.3(5) explicitly contemplates a memorandum of agreement "among the state historic presentation officer, tribal authorities, and other interested parties regarding their satisfaction with regard to the protection of historic, archaeological, architectural, and cultural resources during site construction and operations."

Overall, the FSEIS does not contain the disclosures, information, or analysis of impacts and mitigation necessary to satisfy NRC Staff's NEPA duties. OST respectfully requests the Board declare the FSEIS noncompliant with NEPA and remand the FSEIS, and all decisions based on the FSEIS, including the license, back to NRC Staff to complete all requirements of NEPA.

Contention 1B: Failure to Comply with the National Historic Preservation Act (NHPA) Consultation Requirements.

NRC's licensing process must be carried out in accordance with the National Historic Preservation Act ("NHPA") and related Executive Orders. 16 U.S.C. § 470f (agency "shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking"). Under these authorities, NRC Staff 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. The federal mandates are unique to Indian Country and require NRC to consult with Tribes as early as possible in the decisionmaking process. Where NRC Staff issues a license before taking into account the full effect of the undertaking, the license was issued contrary to law and must be set aside. 5 U.S.C. § 706(2). Under the canons of interpretations applicable to

the present case, the Board cannot ratify NRC Staff's position that NHPA effects can be identified and mitigated after licensing in light of the plain statutory language requiring NRC to "take into account the effect of the undertaking" "prior to the issuance of any license." 16 U.S.C. § 470f.

NRC Staff's failure to meet the statutory charge cannot be avoided by reliance on ambiguities contained in regulations and agency policies. See *Cal. Valley Miwok Tribe v. United States*, 515 F.3d 1262, 1266 n.7 (D.C. Cir. 2008)("the governing canon of construction requires that statutes are to be construed liberally in favor of the Indians, with ambiguous provisions interpreted to their benefit."). As referenced *infra*, the NHPA requires that where a federally-authorized 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 C.F.R. § 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)(A). In each case, the agency must "recognize the government-to-government relationship between the federal government and Indian tribes" in conducting consultation under the NHPA. 36 C.F.R. § 800.2(c)(2)(ii)(C).

Here, despite having the applicant's materials since 2009, and the Tribe's contentions regarding lack of adequate cultural resource surveys since April 6, 2010, NRC Staff's consultation process failed to meet the NHPA standards. At the hearing, NRC Staff and Powertech attempted to point to numerous conversations NRC Staff has had with Tribes as evidence of compliance with the NHPA consultation duties. August 19, 2014 Transcript at p. 720, lines 9-16 (Ms. Jehle)(asserting that the list contained in Exhibit NRC-015 is "key evidence" upon which NRC Staff relies). However, as also demonstrated at the hearing, the consultation that has occurred to date, despite the list provided by NRC Staff in Exhibit NRC-015, has not been meaningful or reasonable – in large part because the NRC Staff has refused to work through the serious problems identified by the Oglala Sioux Tribe and other tribal representatives. The result is only a veneer of proper consultation, but without any "reasonable" substantive back and forth or the "good faith" required by the NHPA. See *Quechan Tribe of the Fort Yuma Indian Reservation v. U.S. Dept. of the Interior*, 755 F.Supp.2d 1104, 1118 (S.D. Cal. 2010)("the sheer number of documents is not meaningful. The number of letters, reports, meetings, etc. and the size of the various documents doesn't in itself show the NHPA-required consultation occurred.").

In this case, the timeline and actions of NRC Staff and the applicant's consultants, as these parties testified at the hearing, demonstrate that NRC Staff's consultation was not "reasonable" or in "good faith" under the circumstances presented here. At the hearing, NRC Staff witness Ms. Yilma testified that "[i]n 2011, when we had our initial face-to-face meeting, there were a number of tribes including the Oglala Sioux Tribe present there and during that effort we were told that in order for us to -- in order for the tribes to identify properties, they

would need to conduct a tribal field survey which we refer to as TCP [Traditional Cultural Properties] surveys." August 19, 2014 Transcript at p. 776, line 22 to p. 777, line 3.

NRC Staff witness Mr. Hsueh testified that NRC Staff's understanding was that "people identify traditional cultural properties usually mostly through ethnographic research. And then there are maybe field visits with the elders who want to go and see a particular area, or they've looked at an archaeological report and they say this site right here, we want to go to see that site. So there's a field component…." *Id*. at p. 846, lines 12-19. In this case, NRC Staff witness Ms. Yilma testified that NRC Staff "did not conduct an ethnographic study, but we did have a discussion about them during our face-to-face interactions with the tribes. And the ultimate conclusion was instead of an ethnographic study a field survey was necessary, so we focused our attention on the field survey approach." *Id*. at p. 847, lines 3-8.

In order to move forward with the "necessary" field study, instead of the agency taking it upon itself, NRC Staff witness Ms. Yilma testified that NRC Staff requested that the applicant provide the additional information, which resulted in the hiring by the applicant of Dr. Sabastian and her firm (SRI) "to be [the applicant's] consulting party and assist [the applicant] in identifying and satisfying the tribes' request." August 19, 2014 Transcript at p. 791, lines 12-18. See also, *Id*. at p. 792, lines 13-16 (Dr. Sabastian)("Once we came on board in the fall of 2011, we began with the NRC introducing us to the tribes and asking the tribes to work with us. We began contacting all the tribes."). NRC Staff apparently was not concerned with the fact (or perhaps never inquired) that Dr. Sabastian, as she testified at the hearing, had never been involved in any kind of "actual physical on-the-ground TCP survey-kind of thing that we're talking about." August 19, 2014 Transcript at p. 846, lines 9-21. Federal courts have specifically rejected reliance on contracted investigators as satisfying the required "government-

to-government" consultation requirements. See *Quechan Tribe*, 755 F.Supp.2d at 1119(holding that "while public informational meeting, consultations with individual tribal members, meetings with government staff or contracted investigators, and written updates are obviously a helpful and necessary part of the process, they don't amount to the type of 'government-to-government' consultation contemplated by the regulations.").

This field survey effort continued with a determination "that a statement of work was necessary to document the requirements and by which the tribes would go out and do the tribal survey." August 19, 2014 Transcript at p. 791, lines 19-24. Dr. Sabastian testified that in order to attempt to come to agreement with the Tribes over the scope of work, SRI held a two-day meeting in February of 2012. *Id*. at p. 793, lines 1-7. After that meeting, SRI prepared a scope of work for a field survey, as "NRC [Staff] was anxious to sort of move the process along." *Id*. at p. 793, lines 7-8. Problematically, the NRC Staff tasked SRI to develop a scope of work, despite the fact that Dr. Sabastian had never conducted this kind of "actual physical on-the-ground TCP survey-kind of thing that we're talking about." August 19, 2014 Transcript at p. 846, lines 9-21.

Despite this lack of experience and knowledge, Dr. Sabastian testified that she and her firm "did the best that we could and said okay, here's the draft document. Clearly we're not the experts on how to do this. But here it is for the tribes to have something to work against or have a structure to begin saying we don't like this, we do like that." *Id*. at p. 793, lines 9-15. Not surprisingly, the Tribes "said it was completely inadequate" and again, instead acting reasonably and consulting on a government-to-government basis by presenting a scope of work prepared by someone with experience, NRC Staff instead had SRI try "with a second draft which [the Tribes] also said was completely not acceptable…." *Id*. at 793, lines 19-23. NRC Staff witness Ms. Yilma testified that the SRI proposal "didn't actually specify a methodology. It was more

general guidance that Powertech provided…." *Id*. at 797, lines 21-23. OST witness Mr. CatchesEnemy testified that the Tribes were reasonably concerned about SRI's drafts because it lacked the "cultural relevance" necessary for such a project. *Id*. at p. 794, lines 5-8; 18-21.

Unsatisfied with SRI's repeated attempts, the Tribes submitted their own draft statement of work as a counter to the draft from the applicant's inexperienced consultants. *Id*. at p. 792, lines 1-6 (Ms. Yilma); p. 803, lines 21-22 (Ms. Yilma). The Tribes' proposal contained specifics related to timeframes, cost, and reporting requirements that the Tribe believed would adequately address the cultural and historical issues in the area. *Id*. at p. 803, line 22 to p. 804, line 21 (Ms. Yilma). However, NRC Staff witness Ms. Yilma testified that NRC Staff unilaterally rejected the proposal that was submitted by the Tribes because it "was significantly larger in dollar amount and also duration" and "significantly varied from what Powertech provided." *Id*. at p. 805, lines 15-19. Specifically, the proposal "was about six months" and "by the end of six months, we would have gotten a report, whereas, we were looking at magnitude of a month that we would identify historic properties and do our assessment." *Id*. at p. 806, lines 20-24. Lastly, "the tribes' proposal was close to $1 million. And Powertech's proposal was close to $110,000 or $120,000." *Id*. at p. 807, lines 14-16.

As a result, NRC Staff simply rejected the Tribes' proposal and unilaterally ended all negotiation and discussion over that scope of work and the Tribes' proposed field survey process, instead seeking alternatives. The Tribes responded with disbelief and severe disappointment as evidenced in email and letter correspondence between affected Tribes and the NRC Staff (see communications regarding NEPA and NHPA compliance)(Exhibit OST-11, pages 272-325). These letters to NRC Staff came from the Standing Rock Sioux Tribe (pages

272-277), the Sisseton Wahpeton Oyate (pages 280-281), the Rosebud Sioux Tribe (pages 288-293), and the Yankton Sioux Tribe (page 294).

During the process, the Tribes detailed their legitimate objections of the Tribal historic preservation officers to the proposed NRC Staff scientific methodology in conducting the required cultural resource impact survey of the proposed mine site. The Standing Rock Sioux Tribe's highly detailed letter specifically identifies objections targeting the geographic scope of the NRC Staff proposed surveys (only a small portion of the project area), as well as the scope of the impacts to be considered (direct impacts vs. indirect impacts), the timing of the survey, the resources available for Tribal participation, the selection process for the NRC Staff's survey contractor, and the protocols for identifying sites and gauging their significance. Despite these objections, the Tribes committed to working with NRC Staff and the applicant in good faith, if only NRC Staff and the applicant would assure a meaningful process and credible methodology. Unfortunately, NRC Staff had abandoned this effort and without any substantive response to the Tribes, explanation or other discussion of the decision to reject the Tribes' survey proposal out of hand. Instead, NRC Staff went forward with an "open-site" survey method that lacked any organized or scientifically determined methodology. FSEIS at 1-23 to 24; Exhibit NRC-008-A; August 19, 2014 Transcript at p. 797 lines 21-24 (Ms. Yilma).

This approach demonstrates a lack of good faith and reasonable consultation under the NHPA because NRC Staff never responded with any alternatives to the Tribes' detailed proposal. Indeed, NRC Staff exhibit NRC-015, which NRC Staff contended is "key evidence" of its reasonableness and good faith, belies that claim. For instance, instead of explaining the reason for rejecting the Tribes' proposal, NRC Staff sent a one page letter dated October 12, 2012 that contained no detail or other explanation of NRC's decision to reject the Tribes' survey

proposal. Exhibit NRC-015 at 10 (referencing Accession No. ML12286A310). This October 12, 2012 letter also contained as an attachment a Powertech letter dated October 9, 2012 where the applicant, also without detail or explanation, simply informs NRC Staff that it will refuse to contribute more than $100,000 to the cultural resources identification effort. Exhibit NRC-015 at 10 (referencing Accession No. ML12285A425). This lack of substantive discussion and negotiation is not reasonable and was not in good faith.

