

January 29, 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))	

NRC STAFF'S REPLY BRIEF

I. Introduction

The NRC Staff responds to the proposed findings of fact and post-hearing briefs of the Oglala Sioux Tribe and the Consolidated Intervenors (collectively, the Intervenors).¹ The Intervenors argue in support of their seven admitted contentions, which challenge the Final Supplemental Environmental Impact Statement (FSEIS) the Staff prepared for the Dewey-Burdock Project. Below, the Staff responds to each of the Intervenors' arguments that, in preparing the FSEIS, the Staff violated the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*; the National Historic Preservation Act (NHPA), 16 U.S.C. § 470; and NRC regulations.

As the Staff explained in its initial post-hearing brief, it complied fully with all applicable laws when preparing the Dewey-Burdock FSEIS. The Staff followed NEPA and NHPA guidance when preparing both the FSEIS and the Programmatic Agreement for the Dewey-Burdock Project. Furthermore, in the FSEIS the Staff discussed environmental impacts and mitigation measures at a level of detail that is consistent with other EISs that have been upheld on review. Although the Intervenors cite to general statements of NEPA or NHPA law to support their

¹ The Staff will refer to the Oglala Sioux Tribe's Post-Hearing Initial Brief with Findings of Fact and Conclusions of Law as the "Tribe's Brief" and the Consolidated Intervenors' Proposed Findings of Fact and Conclusions of Law and Response to Post-Hearing Order as the "Consolidated Intervenors' Brief."

arguments, in their post-hearing filings they provide few examples of cases to which the Staff's review of the Dewey-Burdock application can be compared. The Staff will therefore provide some relevant comparisons at the outset, before discussing the Intervenor's arguments point by point under each contention.

Contentions 1A and 1B: The Staff reviewed the Dewey-Burdock Project's impacts on historic resources, and took other required steps, consistent with both NEPA and the NHPA. Both the Advisory Council on Historic Preservation (ACHP) and the South Dakota State Historic Preservation Office (SHPO) are expert agencies that routinely review other agencies' compliance efforts under the NHPA. For the Dewey-Burdock Project, both the ACHP and the South Dakota SHPO reviewed the Staff's consultation efforts and found that the Staff complied with the NHPA. Based on their findings, both the ACHP and the South Dakota SHPO became parties to the Programmatic Agreement for the Dewey-Burdock Project. Although neither agency is responsible for determining whether the Staff complied with NEPA, their findings under the more specific NHPA are strong evidence that, in the area of historic resources, the Staff likewise complied with NEPA's more general provisions.

Contentions 2 and 3: The Intervenor's claim that the Staff insufficiently considered the groundwater quality and hydrogeology in the Dewey-Burdock area. They primarily argue that the Staff violated NEPA because Powertech's license includes conditions requiring that, before it begins operating in a wellfield, it submit additional data on water quality and hydrogeological confinement. The Intervenor's fail to distinguish *Hydro Resources*, however, in which the Commission found that NEPA does not prevent the Staff from using license conditions to acquire these additional data. *Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, NM 87313), CLI-06-01, 63 NRC 1, 5-6 (2006). Nor do the Intervenor's acknowledge that the Staff's use of license conditions is not unique to Powertech's application—it is the approach provided for in NUREG-1569, the controlling NRC guidance that the Board should give special weight when

deciding whether the Staff's review complies with NEPA. *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-05-15, 61 NRC 365, 375 n.26 (2005).

Contention 4: The Intervenors argue that the Staff failed to fully consider how much groundwater Powertech will use during the Dewey-Burdock Project. The Staff reviewed the water-rights applications Powertech filed with the State of South Dakota, however, and it reached the same conclusions as the South Dakota Department of Environment and Natural Resources (SDDENR). Specifically, both the Staff and the SDDENR found that Powertech's annual groundwater usage will not exceed the recharge rates of the Inyan Kara and Madison Aquifers. The Staff's analysis of groundwater consumption is therefore consistent with the analysis of the state's expert agency on the same issue. The Staff also reviewed water-usage information beyond that considered by the SDDENR. For example, the Staff prepared a three-level model to simulate groundwater drawdown in the Madison Aquifer. In addition, the Staff reviewed Powertech's water balance for the Dewey-Burdock Project, which analyzes inputs and outputs for all project phases.

Contention 6: The Intervenors claim that the Staff inadequately considered mitigation measures. The Intervenors argue that Chapter 6 of the FSEIS, which provides a summary of mitigation measures, shows a deficiency in the FSEIS. In fact, Chapter 6 *supplements* the Staff's primary discussion of mitigation measures in Chapters 2 and 4, and it goes beyond what an agency must do in order to comply with NEPA. *Cf. Wilderness Society v. United States BLM*, 822 F. Supp. 2d 933, 942–43 (D. Ariz. 2011) ("The Court also concludes that the RMPs . . . contain a sufficient discussion of mitigation measures. These are set forth in Chapter 2 ('Alternatives') and Chapter 4 ('Environmental Impacts') of the FEIS[.]").

The Intervenors also argue that the Staff failed to discuss the effectiveness of mitigation measures. They overlook, however, numerous FSEIS sections in which the Staff explains how the mitigation measures it identifies will reduce environmental impacts. They also overlook case law holding that "[t]he discussion of effectiveness of mitigation measures does not need to be

highly detailed.” *Moapa Band of Paiutes v. United States BLM*, 2011 U.S. Dist. LEXIS 116046 (D. Nev. 2011) at *23.

More generally, while the Intervenor claim that the Staff discussed mitigation measures inadequately, they fail to provide any comparison with other EISs to support their claims. The Staff provides just such a comparison, showing that it discussed mitigation measures consistent with how other federal agencies discuss such measures. Staff’s Post-Hearing Brief at 25–26, Staff’s Initial Statement of Position at 44–45 (citing *Wilderness Society*, 822 F. Supp. 2d at 943–44). The Staff’s discussion of mitigation measures is also consistent with other NRC-issued EISs, both in format and level of detail.²

Contention 9: The Intervenor argue that the Staff improperly deferred its analysis of certain mitigation measures, stating merely that the EPA or South Dakota state agencies will develop such measures. In fact, the Staff conducted its own analysis of mitigation measures. Where the Staff refers to analyses of the EPA or South Dakota state agencies, it does so only to incorporate available information, such as the legal standards or past practices of other agencies, into its review. The Staff’s approach is consistent with Supreme Court precedent in this area, which makes clear that an agency need not withhold issuing its EIS until other agencies complete their environmental reviews. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352–53 (1989). The Staff’s approach is also consistent with the guidance of the Council on Environmental Quality (CEQ), the agency charged with implementing NEPA. The CEQ’s guidance expressly encourages an agency preparing a NEPA document to consider an applicant’s compliance with environmental quality standards imposed by other federal, state, and local agencies. *Final Guidance on Improving the Process for Preparing Efficient and Timely*

² The Staff prepared the FSEIS consistent with the guidance in NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs. Ex. NRC-014. In particular, the Staff followed Section 5.5 of NUREG-1748, which provides guidance on discussing mitigation measures in an EIS. *Id.* at 118.

Environmental Reviews under the National Environmental Policy Act, 77 Fed. Reg. 14,473, 14,479 (Mar. 12, 2012).

Summary: The Staff's NEPA and NHPA reviews for the Dewey-Burdock Project compare favorably to agency reviews that have been found acceptable by the federal courts and expert agencies. These federal court decisions and expert agency opinions show that the Staff complied with applicable laws when preparing the Dewey-Burdock FSEIS and Programmatic Agreement.

II. Discussion

A. Contentions 1A and 1B: The Staff Complied with NEPA and the NHPA when Evaluating Religious and Cultural Resources

In their arguments on Contentions 1A and 1B, the Intervenor's do not properly characterize the Staff's reviews under NEPA or the NHPA. Tribe's Brief at 12–25. They also do not accurately state the law that governs the Staff's reviews, as well as the law that the Board should apply when ruling on the contentions. Tribe's Brief at 12, 19, 21, 23–25. When the Board considers the entirety of the Staff's reviews under the applicable legal standards, it should find that the Staff complied with both statutes.

As the Staff has explained throughout the hearing, it made a reasonable and good faith effort—an effort that lasted almost four years—to obtain information on religious and cultural resources that are significant to the tribes. A number of tribes provided such information, and the Staff incorporated this information into both its NEPA and NHPA reviews. In conducting its reviews, the Staff followed the joint guidance of the CEQ and the ACHP, the agencies charged with implementing NEPA and the NHPA, and the ACHP specifically approved of the Staff's NHPA review. Neither NEPA's "hard look" standard nor the NHPA's "reasonable and good faith effort" standard required the Staff to devote virtually infinite study to cultural resources. *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-11, 71 NRC 287, 315 (2010). Nor, in the case of NEPA, did the statute require the Staff to have a fully developed mitigation

plan for cultural resources before finalizing the Dewey-Burdock FSEIS. See *Methow Valley*, 490 U.S. at 353 (holding that an agency need not have a fully developed and enforceable mitigation plan in place before it finalizes its EIS).

In their post-hearing briefs, the Intervenors also do not accurately state the law applying to the Board's review of the contentions. Neither NEPA nor the NHPA is a statute that a court must construe for the benefit of the Tribes.³ Likewise, the federal trust responsibility did not impose any obligations on the Staff in its review of the Dewey-Burdock application, other than to comply with applicable law.⁴ The cases the Tribe cites on pages 10–11 of its brief are therefore irrelevant to the Board's decision.⁵

1. The NRC Staff Properly Identified and Evaluated Historic Properties in the Dewey-Burdock Area

The Intervenors argue that the tribal surveys the Staff facilitated at the Dewey-Burdock site were inadequate to identify properties of religious and cultural significance to tribes because the Staff refused to accept recommendations made by the Oglala Sioux and Standing Rock

³ The Tribe argues that “[w]henver the Board is presented with ambiguity interpreting or applying NHPA, NEPA or other laws . . . 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.’” Tribe’s Brief at 11 (citing *California Valley Miwok Tribe v. United States*, 515 F.3d 1262 (D.C. Cir. 2008)). The canon to which the Tribe refers, however, is a guide to construing *ambiguous* statutory language. *Montana v. Blackfeet Tribe of Indians*, 471 U.S. 759, 766 (1985). It is not a rule under which judges must give extra weight to a tribe’s evidentiary showing in a hearing. Here, the Tribe does not identify any ambiguity in NEPA, 42 U.S.C. § 4321 *et seq.*, or the NHPA, 16 U.S.C. § 470, that must be resolved by the Board in this hearing. Accordingly, the Tribe fails to show the canon of construction it cites is relevant to the Board’s decision.

⁴ See *Gros Ventre Tribe v. United States*, 469 F.3d 801 (9th Cir. 2006) (“We recognize that there is a ‘distinctive obligation of trust incumbent upon the Government in its dealings with [Indian tribes].’ That alone, however, does not impose a duty on the government to take action beyond complying with generally applicable statutes and regulations.”). See also *Shoshone-Bannock Tribes v. Reno*, 56 F.3d 1476, 1482 (D.C. Cir. 1995) (“[A]n Indian tribe cannot force the government to take a specific action unless a treaty, statute or agreement imposes, expressly or by implication, that duty.”); *Morongo Band of Mission Indians v. FAA*, 161 F.3d 569, 574 (9th Cir. 1998) (holding that “unless there is a specific duty that has been placed on the government with respect to Indians, [the government’s general trust obligation] is discharged by [the government’s] compliance with general regulations and statutes not specifically aimed at protecting Indian tribes.”).

⁵ On page 10 of its brief, the Tribe also refers to two Executive Orders. Each order, however, states that it “is not intended to, nor does it, create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by any party against the United States, its agencies officers, or any person.” The Tribe therefore fails to show these orders are relevant to the issues before the Board.

Sioux Tribes. Tribe's Brief at 12–17, 20. The Intervenor's object to the participation of a Powertech consultant in the survey process and raise a number of other objections. None of these objections has merit.

The NHPA and its implementing regulations contemplate identification efforts to include reviews of the archeological, ethnographic, and academic literature; tribal consultation; ethnological or ethnographic studies; oral histories; sample field investigations; and field surveys. Ex. NRC-047 at 1. The identification effort is expected to be reasonable; the agency need not identify every historic property within a project's area of potential effects. Exs. NRC-047 at 2, NRC-027; NRC-145-A and B.

In this case, the Staff made a reasonable and good faith effort to identify and evaluate properties eligible for inclusion on the National Register of Historic Places.⁶ The Staff invited all interested tribes, including the Oglala Sioux Tribe, to participate in these identification efforts. The Staff also provided all interested tribes a reasonable opportunity to identify historic properties, advise on the identification and evaluation of such properties, comment on the undertaking, and participate in resolving adverse effects.⁷ In fact, the Staff did conduct a comprehensive review of cultural, archeological, and tribal resources at the Dewey-Burdock site. The Oglala Sioux Tribe had the same opportunity to participate in each phase of the Staff's review as the other consulting tribes.

The Intervenor's object to the involvement of Powertech's consultant in the tribal consultation process. Tribe's Brief at 15, 28–30. Powertech selected the consultant to work with the tribes to identify tribal concerns, particularly concerns regarding sites of religious and cultural significance, because of her professional experience. Ex. APP-002. This does not show any violation of either the NHPA or NEPA. In fact, the NHPA's regulations expressly

⁶ Exs. NRC-001 at A1.6, A1.10, A1.11, A1.15.