NRC Staff's complaint about the six month time frame for the Tribes' review is also not reasonable or in good faith. This is demonstrated by the fact that Dr. Hannus testified that it took his Augustana team, apart from the initial survey conducted prior to and presented as part of the application, "an additional two seasons of work" to conduct the follow up surveys. August 19, 2014 Transcript at p. 818, line 23 to p. 819, line 3. To have expected the Tribes to conduct the entirety of their survey within a month, and to unilaterally reject the proposal on that basis is not reasonable. Further, it appears that Dr. Hannus' additional field work was being conducted at the same time the NRC Staff was negotiating with the Tribes as to the scope of work for a cultural resources survey. Exhibit NRC-015 at 6 (referencing a June 20, 2012 one-page letter from NRC Staff to the Oglala Sioux Tribe containing "an Evaluative Testing Report of 20 Sites in the proposed Dewey-Burdock Uranium Recovery project boundary developed by the applicant.") (ML12172A178). The applicant-led field work conducted by Dr. Hannus contrasts with testimony from NRC Staff witness Dr. Luhman that "in those projects in which I have been involved [a cultural survey] it is typically that [the Tribes] are working alongside with the archaeological survey team as they are going about doing the survey. It could be in the preliminary stages of doing the generalized recognizance (sic) of the project area. Oftentimes the federal agency and other parties will be along that process so that there can be discussions

while out in the field, and these are for sometimes very large projects. But in my experience it typically is at the same time when there is an ongoing consultative and survey process." August 19, 2014 Transcript at p. 836, line 18 to p. 837, line 2. For NRC Staff to negotiate with the Tribes for a cultural survey on one hand, knowing that such a cultural survey is to be done in coordination with the archaeological survey, all the while encouraging the applicant to continue moving forward with that archaeological survey to the exclusion of the cultural component is not reasonable or in good faith.

Federal case law confirms the reasonableness of the Tribe's estimated length of time and $1million cost necessary to perform an adequate cultural resources study. August 19, 2014 Transcript, p.807 lines14-16 ("The tribes' proposal was close $1 million. And Powertech's proposal was close to $110,000 or $120,000.") (Ms. Yilma). For instance, in *Quechan Indian Tribe of the Fort Yuma Indian Reservation v. U.S. Dept. of the Interior*, 547 F.Supp.2d 1033 (D. Ariz. 2008), the Court upheld a Bureau of Reclamation NHPA consultation process, but only after specifically noting that physical on-the-ground traditional cultural property surveys were conducted with members of local tribes and "[i]n total, the process lasted over five years and cost more than two million dollars." *Quechan Indian Tribe*, 547 F.Supp.2d at 1046. There, the agency's compliance with NHPA was upheld because the agency took steps to ensure local tribes participated in on-the-ground cultural resource reviews. It also establishes the arbitrary and capricious nature of the NRC Staff's decision here to reject the Tribes' proposal solely because it could last more than six months and cost in the neighborhood of $1million.

The failure to meet federal duties to the Tribe is confirmed by examining the manner of rejection where NRC Staff effectively used the cost and time components to foreclose any additional substantive negotiation or compromise on the Tribes' proposal. Federal courts have

specifically rejected such agency justifications of "the size, complexity, and expense of [a] project, as well as time limits" in order to "impose deadlines of their own choosing" on NHPA consultation. *Quechan Indian Tribe*, 755 F.Supp.2d at 1119. Rather, while the courts recognize that "Section 106's consulting requirements can be onerous … [b]ecause of the large number of consulting parties (including several tribes), the logistics and expense of consulting," "government agencies are not free to glide over requirements imposed by Congressionally-approved statutes and duly adopted regulations." *Id*.

Based on the testimony at the hearing and the evidentiary record, at the end of the day, it was the NRC Staff, not the Tribe, that failed to demonstrate reasonableness and engage a good faith substantive back and forth on a government-to-government basis between the federal and Tribal governments regarding this Sioux-proposed approach to cultural resources survey centered on Sioux culture and cultural resources. Instead, NRC Staff unilaterally and abruptly ended effective consultation when it rejected the Tribes' proposal based on unreasonable restrictions of time and money premised on the applicant's refusal to pay for the necessary surveys.

The lack of any effort to attempt to refine the Tribes' approach or even have a discussion with the Tribes in an effort to resolve this difference of opinion demonstrates both a lack of reasonableness and good faith, and a breach of the duties owned the Tribe under the federal trust responsibility. See e.g. *California Valley Miwok Tribe v. United States*, 515 F.3d 1262 (D.C. Cir. 2008)(discussing source of federal obligations to Tribes). Instead, the record shows that NRC Staff aligned with the applicant, relied on the applicant's inexperienced contractor to do the hard work of consultation, and ultimately carried forward the wishes of the applicant over federal duty

to the Tribes when rejecting the Tribes' reasonable proposal as too expensive and too time consuming.

Recently, OST President Bryan Brewer and the Standing Rock Sioux Tribal Historic Preservation Officer again described at length the problems they have encountered with a lack of adequate consultation and lack of meaningful consultation with regard to the creation of the Programmatic Agreement in the ongoing NHPA process. See Exhibit NRC-0016. NRC Staff witness Ms. Yilma testified that NRC Staff made changes to the PA and "incorporated the concerns of the Standing Rock Sioux and the Oglala Sioux…." August 19, 2014 Transcript at p. 821, lines 14-22; p. 876, lines 4-9. However, a review of the record demonstrates that very little, if anything, of substance changed between the draft PA that was the subject of comments by the Oglala Sioux Tribe and Standing Rock Sioux Tribe and the final version relied upon by NRC Staff. Compare Exhibit NRC-016 at 7-20 with Exhibit NRC-018-A. In particular, both OST and the Standing Rock Sioux Tribe commented most pointedly in objection to the lack of reliable cultural resource survey effort to date, and NRC Staff failing to specify the manner in which future identification efforts and mitigation planning would be conducted, instead simply deferring to the applicant to submit future plans and develop processes. See Exhibit NRC-016 at 1-2; 11-13. In contradiction to NRC Staff testimony, these detailed concerns were never addressed in any substantive way, buttressing the Tribe's contention of failure to engage on a government-to-government basis in the "reasonable and good faith effort" consultation requirement of NHPA. 36 C.F.R. § 800.8(c)(1)(v).

NRC Staff's tactics during the NHPA process, and particularly in response to the Tribes' proposal for a legitimate cultural resources survey, to engage the Tribe in conversation yet never actually consider, or in some cases respond to, the substantive concerns and alternatives

presented by the Tribes contravenes the requirements of the NHPA. See *Quechan Indian Tribe*, 755 F.Supp.2d at 1118 (agency communications "replete with recitals of law (including Section 106), professions of good intent, and solicitations to consult … do not, by themselves, show [the agency] actually complied with the law."). The approach taken by NRC Staff here harmed the Tribe's ability to participate in the identification of historic/cultural properties, and hampered its ability to effectively participate at the later stage when the specific impacts from a particular project are analyzed. See, e.g., 36 C.F.R. §§ 800.4 ("Identification of historic properties") and 800.5 ("Assessment of adverse effects"). NRC Staff's post-licensing NHPA scheme also diminishes and disregards the federal government's trust obligations to the Tribe.

Federal courts have held that at least in part, reasonable and good faith efforts "depend on consultation with appropriate persons to gather information concerning historic properties to facilitate the identification and adequate consideration of historic preservation in the fact of new undertakings." *Attakai v. U.S.*, 746 F.Supp. 1395, 1408 (D. Ariz. 1990). Although *Attakai* dealt with an agency refusing to give an affected Tribe any opportunity to participate, the principle applies to this case, where the agency unilaterally rejected the Sioux Tribes' survey proposals based on unreasonable timing and cost restrictions.

Similarly, the Court in *Slockish v. U.S. FHWA*, 682 F.Supp.2d 1178 (D. Oregon 2010) ruled that the NHPA requires the federal agencies to "assure that the agency has all the information needed to make an informed decision about the project's impacts prior to undertaking the project." *Slockish*, 682 F.Supp.2d at 1198. The Court further held that the requirement for complete information is a "key requirement in any federal project or undertaking which cannot casually be set aside." *Id*. Finally, the Court ruled that "by failing to include key stakeholders in the process, [the agency] may have acted without information necessary for them

to comply with their obligations under [the NHPA]." *Id*. at 1198-99. Similarly here, NRC Staff took action in issuing the license without incorporating any Sioux comments or reports on any cultural resources survey, rendering the Sioux absent from the effort to identify and evaluate sites prior to licensing.

Lastly, in *Pueblo of Sandia v. U.S.*, 50 F.3d 856 (10th Cir. 1995), the Circuit Court held that despite the fact the local affected Tribes declined to respond to repeated U.S. Forest Service requests for information on cultural resources, the fact that the agency was aware that such resources existed in the area "was sufficient to require the Forest Service to engage in further investigations, especially in light of regulations warning that tribes might be hesitant to divulge the type of information sought." *Pueblo of Sandia*, 50 F.3d at 860. While in that case, the Forest Service appears to have wholly ignored evidence of cultural resources in making a determination that none existed in the affected area, the principle applies here. Despite the Tribes' hesitancy to engage in the survey scope of work proposed by the consultant hired by the applicant who was inexperienced in on-the-ground cultural resources surveys, this did not excuse the NRC Staff from rejecting the Tribes' proposal based on deadlines of its own choosing or from moving forward with final action without ensuring that a competent survey of Sioux cultural resources had occurred.

In sum, NRC Staff's rejection of the Tribe's proposal, failure to deal in good faith, and refusal to negotiate on a government-to-government basis in accord with trust obligations has led to the unlawful circumstance where the "prior to the issuance of any license" NRC Staff did not "take into account the effect of the undertaking." 16 U.S.C. § 470f . Where the cultural resources issues have remain unresolved by the PA or other post-license activities, the Board is

bound by statutory charge and the federal trust responsibility to invalidate the license and remand this matter back to NRC Staff pending full compliance with the NHPA.

Contention 2: Failure to Include Necessary Information for Adequate Determination of Baseline Ground Water Quality

The FSEIS violates 10 C.F.R. Part 40, Appendix A, Criterion 7, 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.

The applicant and NRC Staff have provided no significant or additional baseline water quality information since the application was submitted. Indeed, in response to comments from the Tribe on the DSEIS specifically detailing the problems with lack of adequate baseline water quality data, NRC Staff confirms that the applicant collected data from 2007 to 2009 and that "the NRC staff used this information when drafting the affected environmental section of the SEIS as well as analyzing impacts of the proposed action." FSEIS at E-32; Exhibit NRC-009-B-2.

Exacerbating these problems, NRC Staff states that:

> the applicant will be required to conduct additional sampling if a license is granted to establish Commission-approved background groundwater quality before beginning operations in each proposed wellfield in accordance with 10 CFR Part 40, Appendix A, Criterion 5B(5). However, this does not mean that the NRC staff lacks sufficient baseline groundwater quality information to assess the environmental impacts of the proposed action.

No change was made to the SEIS beyond the information provided in this response.