⁷ Exs. NRC-015, NRC-054, NRC-018-B at 10–13.

permit agencies to use consultants and applicants to assist federal agencies in their consultation activities.⁸

The Intervenors also object to the Staff allowing each interested tribe to survey the Dewey-Burdock site individually, rather than agreeing on a statement of work that would use a survey approach proposed by various Sioux tribes. Tribe's Brief at 18, 30–34, 36. Both the Sioux tribes and many other tribes, however, requested an opportunity to identify sites of cultural and historical significance in the Dewey-Burdock area. Ex. NRC-038-E at 102, 113–118, 180–188. The Staff chose the individual survey approach because it allowed each tribe to evaluate the entire project area in a manner culturally appropriate for the tribe. In fact, a number of tribes had advised the Staff that only their members could identify these important sites.⁹

The Intervenors also argue that the Staff improperly switched to the individual survey approach after the consulting parties had made substantial progress on the Sioux proposal, which would have been led by Makoche Wowapi/Mentz-Wilson Consultants. Ex. NRC-064 at 2. The Staff did nothing improper. The Staff consulted with the other parties for almost a year before selecting an appropriate survey approach, and it repeatedly sought specific details on the costs and methodology of the survey proposals.¹⁰ The Staff also considered comparative information when reviewing the tribal survey proposals submitted by two tribes and by

⁸ 36 C.F.R. § 800.2(a)(3) states:

[the]agency official may use the services of applicants, consultants, or designees to prepare information, analyses and recommendations under this part. The agency official remains legally responsible for all required findings and determinations. If a document or study is prepared by a non-Federal party, the agency official is responsible for ensuring that its content meets applicable standards and guidelines.

⁹ Exs. NRC-001 at A1.8; NRC-064; NRC-066; NRC-067; see *a/so* Ex. NRC-151 at A1.6– A1.8 (Staff testimony explaining the choice of a survey approach).

¹⁰ The Staff's efforts in seeking tribal views on how best to conduct a tribal survey are documented in Exs. NRC-023, NRC-025, NRC-044, NRC-046, NRC-050, NRC-051, NRC-053, NRC-055, NRC-061.

Powertech.¹¹ The administrative record contradicts the Intervenor's assertion that the 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 of seeking alternatives." Tribe's Brief at 30.

Moreover, the survey approach selected by the Staff, which allowed each interested tribe to survey the Dewey-Burdock site using methods best suited to identifying its own cultural properties, is a method that has been used by other federal agencies. Ex. NRC-071. Although the Intervenor's claim that the tribal surveys lack legitimacy because representatives of the Sioux tribes did not participate,¹² their claim conflicts with the ACHP's regulations and guidance, which require only that an agency provide an interested tribe a reasonable and meaningful opportunity to offer advice.¹³ See, e.g., *Meeting the "Reasonable and Good Faith" Identification Standard in Section 106 Review* (ACHP) (Ex. NRC-047) at 3 (stating that a "reasonable and good faith" identification effort does not require: "The 'approval' of a SHPO/THPO or other consulting party. The ACHP, SHPO/THPO and other consulting parties advise and assist the federal agency official in developing its identification efforts, but do not dictate its scope or intensity.").

¹¹ Exs. NRC-015 at 9–11; NRC-018-B at 19; NRC-071. See also, Ex. NRC-053 (NRC letter requesting alternatives to the statement of work approach).

¹² Exs. NRC-064, NRC-065.

¹³ During the oral hearing, one of the Tribe's experts on cultural resources, Wilmer Mesteth, testified that Indian tribes have expertise in identifying cultural and religious sites:

We are the ones, and the only ones, that are qualified. When we're talking about tribes in and around the Black Hills, the Lakota Nation, the Kiowa Nation, the Crow Nation, Arapaho, Northern Arapaho, Northern Cheyenne Nations, Hidatsa, Mandan and Arikara, the Ponca and Pawnee. These tribes are historical tribes. When we're looking at features and artifacts and you're talking about history of this Black Hills, then we are the experts.

Tr. at 765–766. Many of the same tribes that Mr. Mesteth said are qualified to identify sites—the Crow Creek Sioux, Santee Sioux, Crow Nation, Northern Arapaho, Northern Cheyenne, Cheyenne and Arapaho, and the Turtle Mountain Band of Chippewa Indians—participated in the field surveys of the Dewey-Burdock site. Ex. NRC-018-B, Appendix B at 11.

The Intervenors further claim that the evaluative testing of 20 archeological sites conducted by Powertech's contractor, the Archeology Laboratory at Augustana College, in 2011 should have involved tribal representatives. The Intervenors do not, however, point to any statutory or regulatory requirement for including tribal monitors, elders, or tribal historic preservation officers in archeological investigations undertaken by an applicant for a federal license. In other words, they fail to show that Augustana College needed to synchronize its work schedule with the schedules of the 23 consulting tribes.

Finally, the Intervenors claim that the "Augustana College survey left a significant number of archaeological, historical, and traditional cultural resources on [the Dewey-Burdock] site unevaluated; therefore, the potential impacts to these resources have not been addressed." Tribe's Brief at 13, 23. In fact, the Staff identified and developed mitigation measures for *all* sites within the areas for which Powertech proposes ground-disturbing activities. By "unevaluated," the Staff and Augustana College are simply referring to sites that require further testing to determine eligibility for listing on the National Register of Historic Places. In the FSEIS the Staff treats such sites as eligible for the National Register, requiring that Powertech develop measures to minimize impacts to the sites, or conduct further testing to determine their National Register eligibility, before it engages in ground-disturbing activities. Ex. NRC-018-A at 5 (Stipulation 3).

2. The Staff Took Appropriate Steps to Identify and Evaluate Impacts to Cultural Resources

The Intervenors argue that the Staff's analysis of cultural resources is inadequate under both the NHPA and NEPA. Tribe's Brief at 12–25, Consolidated Intervenors' Brief at 1–5, 8–9. First, they claim that the Staff failed to address environmental impacts on cultural resources. Throughout Section 4.9 of the FSEIS, however, the Staff discusses impacts to cultural resources in terms of small, moderate, or large impacts. Tables 4.9.1 through 4.9.5 in the FSEIS summarize potential impacts of the project on cultural resources and assess the

significance of the impacts.¹⁴ Ex. NRC-008-A-2 at 466–486; see also, Ex. NRC-008-A-2 at 307–308 (defining small, moderate, or large impacts).

The Intervenor also argue that the range of impacts listed in the FSEIS—“small” to “large”—shows the Staff did not consider impacts carefully. The Staff listed a range of impacts for cultural resources, however, because of the nature of the ISR process. Because land-disturbing activities vary depending on the phase of project development, the Staff listed the full range of possible impacts. As the Staff explains in the FSEIS, the majority of cultural resources will not be disturbed at all during the Dewey-Burdock Project; therefore, impacts to those resources will be small. However, the Staff also identified cultural resources that will likely be disturbed due to construction and operation activities. Without the implementation of mitigation measures, the impacts to those resources would be large. Because NEPA is a disclosure document, the Staff listed all possible impacts for the duration of the project, in order to provide the best possible information to consulting parties and the public.

3. The Staff Complied with the NHPA When Preparing the Programmatic Agreement

The Intervenor challenge the Staff’s use of a Programmatic Agreement for the Dewey-Burdock Project. The Intervenor claim that by using a Programmatic Agreement the Staff deferred identifying environmental impacts, and measures to mitigate those impacts, until after the FSEIS was issued. Tribe’s Brief at 20–25, Consolidated Intervenor’s Brief at 7–8, 11–12. They also claim that the consulting tribes were not adequately involved in developing the Programmatic Agreement. In addition, they argue that the Staff improperly separated its NEPA and NHPA reviews in order to issue the FSEIS while it was still preparing the Programmatic Agreement.

An agency may conclude its NHPA review through several means, one of which is a Programmatic Agreement.¹⁵ A Programmatic Agreement is a document that spells out the

¹⁴ The tables also present the Staff’s National Register-eligibility determinations for historic properties. See Ex. 008-A-2 at 462–86 (columns labeled *NRC’s NRHP Determination*).

terms of a formal, legally binding agreement between a federal agency and other interested agencies or persons. A Programmatic Agreement may be used to implement the Section 106 process in situations where the effects to historic properties cannot be fully determined prior to the approval of an undertaking, such as where an applicant proposes a phased approach to developing its project.¹⁶ In such cases, the Programmatic Agreement establishes a process for consultation, review, and compliance with the NHPA.

The Intervenor's first claim—that the Staff improperly deferred identifying impacts to historic properties and relevant mitigation measures—is without merit. Because Powertech proposed a phased approach for developing wellfields at the Dewey-Burdock site, an approach that is standard in the ISR industry, the Staff worked with the consulting parties to prepare a Programmatic Agreement for the site. The Staff's use of a phased approach to comply with the NHPA, along with a Programmatic Agreement, is expressly permitted under the ACHP's regulation at 36 CFR § 800.4(b)(2). Accordingly, the Intervenor fails to show any violation of the NHPA.

The Intervenor also fails to show that the Staff did not adequately involve tribes in developing the Programmatic Agreement. From August 2013 through April 2014, the Staff worked to prepare the Programmatic Agreement in consultation with the tribes, Powertech, the Bureau of Land Management (BLM), and the South Dakota SHPO.¹⁷ The Staff used the information provided by the consulting tribes, including tribal field survey results, to develop the Programmatic Agreement. The Staff also sent the consulting parties multiple draft versions of the Programmatic Agreement, in order to obtain their input at all stages of the Agreement's

¹⁵ 36 C.F.R. § 800.4(b)(2).

¹⁶ See *Hydro Resources, Inc.*, LBP-05-26, 62 NRC 442, 449 (2005) ("To this end, the regulations permit "phased compliance" with section 106 that is "consistent with the . . . schedule for the undertaking" (citing 36 C.F.R. § 800.3(c)).

¹⁷ Ex. NRC-015 at 13–17.

development.¹⁸ The Intervenor's claims that the Staff rushed development of the Programmatic Agreement and failed to allow the Oglala Sioux and other Sioux tribes an opportunity to participate in its development are without support in the record.

On April 7, 2014, the Staff finalized the Programmatic Agreement for the Dewey-Burdock Project.¹⁹ The signatories to the Programmatic Agreement include the NRC, Powertech, the South Dakota SHPO, the BLM, and the ACHP. As a result, the Staff will complete its NHPA-related obligations as set forth in the Programmatic Agreement. The Programmatic Agreement will protect not only those historic and cultural properties that may be affected during the initial phase of the Dewey-Burdock Project, but also properties potentially affected by future phases of the project. In particular, the Programmatic Agreement discusses measures that will be used to mitigate impacts to historic or cultural resources. These measures are discussed throughout the Programmatic Agreement, as well as in Appendix B of the Agreement.²⁰

The Programmatic Agreement provides significant protection for cultural resources at the Dewey-Burdock site.²¹ There is no support for the Intervenor's claim that the Programmatic Agreement fails to protect tribal interests in cultural resources and limits continuing tribal participation in decisions on historic properties. The broadest protections of tribal resources and participation are found in Stipulations 1 and 13 of the Programmatic Agreement. Under Stipulation 1, Powertech must comply with all applicable provisions in the Programmatic Agreement as a condition of its license. Under Stipulation 13, compliance with the Programmatic Agreement is a condition of both Powertech's NRC license and the BLM's Plan of Operations for the Dewey-Burdock Project. In response to concerns raised by the parties

¹⁸ Exs. NRC-015 at 13–17; NRC-028, NRC-030, NRC-032, NRC-056–NRC-059, NRC-063, NRC-067, NRC-142, NRC-149, NRC-150.

¹⁹ Exs. NRC-018-A through NRC-018-H.

²⁰ Exs. NRC-018-A and NRC-018-B.

²¹ Exs. NRC-001 at A1.12, A1.18; NRC-151 at A1.11, A1.12.

during the development of the Programmatic Agreement, the Staff also included specific stipulations to ensure that Powertech manages cultural resources properly and allows interested tribes the opportunity to participate in protecting such resources. These stipulations include:

- Stipulation 2 describes the procedures for identifying and evaluating historic properties within the Dewey-Burdock license boundary
- Stipulation 3 set forth the mechanisms for the protection and evaluation of unevaluated properties within the area of potential affects
- Stipulation 4 describes how the assessment of effects will be conducted
- Stipulation 5 describes the steps any party will undertake to resolve adverse effects
- Stipulation 6 describes the procedure Powertech must follow for the future identification of cultural resources when installing power transmission lines in connection with the Dewey-Burdock Project
- Stipulation 9 specifies the procedure for responding to unanticipated discoveries
- Stipulation 10 describes the procedures that must be followed if human remains are discovered at the Dewey-Burdock site
- Appendix D describes the treatment of human remains on state, private, and BLM lands.

Accordingly, the Programmatic Agreement provides significant protection for cultural resources that may be affected by the Dewey-Burdock Project.

Finally, there is no support for the Intervenor's claim that the NRC improperly separated its NEPA and NHPA reviews. Tribe's Brief at 19. An agency need not coordinate its NEPA and NHPA processes, and even if the agency chooses to use a "substitution" process initially, it may later separate the two processes.²² The only requirement is that the agency notifies the consulting parties in advance that it is separating its NEPA and NHPA processes, a requirement the Staff met here. Exs. NRC-069, NRC-070.

In conclusion, the Staff complied with NEPA and the NHPA when preparing the Programmatic Agreement for the Dewey-Burdock Project.

²² See, Ex. NRC-048 at 32 ("Terminating the Substitution Process").