FSEIS at E-32(emphasis added); Exhibit NRC-009-B. The admitted data gaps, and the failure to gain additional sampling before the FSEIS issued, establishes that NRC Staff has not required or used the collection of any additional baseline data for its characterization of baseline water quality, but and that NRC Staff will require additional data in order to establish a credible baseline for use in the regulatory process. Thus, while the FSEIS contains data from 2007-2009, the background water quality for use in the actual regulatory process for the facility will be established a future date, outside of the NEPA process, and outside of the public's review.

This approach contravenes NEPA. NEPA requires that information necessary to gauge the scope of impacts be presented in the NEPA document – and if not, that the agency explain that the information "cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known." 40 C.F.R. § 1502.22.

In addition to NRC Staff admissions, the Opening Written Testimony of Dr. Robert E. Moran (Exhibit OST-001) provides additional support this contention. Exhibit OST-001; Dr. Moran Opening Written Testimony at 16-18. Specifically, Dr. Moran notes the lack of analysis of impacts from past mining activities (p. 16), the lack of necessary information as to the chemical compositions and volumes of wastes, among others (p. 17), the potential bias of the data thus far provided (p. 18) along with the scientifically invalid tactic of requiring the Applicant to collect meaningful water quality data to be used in the configuration of mine design in the future and outside of the public review:

> The delayed production of this critical baseline information until after licensing is not scientifically defensible as it prevent establishment of a baseline on which to identify, disclose, and analyze environmental impacts, alternatives, and mitigation measures involved with the Dewey-Burdock proposal. A scientifically defensible monitoring and mitigation of an operating project is not possible based on the baseline data and analyses I have reviewed.

Exhibit OST-001 at 17.

The expert Rebuttal Testimony of Dr. Robert Moran also confirms that NRC Staff has not adequately described the baseline conditions at the site using reasonably comprehensive data. Exhibit OST-018. For instance, Dr. Moran specifically opines that despite NRC Staff and Powertech arguments that post-license collection of data is sufficient to fill in any gaps that currently exist, such a process deprives expert agencies, the public and the parties to this proceeding (and NRC Staff) the opportunity to meaningfully review and evaluate the impacts from the proposed project in a NEPA process. Exhibit OST-018, Rebuttal Testimony of Dr. Robert E. Moran at 2 (A.2).

Further, any assertions that this additional data cannot be obtained without full construction of final well-fields is unsupported and contradicted by the expert testimony of Dr. Moran. Dr. Moran opines that adequate baseline data can be gathered "without constructing the ultimate wellfield monitoring network." *Id*. Dr. Moran points to previous studies undertaken by TVA and Knight Piesold that conducted pump tests to gather baseline data prior to NRC approval. *Id*. Dr. Moran states that Mr. Demuth "confuses hydrological testing that is needed to establish, analyze, and disclose the hydrogeological setting as part of the NEPA-based NRC permit-approval with the more specialized production tests Powertech will conduct on constructed wellfields." Id. In short, there is no legal, technical, or practical basis to forgo gathering this needed data as part of the NEPA process.

At the hearing, Dr. Moran confirmed that additional data is necessary for a "complete" baseline analysis, including the collection of data for water quality constituents not presented in the application or FSEIS, such as strontium and lithium. August 20, 2014 Testimony at p. 1007, line 24 to p. 1008, line 1. Consistent with Dr. Moran's testimony, applicant witness Mr. Demuth admitted that additional data is necessary to provide complete baseline data. *Id*. at p. 1012, lines

16-20. While Mr. Demuth attempted to assert that this later collection of data is allowable under the regulations, he is clearly not a legal expert in this proceeding entitled to no deference as to his interpretations of the regulations.

Thus, Dr. Moran's expert opening, rebuttal, and hearing testimony provides the basis demonstrating the flaws in the NRC Staff and applicant positions regarding baseline data – which is to defer meaningful collection, disclosure, and analysis until a later date, after other expert agencies, the public, and parties to these proceedings have been denied the opportunity to comment on the baseline that reveals the affected environment that will be impacted. This critique is centered on NRC Staff's adopted plan in the FSEIS to defer collection of baseline and to rely on future analysis of future baseline analyses outside of the public purview – through a so-called Safety and Environmental Review Panel (SERP) – outside of the NEPA process. Recognizing that NEPA is a unique federal procedural statute with substantive importance, "unless a document has been publicly circulated and available for public comment, it does not satisfy NEPA's EIS requirements." See *Massachusetts v. Watt*, 716 F.2d 946, 951 (1st Cir. 1983). Certainly, the future analysis by a SERP cannot substitute for the NEPA procedures.

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. Binding regulations require the applicant to provide "**complete** baseline data on a milling site and its environs." 10 C.F.R. Part 40, Appendix A, criterion 7(emphasis added). The scheme to allow the operative data to be collected at a later date, after license issuance, violates these requirements. NRC Staff and the applicant argue that 10 C.F.R. Part 40, Appendix A, Criterion 5 allows the agency to forgo the unambiguous requirements of Criterion 7. However, to

counsel's knowledge, no federal court has ever addressed this issue, and NRC Staff and the applicant are not free to simply redefine the word "complete" in an attempt to render this requirement without force. NRC Staff and the applicant admit that "complete" data has not been collected, and the testimony of Dr. Moran demonstrates that the methodologies and data used by NRC Staff to make its determinations of baseline data were flawed. As a result, the application violates criterion 7 and the FSEIS, in reliance solely on the applicant's data, fails to provide a NEPA compliant analysis of existing conditions at the site.

Additionally, Dr. Moran specifically relies on the Declaration of Dr. Richard Abitz detailing the requisite standards for scientific validity in a baseline analysis also support this contention. Exhibit OST-001, at 2. See also, Exhibit OST-011, pages 92-123; 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."); *accord* ¶¶ 47-74, 75, 82-84, 92-94, 95.

Lastly, the FSEIS improperly relies on the outdated NRC Regulatory Guide 4.14 (1980) to designate the boundary for which groundwater monitoring will be required. This guidance is outdated and is designed specifically for conventional mills. No update of any kind has been prepared the unique issues with ISL mines. NRC Staff's post-hoc attempts to argue that this regulatory guide is appropriate for use on ISL projects should raise concerns, as no studies or reports have been provided by NRC Staff to support its litigation-based conclusion that it is adequate for ISL projects and impacts.

In this case, the application and FSEIS fail 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. The deferral of this necessary information to after license issuance and outside of the NEPA process violates 10 C.F.R. Part 40, Appendix A, Criterion 7, 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

The FSEIS presents an analysis of groundwater quality that provides "a NEPA review founded on hypothetical and theoretical assumptions [that] does not meet the twin goals of NEPA and 'would trivialize NEPA and would diminish its utility in providing useful environmental analysis for major federal actions that truly affect the environment.'. Although […] assurances of future NEPA review possess a certain pragmatic appeal, such assurances cannot obviate the need for compliance with NEPA regulations." *Sierra Club v. United States* DOE, 255 F. Supp. 2d 1177, 1186 (D. Colo. 2002) *quoting Park County Resource Council, Inc. v. United States Dep't of Agriculture,* 817 F.2d 609, 623 (10th Cir. 1987), *overruled on other grounds, Village of Los Ranchos de Albuquerque v. Marsh*, 956 F.2d 970 (10th Cir.) cert. denied, 506 U.S. 817 (1992). Where NRC Staff has not met its burden to demonstrate NEPA compliance, the FSEIS and license cannot be upheld.

Contention 3: Failure to Include An Adequate Hydrogeological Analysis To Assess Potential Impacts to Groundwater

The FSEIS fails to provide sufficient information regarding the hydrologic and geological setting of the area to meet the requirements of 10 C.F.R. § 40.31(f); 10 C.F.R. § 51.45; 10 C.F.R. § 51.60; 10 C.F.R. §§ 51.10, 51.70 and 51.71, 10 C.F.R. Part 40, Appendix A, Criteria 4(e) and 5G(2), and the National Environmental Policy Act, and implementing regulations. As a result, the FSEIS and application similarly fail to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required.

Importantly, with regard to any issues regarding Contention 3, including the ability to demonstrate that the Fuson Shale will adequately contain fluid migration, the burden rests squarely with the NRC Staff and the applicant. 10 C.F.R. § 2.325 ("Unless the presiding officer otherwise orders, the applicant or the proponent of an order has the burden of proof."). Specifically, for the NEPA-based portion of Contention 3, the burden is on the Staff, because the Staff, not the applicant, has the statutory obligation of complying with NEPA. See, *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), CLI-83-19, 17 NRC 1041, 1049 (1983). According to the Commission, "NRC hearings on NEPA issues focus entirely on the adequacy of the Staff's work." *Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), CLI-07-17, 65 NRC 392, 395 (2007); see also *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010) (stating that "the ultimate burden with respect to NEPA lies with the NRC Staff"). However, because "the Staff, as a practical matter, relies heavily upon the Applicant's ER in preparing the EIS, should the Applicant become a proponent of a particular challenged position set forth in the EIS, the Applicant, as such a proponent, also has the burden on that matter." *Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center), LBP-96-25, 44 NRC 331, 339 (1996), *rev'd on other grounds, Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center) CLI-97-15, 46 NRC 294 (1997) (citing *Pub. Serv. Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-471, 7 NRC 477, 489 n.8 (1978)). The standard of proof in this proceeding is preponderance of the evidence. *See Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 521 (2008) (applying a preponderance of the evidence standard to resolution of an environmental contention).

With respect to the safety contention portion of Contention 3, for the applicant to prevail on a factual matter, its position must be established by a preponderance of the evidence. *See, e.g., Pacific Gas and Electric Co*. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 521 n.64 (2008), citing *Pacific Gas and Electric Co*. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 (1984); *Tennesee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 360 (1978) ("Absent some special statutory standard of proof, factual issues . . . are determined by a preponderance of the evidence"). Accordingly, for the Applicant or NRC Staff to prevail in this hearing, they must show by a preponderance of the evidence that the claims made by the Intervenors are without merit.

The FSEIS relies on data associated with the proposal submitted along with the application material. The FSEIS confirms this in the response to comments on issues related to confinement and fluid migration, where NRC Staff repeatedly state that "no change was made to the SEIS" based on those comments. See e.g., Exhibit NRC-008-B; FSEIS at E-30 to 31, E-150.

As with the DSEIS, where the FSEIS contains any changes, it notes only that a proposed license condition was added to further clarify that the applicant will be required to submit adequate hydrogeologic data – but only **after** the NEPA process is completed, after a license is issued, and with no chance for any public review. See e.g., Exhibit NRC-008-B; FSEIS at E-51 ("The commenter is correct in stating that wellfield hydrogeologic data packages will not be made available for public review. However, by license condition, all wellfield data packages must be submitted to NRC for review prior to operating each wellfield (NRC, 2013b). . . . Text was revised in SEIS Section 2.1.1.1.2.3.4 to clarify NRC license conditions with respect to review and approval of wellfield data packages at the proposed Dewey-Burdock ISR Project.").

This approach violates NEPA and the cited implementing regulations – the lack (and deferral of collection and review to a later date) of necessary data and analysis to ensure a credible and NEPA and NRC regulation-compliant review of impacts to groundwater.

This approach to collect data later also violates 10 C.F.R. Appendix A, Criteria 5G(2), which specifically requires:

> detailed information concerning extent, thickness, uniformity, shape, and orientation of underlying strata. Hydraulic gradients and conductivities of the various formations must be determined. This information must be gathered from borings and field survey methods taken within the proposed impoundment area and in surrounding areas where contaminants might migrate to ground water. The information gathered on boreholes must include both geologic and geophysical logs in **sufficient number and degree of sophistication to allow determining significant discontinuities, fractures, and channeled deposits of high hydraulic conductivity.**

10 C.F.R. Appendix A, Criteria 5G(2)(emphasis added). The evidence in the record demonstrates that the applicant has not conducted the necessary studies to identify "significant discontinuities, fractures, and channeled deposits."

This issue is addressed head-on by Dr. Moran, who provided expert testimony on the significant contradictory evidence in the application and the FSEIS. Exhibit OST-001, at 18-22. Specifically, Dr. Moran opines on the overwhelming body of evidence undermining the FSEIS conclusion that the production zone is hydraulically isolated from surrounding aquifers. *Id*. at 18-19. Beyond demonstrating that NRC Staff has not carried its NEPA burden, Dr. Moran further demonstrates that numerous potential pathways for groundwater conductivity, including inter-fingering sediments, fractures and faults, breccia pipes and/or collapse structures, and the 4000 to 6000 unidentified exploration boreholes present at the mine site. *Id*. at 20. Dr. Moran concludes that "these inconsistencies make clear that Powertech and NRC Staff have failed to define the detailed, long-term hydrogeologic characteristics and behavior of the relevant Dewey-

Burdock aquifers and adjacent sediments." *Id*. This approach violates NEPA procedures and the substantive provisions of 10 C.F.R. Appendix A, Criteria 5G(2).

The lack of data extends to the lack of analysis of evidence of "fault zones" in the proposed mining area (Exhibit OST-001, p. 20-21) as well as the existence of a "trench" in the potentiometric surface of the Fall River aquifer. *Id*. at 21. Breccia pipe formations and collapse features round out the list of potential migration pathways for which the application and FSEIS fail to address. *Id*. at 21-22.

Similarly, Dr. Moran's Rebuttal Testimony reinforces this issue, pointing out that Powertech's own witnesses have now contradicted the scientific integrity of the pump test data which form the basis of the FSEIS analysis. Exhibit OST-018 at 4. The Powertech consultants also contradict themselves with regard to the impact of the unidentified boreholes, arguing in some places that they may have closed by themselves, but then also that they are open, and that the effect of the boreholes have rendered the existing pump test data suspect. *Id*. at 3. Further, Dr. Moran affirms that the data currently forming the basis of the NRC Staff's hydrogeological analysis is "inadequate to establish a hydrogeological … baseline." *Id*. at 3. Dr. Moran concludes based on an extensive review of the information presented, including conclusions by every other scientist (except Powertech's) that has reviewed the historic pump tests at the site, that the supposed aquitards at the site are indeed leaky. *Id*. at 6. Dr. Moran goes into extensive detail as to the particular bases for the lack of acceptable industry-standard methodology and assumptions employed by Mr. Demuth in his conclusions (and accepted by NRC Staff) as to the lack of confining ability of the formations at the site. *Id*. at 6-7.

These issues of fluid containment were also explored during the hearing in this case, during which serious question was cast on whether the existing analysis and assumptions relied

upon by NRC Staff and applicant could demonstrate an ability to contain the mining fluid. As a starting point, applicant witness Mr. Lawrence readily admitted that in order to ensure containment of the fluid, the operator would need for the Fuson Shale to be relatively impermeable. August 20, 2014 Transcript at p. 1047, lines 20-23. However, as observed by Judge Barnett, "[i]nterpretations of both the 1979 and 2008 pumping test results were found to be consistent with a leaky confined aquifer model. … Based on the results of the numerical model, the Applicant concluded that vertical leakage through the Fuson shale is caused by improperly installed wells or improperly abandoned boreholes. So it does appear in the FSEIS that it acknowledges that it is leaky, whether it is coming from boreholes or whatever else, it is leaky." *Id*. at p. 1050, line 18 to p. 1051, line 5. In response, NRC Staff witness Mr. Prikryl responded: "Yes, that's correct." *Id*. at p. 1051, line 8. Applicant witness Mr. Lawrence also agreed: "Yes, there were certainly conditions that demonstrated communication." *Id*. at 1051, lines 15-16.

The applicant witness Mr. Lawrence attempted to explain that such a "leaky" condition would have to be rectified in order to successfully contain the mining fluids. In doing so, applicant witness Mr. Lawrence stated "[t]hat goes back to the development of the wellfield data package. If you run a specific test in the area that you plan to mine, and identify leakage that is occurring, particularly if you can identify that it is an improperly abandoned borehole or improperly constructed well, as was the case in these tests, you can remedy that situation, plug the borehole, rerun the tests and show that basically you have retained confinement." *Id*. at p. 1051, line 22 to p. 1052, line 5. Critically, however, Mr. Lawrence then admitted that any such additional work of actually demonstrating the ability to contain the fluid would occur "outside of the FSEIS." *Id*. at p. 1052, lines 6-8. This admission is critical because it demonstrates that, although the applicant and NRC Staff have admitted that impermeability of the Fuson shale is

critical to effective fluid migration, and that the Fuson shale is leaking, all additional review of that significant problem was deferred until after the NEPA process.

Such a scheme violates the public disclosure and "hard look" impact review requirements of NEPA, which requires such information to be presented and analyzed in the FSEIS. The promised analysis is outside NEPA process and cannot excuse an FSEIS that does not inform the public and decisionmakers that fluid migration is likely to take place due to permeability and thousands of unplugged holes that TVA drilled through the Fuson shale and into the ore-bearing zones. *South Fork Band Council v. BLM*, 588 F.3d 718, 726 (9th Cir. 2009). The FSEIS provides no information even on where this mysterious leaking borehole is, or why the applicant and NRC Staff could not have conducted available analyses described by Dr.Moran's written expert testimony to demonstrate whether they in fact could find and plug that borehole, rerun the test and demonstrate the ability to retain confinement. The lack of NEPA analysis unacceptably leaves the public in the dark as to whether this mitigation will work or what the potential impacts may be should the remedy not be successful.

Upon further questioning by Judge Barnett, the applicant witness Mr. Demuth admitted that the applicant's test data did show a lack of sufficient confinement at least in portions of the project area "where we have a well which is completed in both zones and allows it to communicate." *Id*. at p. 1054, lines 11-13. In that case, Mr. Demuth states, "there may be one or two unplugged exploration boreholes which are identified in the application. So in that area, the wellfield, any wellfield test is going to have to be examined very carefully." *Id*. at 1054, lines 12-17. Thus, the applicant witnesses admit that sufficient study has not been completed to demonstrate the ability to contain the mining fluids, but rather a later, post-NEPA, detailed scientific review will be necessary to "examine" this issue "very carefully." While the applicant

obviously does not see this issue as any impediment to its project, NEPA requires more. Where such serious questions exist as to such fundamental issues as the ability to contain mining fluids, those issues must be explored and resolved in the FSEIS.

Tellingly, when NRC Staff witness Mr. Prikryl was asked the same question about how NRC Staff reconciles the past tests, admitted into evidence in this proceeding, which show leaks in the supposed confining layers at the site, Mr. Prikryl responded: "Well, I'm not familiar with this pump test, what shaft they're talking about or what the location of the pump test itself." *Id*. at p. 1056, lines 5-12. When queried further as to whether NRC Staff had reviewed this fundamental piece of evidence, NRC Staff witness Mr. Lancaster could not give a satisfactory answer, stating that "we requested this information is our [RAIs] and I think as I recall their conclusions were it's leaky because of a variety of reasons. And one could be the boreholes not being properly abandoned or not being abandoned at all with the correct procedure for plugging and that sort of thing. We recognize that the pump tests show that there is leakiness." *Id*. at p. 1056, line 25 to p. 1057, line 8.

Consistent with the admissions of NRC Staff and applicant witnesses, the FSEIS fails to conduct the analysis necessary to determine the actual cause of this leakiness or verify the borehole theory. See also Exhibit OST-018 (Rebuttal Testimony of Dr. Moran) at 3(opining that such lack of investigation fails to meet accepted scientific standards). Although the Tribe was not allowed to press these issues further through cross examination by its own attorneys in reliance on Mr. Moran's expert assistance, the Board questioning at the hearing did confirm that significant questions still remain as to the hydrogeology at the site, and that instead of addressing them in the FSEIS, NRC Staff simply relied on license conditions and other future non-NEPA

procedures to hopefully remedy them in the future. Such an effort fails to take the "hard look" required by NEPA.

Similarly, testimony given by Dr. LaGarry at the hearing demonstrated that the analysis in the application and FSEIS failed to account for faults and fractures in the geology at the site which could cause similar leaky conditions as have been confirmed in the confining layers at the site. See August 20, 2014 Transcript at p. 1065 line 7 to p. 1067, line 10. Upon follow up from Judge Cole, Dr. LaGarry confirmed that in his professional opinion, "that one [report] that was just shown that we were just discussing, the TVA concluded that the leakage might have been caused by an unplugged borehole or some previously as yet undescribed structural feature in that very page we were just reviewing." *Id*. at p. 1069, line 24 to p. 1070, line 4. Indeed, the TVA report referenced demonstrates faults and fractures are prevalent in the area. Exhibit OST-009 at 60. Applicant witness Mr. Lawrence responded that the study does not conclusively demonstrate fractures in the precise permit area at issue. August 20, 2014 Transcript at p. 1071, lines 2-3. Mr. Lawrence's testimony confirms that applicant did not carry its burden where its analysis failed to provide a credible explanation for the TVA's leakage conclusions. Likewise the FSEIS is deficient where it stops short of analyzing this critical aspect of the ISL proposal.

Dr. LaGarry credibly opines that "[s]o this TVA report recognizes that the whole area is fractured and that breccia pipes form along these fractures, but they didn't make it into the scientific literature for maps. But if I was to take a geological mapping field crew out there, we would find them because we're looking for them." *Id*. at p. 1074, lines 4-9. See also, *id*. at p. 1074, line 14 to p. 1077, line 23 (Dr. LaGarry discussing the commonly overlooked faults and fractures in the area); p. 1109, line 15 to p. 1111, line 2 (discussion of USGS report (Exhibit NRC-081 at 7) referencing extensive breccia pipe formation in the area).

Dr. LaGarry's (and Dr. Moran's) testimony is consistent with the TVA report (Exhibit OST-009), the USGS report (Exhibit NRC-081), the USGS-derived Gott map (Exhibit APP-015(f)), all of which show faults, fractures, and breccia pipes in the immediate area of the proposed project, and thus is far more credible testimony that the geology is highly variable in the area given the scientific evidence. At minimum, this corroboration between the Tribe's expert testimony and the extensive geological reports demonstrates NRC Staff's failure to take the requisite "hard look" by not conducting any actual physical surveys to confirm or deny the presence of these geological features – especially considering the applicant's pump tests proving leaky confining layers. Instead, NRC Staff relies on the applicant's assumptions, unsupported by any actual empirical data or detailed site investigation, that somehow in a sea of geological fractures and faults surrounding the Black Hills and particularly in this area, the applicant's chosen site is free of geological irregularity that would affect fluid containment simply because there is no "smoking gun" in the reports showing a major fault directly crossing the site. In this case, NEPA requires NRC Staff to do more to reconcile the evidence in order to meet its statutory obligations.