4. The Staff Complied with NEPA and the NHPA by Finalizing the Programmatic Agreement before Issuing Its Record of Decision

The Intervenor incorrectly claim that the Staff issued a license to Powertech before completing its Section 106 consultations, as required by the NHPA. Tribe's Brief at 2, 13, 23, 26, 37, 38, 73–75.; Consolidated Intervenor's Brief at 7. In fact, the Staff concluded its Section 106 consultations with the execution of the Dewey-Burdock Programmatic Agreement on April 7, 2014, *before* it issued Powertech a license.²³

The Intervenor also claim that the Staff violated NEPA because it did not include mitigation measures for cultural resources in the FSEIS. Tribe's Brief at 71–73, Consolidated Intervenor's Brief at 8. The Intervenor overlook, however, that in the FSEIS the Staff identified numerous mitigation measures for cultural resources. Furthermore, the Staff's NEPA review took into account the mitigation measures for cultural resources that are specified in the Programmatic Agreement, which the Staff finalized before issuing its Record of Decision on April 8, 2014. Ex. NRC-011. The Staff's Record of Decision, not the FSEIS, is its NEPA decision document. Ex. NRC-048 at 17, 35.

5. The Staff Consulted on a Government-to-Government Basis with All Interested Tribes

The Intervenor argue that the Staff failed to consult with Indian tribes on a government-to-government basis, as required by NHPA regulations. Tribe's Brief at 25–27, Consolidated Intervenor's Brief at 14–18. This claim is unsupported. Throughout its NHPA consultations, the Staff consulted with tribes on a government-to-government basis. The Staff consulted only with individuals whom the tribes had designated as their representatives on issues arising under the NHPA.²⁴ In most cases, the Staff consulted with Tribal Historic Preservation Officers (THPOs)

²³ Exs NRC-018-A–H; NRC-001 at A1.12, A1.13. *See also*, Ex. NRC-031 (ACHP letter to the Standing Rock Sioux Tribe stating that “based on the background documentation, the issues addressed during consultation, and the processes established in the [Programmatic Agreement], the ACHP has concluded that the content and spirit of the Section 106 process has been met by the NRC”).

²⁴ For example, the Staff communicated with tribal leaders and the Tribal Historic Preservation Officers (THPO) delegated responsibility over cultural resources of importance to the tribes. Michael Catches

or other personnel designated by the tribes to address NHPA-related issues. As reflected in the Staff's consultation timeline (Ex. NRC-015), it did not seek to circumvent tribal leadership by consulting with individuals who were unauthorized by the tribes to speak on NHPA-related issues. The Staff also routinely copied tribal leaders on significant correspondence related to its NHPA review. In addition, the Staff attempted to meet with tribal leaders in person to discuss issues arising under the NHPA, and the Staff held a consultation meeting in Rapid City, South Dakota, for this very purpose.²⁵ In conclusion, the Staff complied fully with the NHPA by consulting on a government-to-government basis with all interested tribes.

6. The Case Law Cited by the Intervenors Does Not Show Any Flaw in the Staff's NHPA Review

The Intervenors cite a district court case as support for their claim that the Staff did not consult reasonably and in good faith with the Oglala Sioux Tribe. *Quechan Tribe of Fort Yuma Indian Reservation v. U.S. Dept. of Interior*, 755 F.Supp. 2d 1104 (S.D.Cal. 2010). Tribe's Brief at 27–29. In *Quechan*, the court granted the tribe's motion for a preliminary injunction because it demonstrated a likelihood of success on the merits as to BLM's failure to conduct Section 106 consultation properly. The evidence in *Quechan* showed that the BLM did not engage the Quechan tribe early enough in the process, the time frame for consultation was compressed, and tribal concerns about cultural resources were not properly addressed. *Id.* at 1111, 1118. The record also demonstrated a failure to recognize the confidential nature of tribal sites and

Enemy, the Oglala Sioux's THPO, stated "I am not a government-elected person. I am an employee of the tribe to do a job related to historic preservation and cultural resource issues." Tr. at 780, line 23 through 25. Although Mr. CatchesEnemy does not recognize his interaction with NRC staff as government-to-government consultation, other tribal officials do. For example, during a consultation meeting with the Staff on the Pine Ridge Reservation, one THPO stated, "So when I come to the table here, I am representing the Cheyenne River Sioux Tribe, but I cannot ignore the other six bands of that nation. And so when we sat here -- or we sit here at the table and we talk about this, that's government to government, that level, that there is more representation from tribal groups." ADAMS Accession No. ML111721938 (June 8, 2011) at 112.

²⁵ See Ex. NRC-143 (Invitation for Government-to-Government Meeting sent to all tribal leaders); see also Tr. at 779 (testimony of Ms. Yilma) (the "one representative that showed up stat[ed] that they were representing the tribal elders, but the others that showed up said they were just representing the tribes, but not the . . . leaders.").

accommodate the tribe's requests for confidentiality. *Id.* at 1109. In addition, the BLM's use of public informational meetings to solicit information about religious and cultural properties from the Quechan Tribe failed to recognize the sovereignty of the tribe. *Id.* at 1113, 1114-15, 1117, 1118.

In particular, the Quechan tribe advised the BLM early in the Section 106 consultation process that it was interested in consulting on important historical and cultural sites and asked the BLM to provide it with maps and archeological reports. *Id.* at 1118-19. The Quechan tribe participated in site visits, although it does not appear they were offered an opportunity to conduct a tribal survey to identify cultural sites. *Id.* at 1113, 1116-17. Although the tribe repeatedly sought to meet with the BLM, the first meeting did not take place until late in the Section 106 process. *Id.* at 1118. The court found that the Quechan tribe "repeatedly protested it was not being given enough time or information to consider the Programmatic Agreement." *Id.* at 1119. For example, the BLM advised the tribe in a letter dated June 24, 2010 that a Programmatic Agreement had been in preparation since December 2009, and it stated that all comments on the proposed Programmatic Agreement must be received by *the next day*, June 25, 2010. *Id.* at 1114. For these reasons, the court found the BLM's communications and consultation efforts were inadequate to meet the requirements of Section 106. *Id.* at 1119.

The Staff's Section 106 consultations for the Dewey-Burdock Project were far more extensive than in *Quechan*.²⁶ The Staff first sought the participation of the Oglala Sioux in November 2009.²⁷ The Staff initiated its formal consultation efforts under Section 106 of the NHPA in March 2010, only two months after announcing its intention to prepare an SEIS for the Dewey-Burdock application. Exs. NRC-0021, NRC-022. In its consultation letters, the Staff

²⁶ Exs. NRC-018-B at 10-11, 13-24; NRC-015; NRC-001 at A.1.5, A1.7; NRC-151 at A.3, A1.3, A1.6, A1.7, A1.10; see also Ex. NRC-008-B-2, Appendix A (providing a chronology of consultation correspondence).

²⁷ Ex. NRC-015 at 1 (proposing a meeting to discuss Powertech's plans to extract uranium); Tr. at 775, lines 8-23..

specifically asked the tribes to help identify properties of religious or cultural significance to them. Over the next four years, the Staff held several face-to-face consultation meetings and numerous teleconferences with interested tribes. For example, in February 2012 the Staff held a meeting in Rapid City, South Dakota. Ex. NRC-044. The purpose of the meeting was to identify the types of historic properties of significance to tribes that could potentially be affected by the Dewey-Burdock project. In recognition of the sensitive nature of information concerning tribal properties, the Staff closed a portion of the meeting. In the closed meeting, the tribal representatives presented an overview of tribal cosmology that described the types of sites, their importance to many tribes, and the interrelationships between the physical, religious, and cultural spheres. Ex. NRC-001 at A1.5.