Instead of conducting the rigorous scientific review necessary to determine the hydrogeology conditions of the area, as noted by Dr. Moran, Dr. LaGarry, and others in testimony and during the hearing, NRC Staff simply proposes to allow the applicant to collect this information in the future, after NEPA is complete and after a license is issued, through the use of a Safety and Environmental Review Panel (SERP). ExhibitNRC-008-A-1, FSEIS at 2-18. Notably, this post-NEPA SERP review is not just a confirmation of information already in existence – rather:

> The wellfield hydrogeologic data package will describe the wellfield, including (i) production and injection well patterns and location of monitor wells; (ii) documentation

> of wellfield geology (e.g., geologic cross sections and isopach maps of production zone sand and overlying and underlying confining units); (iii) pumping test results; (iv) sufficient information to demonstrate that perimeter production zone monitor wells adequately communicate with the production zone; and (v) data and statistical methods used to compute Commission-approved background water quality….

Id.

As Dr. Moran testifies, this approach is not scientifically-defensible. Exhibit OST-001, at 22-23. Indeed, this is the same evidence of the existing inadequacy of the data and analysis has been echoed throughout this process. See e.g., Exhibit OST-011, at 109 (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); Exhibit OST-011, at 15-18 (OST List of Contentions on DSEIS at 15-18 (including substantial discussion of NEPA statutory, regulatory, and case law); Exhibit OST-010, at 21-25 (OST Statement of Contentions on Application at 21-25).

The only additional information provided by the applicant and NRC Staff related to this contention since the admission of this contention based on the application material is a 2012 report referenced in the FSEIS from Petrotek regarding modeling of the hydrogeology and the bore hole data that was released post-hearing, and certainly post-FSEIS. As a result, the FSEIS relies heavily on the Petrotek report throughout its discussion of confinement issues, as well as geology and water usage impacts. See Exhibit NRC-008-A-1; NRC-008-A-2 (FSEIS 3-17 to 18; 4-57, 4-59, 4-61 to 62, 4-64, 4-68, 4-71, 4-73, 4-75, 5-25).

Dr. Moran discusses this Petrotek modeling report and sets forth his opinion as to why it is not sufficient to resolve the issues associated with the Tribe's Contention 3. See Exhibit OST-001, Moran Opening Testimony at 23-26. Specifically, the Petrotek Report relies on

inadequately detailed inputs into its model, including for hydraulic conductivity and assumptions of no water flows vertically, which is contradicted by the scientific literature, and unsupported assumptions as to the effect of unplugged boreholes in the area and the lack of any faults or fractures. *Id*. at 23-24. Dr. Moran further points out the contradictions between the Petrotek Report and NRC Staff conclusions in the FSEIS with regard to the existence of fractures or other flow paths. *Id*. at 24. Dr. Moran completes his review with a litany of unsupported assumptions made in the Petrotek model that skew the results and render it unreliable as a scientific tool to predict hydraulic conductivity at the site – the ability of the hydrogeology to contain the contamination associated with ISL mining. *Id*. at 24-26.

Regarding the post-hearing bore hole data, Dr. LaGarry provided a detailed expert review of that information which confirms his hearing testimony that there are substantial questions as to the hydrogeologic conditions at the site that warrant additional investigation and analysis. Exhibit OST-029 (Written Supplemental Testimony of Dr. Hannan LaGarry). In that document, Dr. LaGarry testifies that his review of the bore hole data demonstrates that the data discloses, at minimum: 140 open, uncased holes; 16 previously cased, redrilled open holes; 4 records of artesian water; 13 records of holes plugged with wooden fenceposts; 6 records of holes plugged with broken steel; 12 records of faults within or beside drilled holes; and 1 drawing of 2 faults and a sink hole within a drilled transect. Exhibit OST-029 at 2. Dr. LaGarry goes on to testify as to the likely consequence of these conditions, all of which support the Tribe's assertions that additional investigation of the site is necessary in order to satisfy NEPA's "hard look" requirement, and in order for the applicant to demonstrate an ability to contain the mining fluids.

Lastly, additional documents have come to light from the United States EPA that cast additional considerable doubt as to the adequacy of the NRC Staff's assumptions as to the

hydrogeologic baseline at the site. These two EPA documents include (1) a September 2014 two-page announcement from U.S. EPA stating that it has completed a Preliminary Assessment (PA) of the Darrow/Freezeout/Triangle abandoned uranium mines located within the area of the proposed Dewey-Burdock project (Exhibit OST-25); and (2) a September 24, 2014 document from Seagull Environmental Technologies captioned as "Preliminary Assessment Report regarding the Darrow/Freezeout/Triangle Uranium Mine Site near Edgemont, South Dakota, EPA ID: SDN000803095." (Exhibit OST-26).

Specifically, EPA's analysis, based on its jurisdiction and experience with uranium mine contamination, documents for the first time the causation link not just between the unreclaimed surface mines and surface water contamination, but also ground water contamination. NRC Staff testimony submitted on October 24, 2014 (Exhibit NRC-174) alleges that the FSEIS reviewed the impacts caused by the unreclaimed mines on surface water and wetlands (Exhibit NRC-174 at 6-7), but the EPA documents now establish a causal link to the contamination of ground water and nearby ground water wells. Ex. OST-026 at 30. This finding by EPA supports the Tribe's arguments that the FSEIS lacks a "hard look" review of the baseline hydrogeology, and particularly groundwater connectivity issues at the site.

Based on its expertise gained from CERCLA clean-up of other uranium mines, EPA concludes that additional data and sample collection for soils and surface waters is needed beyond what NRC Staff required. EPA states further that this data collection is necessary to better characterize and define source areas at the unclaimed uranium mines. Ex. OST-026 at 30. Importantly, these are the "source areas" for the "observed release to groundwater" that "has occurred at the site." *Id*. Thus, the fact that the proposed new sampling includes only soil and surface waters does not disconnect this issue from the "observed" ground water contamination.

Further, EPA's analysis reveals for the first time that "[s]ome significant data gaps exist within the information reported." Exhibit OST-026 at 29. Based on special expertise and jurisdiction over uranium mines that NRC Staff lacks, EPA analysis reveals for the first time that while "[g]roundwater samples were collected within the area of the Site from various wells; however, lack of ground water sampling data from near and upgradient of the Site limited availability of reliable background concentrations." *Id*. Also, EPA points out that although soil samples were collected at the site by Powertech, "of the 25 samples collected, only three were analyzed for additional radionuclides including uranium, Pb-210, and Th-230 – the other known contaminants on site." *Id*. Together, these EPA documents bolster the Tribe's contention that additional investigation is necessary at the site in order to establish the scientifically credible baseline analysis required by NEPA.

Based on this demonstration, the FSEIS fails to provide an adequate baseline geology and hydrogeology analysis and as a result fails to adequately analyze the impacts associated with the proposed mine, particularly on groundwater resources and with respect to the applicant's ability to contain mining fluid.

Contention 4: Failure to Adequately Analyze Ground Water Quantity Impacts

The admitted testimony and documents confirm that the NRC Staff has not met its burden to demonstrate a NEPA-compliant analysis of the ground water quantity impacts of the project in the FSEIS. Instead, the evidence confirms a finding that the FSEIS presents conflicting information on ground water consumption such that the water consumption impacts of the project cannot be accurately evaluated. Therefore NRC Staff has not met its burden to

demonstrate compliance with 10 C.F.R. §§ 51.10, 51.70 and 51.71, NEPA, and implementing regulations.

Questioning at the hearing revealed that the FSEIS puts forward conclusions, without providing the methodology, data, and analysis necessary to inform the public and survive NEPA scrutiny. August 20, 2014 Transcript at p. 1151-1165. Even the panel of technical judges was not able to discern the quantity of usable water that would be impacted by diminished water quality. *Id*. at 1154-1160 (Judge Cole questioning applicant witness Mr. Fritz, who provided non-expert testimony "I'm not a chemical engineer" (*id*. at p. 1156, line 25)). In particular, the underlying basis for the quantity of water lost due to contamination, reverse osmosis, evaporation, and deep disposal were never established, despite the Board's repeated questions. *Id*.

The inadequate analysis and disclosure of groundwater impacts is confirmed by the written expert testimony of Dr. Moran. Exhibit OST-001, at 26-28. See also, Exhibit OST-011 at 104 (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; Exhibit OST-010 at 25-28 (Petition to Intervene and Request for Hearing at 25-28); Exhibit OST-011, at 18-20 (List of Contentions on DSEIS at 18-20).

After Dr. Moran submitted similar comments on the DSEIS, the FSEIS included some discussion claiming to be a "water balance" for the project that was not present in the DSEIS. Dr. Moran's expert testimony establishes that the "water balance" contained in the FSEIS does not provide sufficient information to adequately analyze the groundwater quantity impacts. Specifically, Dr. Moran testifies that:

> In order to evaluate the adequacy of mine water-related data and water management practices, it is standard practice for EISs and similar mine environmental reports to

> include a detailed water balance. Such a balance includes measured data for all water inputs and outputs related to all mine operations and all sources of water that might influence these operations. Essentially any detailed ground water textbook describes the workings of such water balances (e.g. Freeze & Cherry, 1979) and ICMM (2012) and Golder Assoc. (2011) represent two industry-sponsored studies that describe how water balances should be applied at mine operations.

OST-001 at 27 (Moran Opening Written Testimony at 27). Dr. Moran further provides his analysis with regard to the additional information provided in the FSEIS:

> On page 2-36 the SEIS (see Fig. 2.1-14) contains what the authors claim is a water balance, but it clearly is not. In fact, it is also labeled as "Typical Project-Wide Flow Rates," which more accurately describes what is contained in the FSEIS. The flow rates calculation is not a water balance for the D-B site or D-B operations. It lacks basic components of a water balance, including detailed, measured data for volumes of water entering the system and losses (e.g. volumes of ground water available in the various aquifers, evaporation from land-application facilities, volumes under-going UIC injection, etc.), and *fails to calculate an actual balance.*

Exhibit OST-001 at 27-28 (Moran Opening Testimony at 27-28).

Dr. Moran's written Rebuttal Testimony further confirms that the FSEIS lacks the necessary data and methodology to present a water quantity impacts analysis. Ex. OST-018 at 7-8. Specifically, Dr. Moran rebuts applicant's witness Mr. Demuth's assertion that information related to evaporation rates are irrelevant to an assessment of the water consumption of the project. *Id*. at 7. Further, Dr. Moran contests applicant's witness Mr. Fritz' testimony that the FSEIS contains a water-balance for the site. *Id*. at 7-8. Dr. Moran again opines that a water balance was not included in the FSEIS. *Id*.

Instead of including a thorough discussion of the water consumption in the FSEIS, NRC Staff relies on the applicant's water rights applications to the State of South Dakota. August 21, 2014 Transcript at p. 1303, lines 15-19 (Mr. Clark). Specifically, NRC Staff relies on purported South Dakota findings that "annual water consumption will not exceed the recharge rates of either the Madison or Inyan Kara aquifers." *Id*. See also, *id*. at 1294, lines 18-24 (Mr.

Pugsley)(same). However, the proper means for NRC Staff to rely on analysis conducted by other agencies is to include them as "cooperating agencies." 40 C.F.R. §§ 1501.2, 1501.6, 1508.5. It is well established that NEPA duties must be carried out within the NEPA process in NEPA documents. *South Fork Band Council v. BLM*, 588 F.3d 718, 726 (9th Cir. 2009). The FSEIS can rely on analysis through NEPA tiering, but the other document must have been prepared within a NEPA process and address the specific project. *Id*. citing *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 810 (9th Cir. 1999) (holding that reliance on the EIS accompanying an earlier planning document was improper because it did not discuss the subsequent specific project in detail). The federal cases consistently hold that "non-NEPA document--let alone one prepared and adopted by a state government--cannot satisfy a federal agency's obligations under NEPA." *South Fork Band Council*, 588 F.3d 718, 726 (9th Cir. 2009) *citing Klamath-Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 998 (9th Cir. 2004).

For a state document to qualify for NEPA tiering, NEPA requires four conditions be met: "(i) […] statewide jurisdiction and [] responsibility for such action; (ii) the responsible Federal official furnishes guidance and participates in such preparation, (iii) the responsible Federal official independently evaluates such statement prior to its approval and adoption, and (iv) […] the responsible Federal official provides early notification to, and solicits the views of, any other State or any Federal land management entity of any action or any alternative thereto which may have significant impacts upon such State or affected Federal land management entity and, if there is any disagreement on such impacts, prepares a written assessment of such impacts and views for incorporation into such detailed statement." 42 U.S.C. § 4332(2)(D). NRC Staff has not asserted or provided any evidence that any of the statutory conditions for state preparation of a NEPA document to which the FSEIS could be tiered. Even when a state satisfies these

conditions, which has not been alleged, the state analysis "shall not relieve the Federal official of his responsibilities for the scope, objectivity, and content of the entire statement or of any other responsibility NEPA." *Id*. See also, *Massachusetts v. Watt*, 716 F.2d 946, 951 (1st Cir. 1983)("unless a document has been publicly circulated and available for public comment, it does not satisfy NEPA's EIS requirements.").

As such, despite the inclusion of the additional information circulated in various forums, the FSEIS cannot rely on the non-NEPA analysis being carried out by South Dakota and others, where the FSEIS analysis lacks its own scientifically-defensible analysis with respect to an analysis of ground water quantity impacts associated with the proposed project. This failure violates NEPA and implementing regulations.

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

The Tribe has supported Contention 6 with legal argument and evidence sufficient to demonstrate that NRC Staff has not carried its burden to prepare an FSEIS with mitigation analysis that comports with the requirements of 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations. The review of NEPA compliance is limited to the NEPA document – here the FSEIS – which is the means to meet NEPA's twin aims: 1) to satisfy the agency's "the obligation to consider every significant aspect of the environmental impact of a proposed action [;and, 2) to] ensure that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process." *Baltimore Gas & Elec. Co. v. Nat'l Res. Def. Coun., Inc*., 462 U.S. 87, 97 (1983) (internal citations and quotation marks omitted). Where the Board finds that the mitigation analysis

within the FSEIS is inadequate, the inquiry into the legal sufficiency of the NEPA document is complete. *Id.*

As stated by NRC Staff, "the analysis in the EIS on mitigation measures stands for itself." August 21, 2014 Transcript at p. 919, lines 19-20 (Mr. Clark). Despite the fact that Chapter 6 of the FSEIS was titled "Mitigation", NRC Staff confirmed that "[t]he Board needs to look elsewhere for the more specific discussion of how those measures will reduce or avoid impacts in specific areas." *Id.* at p. 1205, lines 22-25 (Mr. Clark). Although NRC Staff points to "mentions" and discussions in Chapters 2, 4, and 7 (*id.* at lines 16-17), when the FSEIS is examined, these "snippets do not constitute real analysis." *Natural Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 299 (D.C. Cir. 1988) (mere mention that protected species may be exposed to risks of oil spills did not provide lawful NEPA analysis).

Likewise, NRC Staff witness Ms. Yilma testified that the chapter dedicated to mitigation (Chapter 6) "did not have any details in it." August 21, 2014 Transcript at p. 1264, lines 2-3. Ms. Yilma testified that instead of presenting a mitigation analysis, "[y]ou would have to go to Chapter 4, each resource area, to read through what the Applicant plans to do based on what the Applicant committed to do and what other regulatory agencies are required or are reviewing per their permit applications. We take into all those factors as a mitigation measure to assess impacts for that resource area." *Id.* at p. 1264, lines 3-9. NRC Staff's failure to understand the disclosure purposes of a NEPA document is confirmed by NRC Staff Counsel's incorrect statement that pursuant to NEPA, "the Staff did not need to devote pages to each mitigation measure." August 21, 2014 Transcript p. 1205, lines 2-3 (Mr. Clark).

In order to inform the public and decisionmakers, NEPA mitigation regulations requires that NEPA documents: (1) "include appropriate mitigation measures not already included in the

proposed action or alternatives," 40 C.F.R. § 1502.14(f); and (2) "include discussions of: . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f))." 40 C.F.R. § 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*, 490 U.S. 332, 353 (1989)(emphasis supplied). NRC Staff does not carry its burden to provide "reasonably complete discussion" by mere mentions and snippets related to mitigation in the FSEIS. *Id*.

Although perfection is not required, the incomplete and cursory mention of mitigation in the FSEIS does not meet the NEPA mandate. Among other things, "Congress authorizes and directs that, to the fullest extent possible […] all agencies of the Federal Government shall […] include in […] a detailed statement by the responsible official on[…] any adverse environmental effects which cannot be avoided should the proposal be implemented." 42 U.S.C. § 4332(2)(C)(ii) cited by *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 351-2 (1989*).*

Reliance on a future, as yet-unsubmitted, mitigation to prevent/mitigate adverse impacts to these resources also violates NRC duties under NEPA. NEPA, and NRC implementing regulations, require full review of these impacts as part of the public review process – something which has not occurred here.

> As the D.C. Circuit explained, "whether the analysis is generic or site-by-site, it must be thorough and comprehensive." […] Thus, the NRC must produce a comprehensive and thorough NEPA analysis of all NEPA issues […], including mitigation […], and if the

> issue is not covered in a generic EIS it must be covered in the site-specific NEPA document.

In re Calvert Cliffs 3 Nuclear Project, LLC, (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-12-18, 76 N.R.C. 127, 178 (2012) *discussing New York v. NRC*, 681 F.3d at 480-81. NRC precedent confirms the duty to examine mitigation of impacts (including with respect to "environmental justice" communities) in NEPA documents.

> We expect NRC EISs, and presiding officers in adjudications, to inquire whether a proposed project has disparate impacts on "environmental justice" communities and whether and how those impacts may be mitigated.

In Re Hydro Resources, 53 N.R.C. 31, 64 (N.R.C. 2001) (emphasis supplied) *citing Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 106-110 (1998)(remanding for consideration of mitigation measures).

As stated by NRC Staff Counsel during the hearing, "I don't see how the Staff could have evaluated something that did not exist until after – until seven months after it finalized the EIS." August 19, 2014 Transcript at p. 917, lines 20-23 (Mr. Clark). Similarly, it is impossible for NRC Staff to have evaluated still-developing mitigation in admitted evidence disclosed by the applicant after the hearing closed and never discussed or analyzed in the FSEIS. Exhibit OST-028 (10/7/2014 letter confirming "programmatic agreement" resources "currently being developed" and estimating "treatment plan should be complete by or before the end of 2014."); OST-027 (10/10/2014 U.S. FWS email requesting additional information on eagles and completion date of Avian Plan); OST-024 (previously withheld Eagle take permit request); OST-023 (previously withheld Draft Avian Plan); OST-022 (previously withheld 7/8/2014 BLM letter requesting information on mitigation plans).

Although NRC Staff and the applicant presented testimony in an attempt to rehabilitate the deficient FSEIS in the briefings and hearing, a NEPA violation is confirmed where NRC

Staff failed to develop and include reasonably complete mitigation measures in a NEPA document; by deferring development of mitigation measures to others; and, by failing to analyze the effectiveness of existing and as-yet developed mitigation across alternatives.

Applicant counsel's assertions confirm the deficiency in the FSEIS in arguing that "mitigation plans are permitted to be developed after license issuance per the Hydro Resource's case as cited by Mr. Clark." August 21, 2014 Transcript at p. 1210, lines 2-3 (Mr. Pugsley). Applicant's counsel then listed the as-yet developed mitigation relied upon in the FSEIS, such as "post-license issuance pump tests and hydrologic wellfield packages" (*id.* at lines 9-10) and "continuing consultation […] to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties." *Id*. at p. 1210, line 25 to p.1211 line 3.

The hearing confirmed that the FSEIS did not disclose or analyze mitigation plans that the applicant has developed to some degree. The testimony of Mr. Fritz confirms the FSEIS failed to disclose and analyze "a very detailed monitoring and mitigation plan that's done for the state of South Dakota in association with the land application, the groundwater discharge permit for the land application. And it is a very comprehensive monitoring program. It's got wells, it's got a perimeter of operational pollution that's defined. And they've got wells to monitor when and if any constituents of concern reach those areas." August 21, 2014 Transcript at p. 1238, lines 12-20.

Similarly, applicant witness Ms. McKee confirmed "an avian plan that is being developed in concert with state and federal agencies." *Id* at p.1241 lines 17-23. Ms. McKee testified that the draft avian plan had been developed enough after the FSEIS was released to allow analysis of the mitigation monitoring "for all of the avian species identified by the state and federal agencies

we've been collaborating with to create the plan." *Id* at p. 1242, lines 8-10. Ms. McKee testified about "prey populations" including prairie dogs and "rabbits, which are, of course eaten by the eagles and hawks that nest out there." *Id*. at lines 11-12. Ms. McKee testified that mitigation under development for selenium in ponds would only be partially effective because "it's likely that not every single animal will be kept out." *Id*. at lines 22-23. Ms. McKee confirmed that effectiveness of fence as mitigation will rely on "expertise by a variety of publications and experts that are out there throughout the country that do wildlife fencing." *Id.* at p. 1243, lines1-3. Several pages of hearing testimony is dedicated to Ms. McKee disclosing and describing the design and effectiveness criteria of fencing to mitigate impacts on the bird species' prey species. *Id*. at p. 1243-1246. Several more pages are dedicated to keeping birds themselves out of the ponds. *Id.* at p. 1246, line 21 to p. 1248, line 25. Several more pages of are dedicated to Ms. McKee's testimony regarding bald eagles that winter and nest in the project area. *Id*. at p. 1250, line24 to p.1253, line 6.

However, Ms. McKee also confirmed the lack of any of this necessary analysis in the FSEIS:

> Reference to the plans are in numerous locations in the FSEIS. The plan is not finalized. It is a draft plan at this time. It is still being collaboratively developed with the state and federal agencies and it's being tweaked. The format and content of the draft plan has been changed just over the course of the last few months. But the plan will be finalized and approved by the South Dakota Department of Environment and Natural Resources and Game and Fish as a permit condition before any construction begins.

Id. at p.1253, lines 10-20. Thus, instead of analysis in the FSEIS, on examination by Judge Barnett, Ms. McKee confirms that the FSEIS contains "examples of measures to be taken, and it references the other documents." *Id*. at p. 1254, line 2-3.

Although Ms. McKee testified that "it seems appropriate to me to rely on the experts" (*id*. at p. 1254, lines 9-10) through references in the FSEIS instead of actual analysis in the FSEIS,

"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*, 137 F.3d 1372, 1380-81 (9th Cir. 1998), *compare Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 477 (9th Cir. 2000) (upholding an EIS where "[e]ach mitigation process was evaluated separately and given an effectiveness rating"). Although Ms. McKee's testimony on avian impacts spanned fourteen pages of the hearing transcript, the FSEIS was based on the NRC Staff legal conclusion that "the Staff did not need to devote pages to each mitigation measure." August 21, 2014 Transcript at p.1205, lines 2-3 (Mr. Clark).