Unlike in *Quechan*, the Staff provided all interested tribes a reasonable opportunity to identify historic properties, help evaluate such properties, and participate in resolving adverse effects.²⁸ In April and May 2013, seven tribes participated in field surveys of the Dewey-Burdock site, and several tribes provided survey input that the Staff incorporated in its NHPA review.²⁹ The Staff also included the Oglala Sioux tribe and other consulting tribes in the development of the Programmatic Agreement to mitigate impacts to historic sites.³⁰ Moreover, the Staff took into account tribal comments before finalizing the Programmatic Agreement.³¹

In conclusion, unlike the *Quechan* consultation, the NRC staff complied fully with the letter and spirit of the NHPA and its implementing regulations. See Letter from ACHP to Standing Rock Sioux Tribe (Ex. NRC-031) at 3 (stating that, “based on the background documentation, the issues addressed during consultation, and the processes established in the

²⁸ Exs. NRC-015, NRC-054, NRC-018-B, Appendix B at 13–24.

²⁹ Exs. NRC-008-B-2, Appendix F at 635–664; NRC-018-B at 11; NRC-008-A-1 at 259–262.

³⁰ Exs. NRC-001 at A1.19; NRC-015 at 13–17; NRC-028, NRC-030, NRC-055 at 2; NRC-056–059, NRC-032, NRC-063, NRC-067, NRC-142, NRC-149, NRC-150. See also, Exs. NRC-001 at A1.12, A1.16, A1.17; NRC-151 at A1.9, A1.10.

³¹ Tr. at 821, lines 18–25; 822, lines 1–7; 824, lines 8–25; 825, lines 1–8. See also Exs. NRC-001 at A1.16, A1.18; NRC-056.

[Programmatic Agreement], the ACHP has concluded that the content and spirit of the Section 106 process has been met by the NRC”).

B. Contention 2: The Staff Adequately Considered Baseline Groundwater Quality

The Intervenor argues that the Staff violated NEPA and NRC regulations by insufficiently addressing groundwater quality in the Dewey-Burdock area. The Intervenor overlooks, however, Commission precedent and NRC guidance that supports the Staff’s review of groundwater quality. The Intervenor also overlooks evidence in the record that undermines their arguments.

1. The Staff Evaluated Baseline Groundwater Quality Consistent with Commission Precedent and Commission-Approved Guidance

Under Criterion 7 in Appendix A of 10 C.F.R. Part 40, an applicant for an in-situ uranium recovery (ISR) license must submit baseline data on the ISR site and surrounding area, including data on baseline groundwater quality. The Staff uses these data in its safety review of the ISR application; that is, the Staff’s review of whether the application meets the technical requirements for granting a license in 10 C.F.R. Parts 20 and 40. In addition to Criterion 7, the NRC’s regulations in 10 C.F.R. Part 51 require an ISR applicant to submit an environmental report providing, among other information, a “description of the environment affected.” 10 C.F.R. § 51.45(b). The Staff uses the applicant’s environmental report as a starting point in its NEPA review, although the Staff also considers additional information, from both the applicant and other sources, during its review. When reviewing an ISR application, the Staff will find that the applicant has submitted sufficient information on groundwater quality under both Criterion 7 and § 51.45(b) if the applicant has conducted “[r]easonably comprehensive chemical and radiochemical analyses of water samples, obtained within and at locations away from the mineralized zone(s) . . . to determine pre-operational baseline conditions.”). NUREG–1569, Standard Review Plan for In-Situ Leach Uranium Extraction License Applications (Ex. NRC-013) at 62.

The Intervenor's argue that the guidance in NUREG-1569 for determining whether an applicant has provided sufficient data on groundwater quality violates both Criterion 7 and NEPA. Tribe's Brief at 39–42, Consolidated Intervenor's Brief at 23–25. They argue, in effect, that the Staff must obtain *all* groundwater quality data before reaching a licensing decision. They argue that this approach is required under both Criterion 7, which refers to “complete baseline data,” and NEPA, which requires that baseline information be made available to the public during the agency's review. The Intervenor's do not, however, argue that the Staff failed to adhere to NUREG-1569 when reviewing the Dewey-Burdock application; their claim is effectively that the NUREG's guidance for determining whether an applicant has submitted sufficient information on baseline groundwater quality violates both Criterion 7 and NEPA.

The Board should reject the Intervenor's' claims. The Staff did not develop NUREG-1569 on its own initiative, but at the Commission's direction and in response to the *Hydro Resources* licensing proceeding. In *Hydro Resources*, the Commission explained that neither the Atomic Energy Act nor NEPA requires the Staff to obtain all groundwater quality information during its licensing review. In particular, the Commission explained that the Staff may reasonably use license conditions to gather certain water quality data after a license has been issued, but before ISR operations begin:

Given the prescriptive nature of the license conditions and their applicable procedures or methodologies, and the hearing opportunity accorded to the intervenors to challenge the adequacy of those procedures, we find reasonable the Presiding Officer's conclusion that the intervenors' hearing rights are not violated by these license conditions. Further, as the Presiding Officer stated, “verification by the NRC Staff that a licensee complies with preapproved design or testing criteria ‘is a highly technical inquiry not particularly suitable for hearing.’”

Hydro Resources, CLI-06-01, 63 NRC at 5–6. The Commission also emphasized that this approach to gathering certain additional data makes sense because, at the time the Staff is reviewing its ISR application, the ISR operator typically will not have installed the infrastructure needed to obtain certain site-specific data:

Waiting until after licensing (although before mining operations begin) to establish definitively the groundwater quality baselines and upper control limits is, as the Presiding Officer stated, “consistent with industry practice and NRC methodology,” given the sequential development of *in situ* leach well fields. The site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an *in situ* leach well field has been installed, a point described by the NRC staff’s expert.

Id. (footnotes omitted).³²

Even without the Commission’s decision in *Hydro Resources*, the Board would have ample reason to reject the Intervenor’s arguments. As stated above, the Intervenor does not claim that the Staff failed to follow NUREG-1569 when reviewing Powertech’s baseline groundwater data—they instead argue that the NUREG’s approach violates Criterion 7 and NEPA. As the Staff explained in its initial post-hearing brief, it developed NUREG-1569 at the Commission’s direction. In developing the guidance in NUREG-1569, the Staff specifically took into account both the NRC’s safety regulations and NEPA; in other words, the Staff developed the NUREG to ensure its licensing reviews comply with both regulatory and statutory requirements. See Ex. NRC-013 at 3 (stating that the Staff uses NUREG-1569 “to determine whether the proposed activities will be protective of public health and safety and the environment and to fulfill NRC responsibilities under the National Environmental Policy Act (NEPA).” After the Staff circulated the NUREG for public notice and comment, and after the Staff revised the NUREG to take into comments from both the Commission and the general

³² In last week’s initial decision in *Strata Energy*, the Board rejected an argument regarding baseline groundwater quality that was nearly identical to the Intervenor’s argument here. *Strata Energy, Inc.*, LBP-15-3, 81 NRC __ (January 23, 2015) (slip op.). The Board stated:

In light of the Commission’s *Hydro Resources* decision and the language of Appendix A, Criterion 7A, we are unable to discern a legal basis for concluding that the Appendix A, Criterion 7 pre-licensing monitoring program for the purpose of establishing existing characterization values for certain site groundwater constituents must be co-extensive with the Criterion 7A pre-operational monitoring, license condition-based program intended to provide the information needed for setting Appendix A, Criterion 5B groundwater protection standards and UCLs.

Id. (slip op. at 26).

public, the Commission unanimously approved the NUREG for publication. The NUREG is therefore entitled to “special weight” as evidence that the Staff’s review, which conformed to the NUREG, complied with NEPA and the AEA. *Yankee Atomic*, CLI-05-15, 61 NRC at 375 n.26.

2. The Intervenor Provide No Support for Their Interpretation of Criterion 7

The Intervenor argue that the Staff is attempting to redefine the word “complete” in Criterion 7, which states, “At least one full year prior to any major site construction, a preoperational monitoring program must be conducted to provide complete baseline data on a milling site and its environs.” Tribe’s Brief at 42. According to the Intervenor, this language requires that an ISR applicant submit all available water-quality data with its application and obtain any data that is unavailable.

The Board should reject the Intervenor’s arguments. The phrase “complete baseline data” is not defined in Appendix A or in Part 40 generally, and the Staff reasonably interprets this phrase as meaning that the applicant must submit sufficient information to support the Staff’s safety review under the AEA.³³ Under Criterion 7, the applicant need not submit information having no bearing on the Staff’s safety review, nor must it submit information that, as a practical matter, can only be obtained once an ISR operator has constructed wellfields. In addition, the Staff reasonably interprets the word “complete” in Criterion 7 to avoid conflicting with 10 C.F.R. § 40.32(e), which prohibits an ISR applicant from engaging in construction before obtaining an NRC license.³⁴

³³ Criterion 7 does *not* govern the information an applicant must submit under the NRC’s regulations that implement NEPA; that information is described in 10 C.F.R. § 51.45.

³⁴ The Staff recognizes that in *Strata* the Board did not appear to accept the applicant’s argument that the construction rule in § 40.32(e) prevents it from obtaining certain wellfield-specific data at the pre-license stage. LBP-15-3, 81 NRC __ (slip op. at 26). At the same time, the Board did not suggest that Criterion 7 *itself* requires the applicant to obtain these data, which is what the Intervenor argue here. The Board merely noted that the definition of “construction” in 10 C.F.R. § 40.4 excludes “preconstruction monitoring to establish background information related to . . . the environmental impacts of construction or operation, or the protection of environmental values.” *Id.* (slip op. at 26).

In NUREG-1569, the Staff explains how an applicant can comply with Criterion 7; that is, the Staff explains what the applicant must provide in order for its application to be found “complete” under this criterion. Regarding baseline water quality, the NUREG states that an applicant provides sufficient information where it has made “[r]easonably comprehensive chemical and radiochemical analyses of water samples, obtained within and at locations away from the mineralized zone(s), . . . to determine pre-operational baseline conditions.”). Ex. NRC-013 at 62. In this case, the Staff found that the information Powertech submitted on baseline water quality satisfied the NUREG, and the Intervenors do not challenge that finding. Rather, they rely on their own interpretation of Criterion 7, which fails to account for either the purpose of 10 C.F.R. Part 40—which exists to provide *safety* standards for issuing source materials licenses—or the NRC Staff’s relevant guidance. The Intervenors therefore fail to show any violation of Criterion 7.

Nor do the Intervenors show that, under NEPA, the Staff must obtain all conceivable data on baseline groundwater quality during its licensing review. Under NEPA, an agency must obtain enough data to ensure it considers the environmental impacts of its proposed action. *See Trout Unlimited, Inc. v. Morton*, 509 F.2d 1276, 1283 (9th Cir. 1974) (stating that an EIS must provide a “reasonably thorough discussion of the significant aspects of the probable environmental consequences”). For the Dewey-Burdock Project, the Staff reviewed comprehensive water-quality data addressing all the groundwater constituents of concern for an ISR project. *See* Ex. NRC-013 at 63 (listing groundwater constituents an applicant should address in its application). While Powertech must submit additional groundwater data before beginning operations, these data will be used to confirm the existing data and establish upper-control limits (UCLs) for wellfield monitoring. The Staff does not need these data to evaluate how the Dewey-Burdock Project may affect the environment. *See Texas Comm. on Natural Res. v. Van Winkle*, 197 F. Supp. 2d 586, 603 (N.D. Tex. 2002) (“it is entirely unreasonable to think that Congress intended for an impact statement to document every particle of knowledge

that an agency might compile in considering the proposed action”) (quoting *Environmental Defense Fund, Inc. v. Corps of Eng'rs of U.S. Army*, 492 F.2d 1123, 1136 (5th Cir. 1974)). In fact, whereas the Staff reviewed comprehensive *site-specific* data for the Dewey-Burdock Project, in certain cases an agency may comply with NEPA by relying on representative concentrations, rather than site-specific data. See *Great Basin Res. Watch v. United States DOI*, 2014 U.S. Dist. LEXIS 100363 (D. Nev. 2014) at *31–32 (“Contrary to Plaintiffs' suggestion, the lack of site-specific monitoring data is not an inherent NEPA violation. . . . BLM obtained representative background concentrations for each pollutant from [the Bureau of Air Pollution Control] and used those concentrations for its modeling analysis.”).

3. The Intervenor's Other Arguments Regarding Baseline Groundwater Quality Lack Merit

The Intervenor's renew a number of other arguments they have made previously in this hearing. All these arguments lack merit.

The Intervenor's claim that the Staff failed to analyze impacts from past mining activities, provide information on chemical compositions and volumes of wastes, and discuss the “potential bias of the data thus far provided.” Tribe's Brief at 39, Consolidated Intervenor's Brief at 24–25. The Intervenor's first two claims are outside the scope of Contention 2, which involves baseline groundwater quality, not cumulative impacts or waste disposal. Regarding the “potential bias of the data,” the Staff assumes the Intervenor's are referring to Powertech's groundwater sampling procedures. Both the FSEIS and Powertech's application discuss the sampling procedures by which Powertech obtained groundwater quality data, thus disclosing sufficient information for a reader to evaluate those procedures. Ex. NRC-001 at A2.8.