Compounding the vague description of mitigation, the FSEIS does not contain evaluation of the effectiveness of potential mitigation measures and therefore does not meet NRC's NEPA duties. *South Fork Band Council v. U.S. Dep't of Interior*, 588 F.3d 718, 726 (9th Cir. 2009). *Neighbors of Cuddy Mountain v. U.S. Forest Serv*., 137 F.3d 1372, 1381 (9th Cir. 1998) (disapproving an EIS that lacked such an assessment). NEPA requires that all agencies fully review whether the mitigation of mineral development activities will be effective. See *South Fork Band Council*, 588 F.3d 718, 728 (9th Cir. 2009).

The Supreme Court recognizes that the purpose of the mitigation analysis is to evaluate whether anticipated environmental impacts can be avoided, as is required by NEPA's plain language. *Robertson*, 490 U.S. at 351-52 (citing 42 U.S.C. § 4332(C)(ii)). A NEPA analysis of mitigation without evaluation of effectiveness is useless determining which impacts cannot be avoided. *South Fork Band Council*, 588 F.3d 718, 726 (9th Cir. 2009). For the same reason, the FSEIS must provide evidence of effectiveness, which in the present case would reveal reliance on untested mitigation measures that are not likely to eliminate impacts of the project:

> [T]he Court holds that the Corps' reliance on mitigation measures that were unsupported by any evidence in the record cannot be given deference under NEPA. The Court remands to the Corps for further findings on cumulative impacts, impacts to ranchlands, and the efficacy of mitigation measures.

Wyoming Outdoor Council v. U.S. Army Corps of Eng'rs, 351 F. Supp. 2d 1232, 1238 (D. Wyo. 2005). The need to documents effectiveness in the FEIS is particularly appropriate where, as here, the effectiveness of mitigation is challenged in the comments. See Exhibit OST-011 (comments attached). "The comments submitted by [plaintiff] also call into question the efficacy of the mitigation measures and rely on several scientific studies. In the face of such concerns, it is difficult for this Court to see how the [agency's] reliance on mitigation is supported by substantial evidence in the record." *Wyoming Outdoor Council*, 351 F. Supp. 2d at 1251, n. 8.

Instead of presenting well-developed mitigation plans and analyzing their effectiveness in eliminating impacts, the FSEIS simply lists and mentions mitigation measures, both in Chapter 6 and throughout the document, and asserts that they may be successful in eliminating or substantially reducing the Project's adverse impacts. The Board must review the FSEIS as the best evidence and may not simply "defer to the [agency's] bald assertions that mitigation will be successful." *Id*. at 1252. Mitigation must be "supported by …substantial evidence in the record." *Id*. Without the necessary analysis in the environmental document, the FSEIS "was arbitrary and capricious in relying on mitigation to conclude that there would be no significant impact to [environmental resources]." *Id.* Where the FSEIS does not contain scientific evidence or analysis to support those claims, the FSEIS is noncompliant with NEPA.

The NRC Staff's duty to timely propose and analyze the effectiveness of a range of possible mitigation measures in an EIS has been recognized by NRC precedent.

> Under NEPA, an EIS must discuss "any adverse environmental effects which cannot be avoided should the proposal be implemented […]," and must provide "a reasonably complete discussion of possible mitigation measures."

In re Detroit Edison Co. (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 N.R.C. 445, 486 (2012) *quoting Robertson*, 490 U.S. 332, 351-52 (1989). In confirming that already admitted NEPA contentions migrated from the draft to final EIS stage, the *Detroit Edison* opinion confirms that "the revised site layout and draft mitigation plan constitute alternatives to the project as originally proposed that might, if implemented, reduce impacts to the species." *Id. at* 467 (emphasis supplied). The matter went to hearing on the question of whether the proposed alternative mitigation measures received a "reasonably complete discussion." *Id*. Similarly, NRC Staff admits that Chapter 6 provides "only a summary of proposed measures" and identifies no place in the FSEIS where mitigation measures were analyzed within and across alternatives. NRC Staff Response to FSEIS Contentions at 23-24.

Review of admitted documents reveals that FSEIS disclosure and analysis of impacts are untenable where the mitigation analysis consists largely, if not exclusively, of a list of plans to be developed later, outside the NEPA process. Exhibit NRC-008-B, FSEIS at 6-1 through 6-19. For instance, with regard to the cultural resources impacts, the FSEIS concedes that consultation was not complete upon the conclusion of the NEPA process, including the lack a signed Programmatic Agreement, which is supposed to describe mitigation measures, and is subject to considerable controversy and objection by the Tribes. See Exhibit NRC-008-A, FSEIS at 3-94 ("At this time, consultation on the evaluation and effects determination of historic properties is ongoing with all consulting parties, including interested tribes. The outcome of this consultation effort will be included in the programmatic agreement."); "Mitigation measures identified in the licensee's management plan or site specific Memorandum of Agreement (MOA) or Programmatic Agreement (PA) could reduce an adverse impact to a historic or cultural resource by reducing the adverse effect on a historic property. (NRC, 2009a)." Exhibit NRC-008-A,

FSEIS at 4-157. See also, Exhibit NRC-008-A, FSEIS at 1-16, 1-22, 5-47, 5-48; Exhibit NRC-008-B, FEIS at E-190, E-197(all expressly relying on as-of-yet uncompleted PA, with as-of-yet undersigned and unreviewed future plans to mitigate impacts). Compare, Exhibit NRC-0016 (letters from OST President Brewer and Standing Rock Sioux Tribe).

Instead of providing a reasonably complete NEPA discussion of mitigation and providing an analysis of the effectiveness of those mitigation measures, the FSEIS repeatedly refers to various commitments by the applicant to mitigate impacts by submitting plans in the future as a result of license conditions imposed by NRC Staff. These future plans encompass mitigation for a broad scope of impacts, including such basic elements as requiring the applicant to conduct hydrogeological characterization and aquifer pumping tests in each wellfield to examine the hydraulic integrity of the Fuson Shale, which separates the Chilson and Fall River aquifers; a commitment from the applicant to locating unknown boreholes or wells identified through aquifer pump testing, and committing to plugging and abandoning historical wells and exploration holes, holes drilled by the applicant and any wells that fail mechanical integrity tests. Exhibit NRC-008-B, FSEIS at E-135 to 136.

However, no discussion or analysis is provided to explain how an applicant might go about identifying abandoned holes or analyzing the effectiveness of long-after-the-fact plugging and abandonment, nor is any discussion given to what methodology or effectiveness criteria accompanies the pump tests or monitoring well systems. Similar gaps in the analysis exist in the failure in the FSEIS to assess its plan to review groundwater restoration only for a period of 12 months. Exhibit NRC-008-A, FSEIS at 2-40. There is no support of basis for this time period, nor any discussion of the basis or effectiveness of such a time period. Further, no alternative time periods were analyzed.

Other proposed groundwater impact mitigation that lacks reasonably complete NEPA review and analysis as to effectiveness include a proposed, but unevaluated, monitoring well network for the Fall River aquifer in the Burdock area for those wellfields in which the Chilson aquifer is in the production zone in order to "address uncertainties in confining properties of the Fuson Shale" because leakage may occur through the Fuson Shale and "draw-down induced migration of radiological contaminants from abandoned open pit mines in the Burdock area." Exhibit NRC-008-B, FSEIS at E-135 to 136. Despite having none of this information or plans developed, the FSEIS nevertheless concludes that the risks of this type of contamination are "expected to be small" and therefore NRC Staff actually revised this risk level down from the draft. Exhibit NRC-008-B, FSEIS at E-136. Such unsubstantiated conclusions based on unsubmitted, unreviewed, and even undeveloped mitigation plans are not allowable under NEPA.

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 used to conduct ISL uranium mining. See Exhibit OST-11 at 25-26 (List of Contentions of Oglala Sioux Tribe based on DSEIS at 25-26 (referencing 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), Hall, S. "Groundwater Restoration at Uranium In-Situ Recovery Mines, South Texas Coastal Plain," USGS Open File Report 2009-1143 (2009), Darling, B., "Report on Findings Related to the Restoration of In-Situ Uranium Mines in South Texas," Southwest Groundwater Consulting, LLC (2008). The FSEIS cannot provide information to decisionmakers concerning unmitigated impacts where groundwater mitigation plans have not been developed or analyzed for effectiveness.

The same problems exist where the FSEIS lacks sufficient detail and simply requires plans to be submitted in the future to address other impacts, including air impacts (Exhibit NRC-008-B, FSEIS at E-163 to 164), land disposal of radioactive waste (FSEIS at E-56), wildlife protections (FSEIS at E-158 to 159) (conceding that the applicant is still in the process of "actively working on an avian monitoring and mitigation plan."), and "BMPs" for storm water control (see August 21, 2014 Transcript at p. 1273, line 20 to p. 1278, line 24 for extensive discussion on the lack of any detail on "BMP's" in the FSEIS). For the most part, these mitigation measures are simply plans to make plans at some point in the future – outside of the NEPA process and shielded from public review or comment. Such assurances, without any details as to the mitigation to be proposed and without evaluation of how effective these restorations efforts are expected to be, do not satisfy NEPA.

Other aspects of the FSEIS suffer the same frailty. Specific examples of mitigation measures that are vaguely and inadequately referenced in the FSEIS and filed materials but fall short of the NEPA standards are listed in the statement of facts, and include:

- Reliance on the future submission and potential issuance of a National Pollution Discharge Elimination Standards ("NPDES") permit to specify mitigation measures and best management practices ("BMPs") to prevent and clean up spills. Exhibit NRC-008-A, FSEIS at 4-57.

- A Fish and Wildlife Service ("FWS") raptor monitoring and mitigation plan has not been developed despite confirmed raptor activity in the project area. Exhibit NRC-008-A, FSEIS at 4-151 *compare* at 4-91("Map of Raptor Nest Locations in the Dewey-Burdock Project Area and Planned Facilities for the Deep Class V Injection Well Disposal Option").

- FWS permits to avoid and mitigate impacts to Bald Eagles' use of three existing Bald Eagle nests were not provided by Powertech and were not analyzed by NRC Staff in the FSEIS. Exhibit NRC-008-A, FSEIS at 3-46, 4-88, *accord* Powertech Response to FEIS Contentions at 21 quoting FRN at Vol. 74, No. 175 (September 11, 2009)(asserting Powertech must obtain take permits).

- Ongoing non-NEPA development of mitigation plans for listed species. *Id*. at 21 ("Powertech also is developing mitigation plans for bald eagles and other MBTA-species for each phase of the proposed project based on collaboration with South Dakota Department of Game, Fish, and Parks (SDGFP) and FWS.").

- Generic reference to working BLM mitigation and reclamation guidelines (BLM, 2012a) that NRC Staff incorporated into the FSEIS without analysis. Exhibit NRC-008-A, FSEIS at 4-80.

- Vaguely referenced and unspecified sound abatement controls. Exhibit NRC-008-A, FSEIS at 4-149.

- Generically referenced mitigation of evaporation pond impacts that are and deferred to later analysis by the Environmental Protection Agencies pursuant to the Clean Air Act's Hazardous Air Pollution provisions. Exhibit NRC-008-A, Exhibit NRC-008-A, FSEIS 4-248.

- The FSEIS did not examine groundwater mitigation where Powertech excluded such mitigation measures from its proposal. Powertech Response in Opposition to FSEIS Contentions at 15. ("Groundwater restoration mitigation measures" pursuant to 10 CFR Part 40, Appendix A, Criterion 5(B)(5) "are irrelevant in this proceeding and outside the scope of Powertech's proposed action.")(emphasis supplied).

- The FSEIS included mitigation measures involving groundwater restoration as within the scope of the action, and instead of analysis, merely assumed that Powertech will comply with NRC regulations. Exhibit NRC-008-A, FSEIS at 4-46.

In summary, NRC Staff did not meet the NEPA's action-forcing mandate to disclose and analyze effectiveness of mitigation measures "to the fullest extent possible." 42 U.S.C. § 4332(C)(2)(ii).

The FSEIS fails to provide the required detailed analysis of proposed mitigation measures, and makes no attempt to evaluate the effectiveness of the proposed mitigation, much of which is expressed in terms of future plans that will evade NEPA scrutiny and disclosure. *Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988)(NEPA document cannot stand on "conclusory remarks [and] statements that do not equip a decisionmaker to make an informed decision about alternative courses of action, or a court to review the Secretary's reasoning").

The reliance on mitigation snippets was rejected in another case where NRC Staff delayed disclosure and analysis of impacts to cultural resources. *In the Matter of Hydro Resources, Inc.*, 50 N.R.C. 3 (N.R.C. 1999). There, the Commission eventually excused the NRC Staff's NEPA violations where a post-EIS analysis and review was completed before licensing. *Id*. at 14 ("Even if one assumes that the FEIS did not contain all the information considered by the Staff in its decision, the overall record for the licensing action includes a complete analysis of the cultural resources for Section 8."). Even if *Hydro Resources* were consistent with controlling federal caselaw and NRC application of NEPA, it is not applicable on the facts of the present case. Here, the license issued and the hearing record closed but the mitigation of cultural resources and other impacts remain an incomplete task based on license conditions promising that mitigation will be developed in post-licensing, non-NEPA negotiations with NRC Staff.

The fallacy of excluding mitigation from the NEPA process for later remedy is highlighted where "the Staff used the NEPA process and documentation required for the preparation of an EIS/ROD to comply with NHPA Section 106, as it is permitted to do," *In re Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 N.R.C. 445, 488 (2012). NRC staff relies on the reverse proposition: that ongoing NHPA activities demonstrate compliance with NEPA's mandate that the FSEIS contain mitigation analysis to inform the public and decisionmakers of the impacts that are likely to remain after mitigation. 42 U.S.C. § 4332(C)(2)(ii). The NRC turns the relationship between NEPA and the NHPA on its head and confirms an unlawful FSEIS where "compliance with the NHPA 'does not relieve a federal agency of the duty of complying with the impact statement requirement 'to the fullest extent

possible.’’” *Lemon v. McHugh*, 668 F. Supp. 2d 133, 144 (D.D.C. 2009) *quoting Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851 (9th Cir. 1982) *quoting* 42 U.S.C. § 4332.

Assuming, *arguendo*, that NEPA duties could be fulfilled during the hearing process, no NEPA-compliant surveys or analyses have been introduced into evidence by NRC Staff. Moreover, NHPA-generated mitigation and analysis submitted during the hearing cannot remedy a NEPA violation.

> The preparation of an EIS also entails similar public and interagency participation. [. . .] This cross-pollinization of views could not occur within the enclosed environs of a courtroom.

Sierra Club v. Hodel, 848 F.2d 1068, 1094 (10th Cir. 1988) *citing* 40 C.F.R. §§ 1503.1(a)(4), 1506.6, *overruled in part on other grounds, Los Ranchos de Albuquerque v. Marsh*, 956 F.2d 970 (10th Cir. 1992).

Whether the issue is development or analysis of effectiveness, later “compliance with the NHPA ‘does not relieve a federal agency of the duty of complying with the impact statement requirement ‘to the fullest extent possible.’’” *Lemon v. McHugh*, 668 F. Supp. 2d 133, 144 (D.D.C. 2009) *quoting Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851 (9th Cir. 1982) *quoting* 42 U.S.C. § 4332. Without such a discussion neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.” *Robertson*, 490 U.S. at 353. Regardless of whether or not mitigation can be legally required, the NEPA discussion of mitigation measures must assess their effectiveness in context of the proposed action and proposed alternatives. 40 C.F.R. § 1502.14(f).

For NRC Staff to show it has complied with NEPA’s twin aims, the FSEIS must inform the public and the decisionmaker, to the “fullest extent possible,” of the mitigation measures with specific description, supporting data, and analysis, and be supported by an analysis of the

effectiveness of mitigation to determine what impacts are unavoidable. 42 U.S.C. 4332(2)(C)(ii). The required mitigation analysis cannot be found in the FSEIS. Instead, the admitted evidence confirms the finding that legal error, among other things, resulted in the NRC Staff preparation of an FSEIS that did not include the necessary mitigation analysis. The applicant contributed to this legal error, and thus suffers no prejudice by this finding. The need for the NEPA process to begin anew is confirmed by NRC Staff filings and testimony that seek to excuse a legally deficient NEPA mitigation analysis by placing blame other agencies with jurisdiction and special expertise, none of whom NRC Staff sought to include as NEPA cooperating agencies. Although NRC Staff may have encountered difficulties, nothing in the record supports the notion that NRC Staff, "to the fullest extent possible," sought to develop and analyze mitigation efforts within the context of NEPA alternatives analysis. *Id.*, 40 C.F.R. § 1502.14(f). As a matter of law and fact, NEPA's plain language requires the Board to invalidate the FSEIS, the license, and remand for full compliance with NEPA's mandates.

Contention 9: Failure to Consider Connected Actions

The applicant's proposal to conduct ISL operations and conduct associated waste disposal activities is being considered by multiple federal and state agencies. As enunciated by the Board in admitting this contention, "NRC allegedly inappropriately defers to the EPA and South Dakota in determining that environmental impacts of the proposed project will be small." July 22, 2013 Order (LBP-13-09) at 51. These failings and inadequacies in the FSEIS violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations. NRC Staff has not met its burden to show how an FSEIS that excludes analysis of project approvals that EPA and South Dakota control can satisfy NEPA regulations that require

NRC Staff to consider the impacts of "connected actions." 40 C.F.R. § 1508.25(a)(1); 10 C.F.R. § 1021.410(b)(3).

The NEPA regulations provide various mechanisms to helps the lead agency (NRC) consider connected actions, including the mandate that Federal agencies prepare NEPA analyses and documentation "in cooperation with State and local governments" and other agencies with jurisdiction by law or special expertise. 40 CFR §§ 1501.6, 1508.5. NRC Staff has not met its burden to show why these connected actions are not included and analyzed in the FSEIS or why, where the FSEIS relies on references to incomplete EPA and South Dakota analyses, these entities were not included as cooperating agencies.

The applicant has filed applications with the Environmental Protection Agency ("EPA") for both a Class III injection well and a Class V injection well. However, the FSEIS fails to conduct a compliant 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. 40 C.F.R. § 1508.25(a)(1). 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 FSEIS 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 FSEIS 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." Exhibit NRC-008-A, FSEIS at 4-34. See also Exhibit NRC-008-A, FSEIS at 4-45 ("EPA will evaluate the suitability of the formations proposed for Class V well injection."), 4-69, 5-27, 5-33 to 34 (all relying without analysis on EPA's UIC Class V permitting). NRC similarly continues to defer to a future EPA analysis related to the UIC Class III well permitting process and Subpart W radon controls, and to the South Dakota state processes. Exhibit NRC-008-B, FSEIS at 6-6 (relying on EPA review of Class III permit as mitigation); E-71 (To ensure compliance with 40 CFR Part 61, Subpart W, the applicant may need to acquire an approval from EPA prior to commencing operations in any wellfield. NRC does not have a similar requirement for ISR facilities. However, if NRC were to grant Powertech a license based on the satisfactory compliance of NRC's regulatory requirements, Powertech is still responsible for obtaining other federal, state, and local permits or approvals, as necessary before commencing operations."); Exhibit NRC-008-A, FSEIS at 4-42 ("The NPDES permit sets limits on the amount of pollutants entering ephemeral drainages that may be in hydraulic communication with alluvial aquifers at the site. The NPDES permit will also specify mitigation measures and BMPs to prevent and clean up spills. The applicant has not yet submitted an application for an NPDES permit to SDDENR."); 4-71 (same); 1-26 ("SDDENR would coordinate with SDGFP to mitigate the potential effects of surface impoundments on wildlife; mitigation measures discussed included the use of netting and fencing to protect wildlife and implementing protocols to assess the effects of wastewater constituents on wildlife.").

In this way, the FSEIS simply defers analysis of the potential impacts to EPA permits under the Safe Drinking Water Act (SDWA) and Subpart W and to South Dakota permitting

processes. Critically, however, neither EPA UIC or Subpart W permits nor any South Dakota state permits are subject to NEPA. See, e.g., 40 C.F.R. § 124.9(b)(6)(explicitly excusing EPA UIC permitting processes from NEPA review).

The NRC is prohibited from such uncritically reviewed 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 FSEIS cannot rely so completely 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.").

At the hearing, NRC Staff had very little to say regarding this contention, except to simply confirm that its FSEIS discussion did no more than reference the EPA and State requirements, without additional analysis. For instance, NRC Staff witness Ms. Yilma testified that, "[i]n various other place we talk about what the surface water requirements, the NPDES requirements are and we reference them. Like, for instance, if you look at the next page, on Page 443 we say surface water monitoring and spill response procedures will be established as part of the NPDES permits. So we take into account what is a requirement of that permit when making assessment of the impact for surface water." August 21, 2014 Transcript at p. 1270, line 21 to p. 1271, line 1. This testimony confirms the Tribe's contention that the FSEIS improperly defers to EPA and South Dakota permitting processes without the analysis required under NEPA.

Lastly on this point, the FSEIS continues to rely on 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 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, which the FSEIS addresses in response to comments, but only by again deferring to EPA analysis and without review of the effectiveness of mitigation or impacts associated. See Exhibit NRC-008-B, FSEIS at E-71 to 72; E-231.

NRC Staff has not met its burden to prove the FSEIS satisfies NEPA's presumption that a single EIS will be used to review NRC licensing of 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. As a result, the FSEIS unlawfully excludes required analysis of connected actions, is invalid, and cannot serve as the basis for any NRC licensing action.

CONCLUSION

For the foregoing reasons, NRC Staff has not carried its burden to show NEPA compliance and the applicant has not carried its burden to show compliance with the Atomic Energy Act requirements found in Part 40 Appendix A, and therefore the FSEIS and license were unlawfully issued and are invalid. Further, the Tribe has demonstrated that the FSEIS and Application materials are not in compliance with law and the evidence confirms that the FSEIS and license are properly remanded back to the NRC Staff to begin anew with a fresh application on which NRC Staff may conduct the necessary analyses to comply with NEPA, the NHPA, the AEA, and implementing regulations.

Respectfully Submitted,

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Dated at Lyons, Colorado
this 9th day of January, 2015

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 Post-Hearing Initial Brief with Findings of Fact and Conclusions of Law in the captioned proceeding were served via the Electronic Information Exchange ("EIE") on the 9th day of January 2015, and via email to those parties for which the Board has approved service via email, 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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