The Intervenor's next argue that the Staff failed to consider certain groundwater constituents, such as selenium, strontium, and lithium. Tribe's Brief at 40. Powertech did, in fact, include selenium and strontium in their baseline analyses, and the Staff considered this information when preparing the FSEIS. Ex. NRC-001 at A2.7. While the Staff did not

summarize this information in the FSEIS, NEPA does not require that the Staff include all information in its environmental document. See *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-22, 72 NRC 202, 208 (2010) (citation omitted) (emphasizing that “[a]n environmental impact statement is not intended to be ‘a research document’”).

Regarding lithium, this is not one of the constituents most likely to impact environmental health and safety. Ex. NRC-001 at A2.6. For that reason, it is not included in Table 2.7.3-1 of NUREG-1569, “Typical Baseline Water Quality Indicators to Be Determined During Pre-operational Data Collection.” Ex. NRC-013 at 63. The Intervenor fails to explain why Powertech needed to provide lithium values in order for the Staff to make the findings required under either 10 C.F.R. Part 40 or NEPA. See *Trout Unlimited*, 509 F.2d at 1283 (holding that an EIS must provide a “reasonably thorough discussion of the *significant aspects* of the probable environmental consequences”) (emphasis added).

The Intervenor further argues that the Staff improperly relied on the allegedly “outdated” Regulatory Guide 4.14 to designate a two-kilometer boundary for groundwater monitoring. Tribe’s Brief at 42. The Intervenor does not, however, cite any studies calling into question the Regulatory Guide’s recommendation. To the contrary, as Mr. Prikryl and Mr. Lancaster explain in their testimony (Ex. NRC-001 at A2.12), the two-kilometer guideline was validated by NUREG/CR-6705, “Historical Case Analysis of Uranium Plume Attenuation” (2001). Ex. NRC-076. In addition, the Staff examined the dispersion of contaminants in a 2009 memorandum, “Staff Assessment of Ground Water Impacts from Previously Licensed In-Situ Uranium Recovery Facilities.” Ex. NRC-091. The Staff found no reported instance of contamination involving any private well either within or beyond two kilometers of any NRC-licensed ISR wellfield.

Finally, the Intervenor argues that NEPA imposes a duty on the Staff to gather missing information, particularly where the information is significant to a choice among alternative actions. Consolidated Intervenor’s Brief at 27. The Intervenor cites several circuit court

decisions in support of their arguments. *Id.* None of these decisions, however, shows any flaw in the Staff's analysis of baseline water quality. For reasons stated above, the Intervenor do not identify any necessary information that the Staff failed to consider during its NEPA review.

In conclusion, the Staff analyzed baseline groundwater quality consistent with both NEPA and NRC regulations.

C. Contention 3: The Staff Thoroughly Evaluated the Hydrogeology of the Dewey-Burdock Area

For Contention 3, the Intervenor repeat arguments they have made throughout the hearing. They argue that, contrary to the findings in the FSEIS, the Dewey-Burdock site contains numerous geological features—unplugged boreholes, faults, fractures, breccia pipes, and related features—that could allow ISR solutions to migrate away from the production zones. Tribe's Brief at 46–56, Consolidated Intervenor's Brief at 31–47. As with Contention 2, the Intervenor also argue that the Staff is improperly allowing Powertech to defer collecting important data until the post-license stage. Tribe's Brief at 46–49, Consolidated Intervenor's Brief at 26–32.

The Staff has fully addressed the Intervenor's arguments through its testimony and exhibits. Although the Intervenor allege that faults, fractures, breccia pipes, and related features are present at the Dewey-Burdock site, the best available evidence shows otherwise. Although there are a number of improperly plugged or abandoned boreholes at the Dewey-Burdock site, as a condition of its license Powertech must address these boreholes before beginning operations. Furthermore, although Powertech's license includes conditions requiring that it submit additional data on hydrogeological confinement before operating in any wellfield, these conditions are consistent with NEPA, NRC regulations, and NRC guidance.

1. The Staff Evaluated Significant Geological Features in the Dewey-Burdock Area

The Intervenor argue that the Staff did not sufficiently consider the possibility that ISR

solutions could migrate through boreholes that were drilled during prior explorations at the Dewey-Burdock site. Tribe's Brief at 46–50; Consolidated Intervenor's Brief at 40–42. The Staff considered this issue thoroughly, however, both in the FSEIS and in the Safety Evaluation Report (SER) for the Dewey-Burdock Project. Ex. NRC-A-1 at 192, 207–08; Ex. NRC-134 at 27. In addition, the Staff reviewed Powertech's post-hearing disclosure of newly acquired borehole data. Ex. NRC-158, Ex. NRC-175. As the Staff has explained, improperly installed wells and improperly abandoned boreholes could potentially cause vertical leakage through the Fuson Shale. The Staff has, however, addressed this concern by obtaining Powertech's commitments to use delineation drilling and pumping tests to locate improperly sealed or abandoned boreholes, and to properly plug any such boreholes, before operating in a wellfield. Ex. APP-016-B at 55–57 (page numbers 31–33). Powertech's commitments are legally enforceable, because they are captured by Condition 9.2 of its NRC license. Ex. NRC-012 at 1. In brief, the Staff fully considered the concern raised by improperly sealed or abandoned boreholes, and it developed mitigation measures to resolve this concern, measures that it disclosed in the FSEIS and SER.

In concluding that boreholes are the source of leakage through the Fuson Shale, the Staff considered a hydrogeological model of the Dewey-Burdock site prepared for Powertech by Petrotek in 2012. The Intervenor's criticize Petrotek's conclusion that the Fuson shale is not leaky through the rock matrix itself, but rather due to improperly plugged or abandoned boreholes. Tribe's Brief at 53–54, Consolidated Intervenor's Brief at 44–45. As Staff witnesses Mr. Prikryl and Mr. Lancaster explain in their testimony, however, Petrotek appropriately developed and sufficiently calibrated its model for the Fuson Shale. Ex. NRC-001 at A3.27, Ex. NRC-151 at A3.9. In particular, Petrotek (1) developed its model using site-specific geologic and hydrologic information; (2) calibrated its model using a steady-state calibration that was accomplished by adjusting hydraulic conductivity, recharge, and hydraulic heads at the general head boundaries to synchronize actual well head measurements with modeled heads; and (3)

performed a transient calibration by simulating prior pumping tests at the Dewey-Burdock site and adjusting storativity values and hydraulic conductivity. See Ex. NRC-001 at A3.27 (citing Ex. APP-025), Ex. NRC-151 at A3.9 (same). To finalize its model, Petrotek conducted a verification exercise and sensitivity analysis. Ex. NRC-001 at A3.27, Ex. NRC-151 at A3.9. In sum, Powertech—and, through its review of the model, the Staff—relied on adequate hydrogeological modeling to conclude that the Fuson Shale’s leakiness results from boreholes.

The Intervenor also argue that the Staff did not adequately consider other features that may allow ISR fluids to migrate away from the production zone. These features include faults, fractures, breccia pipes, and sinkholes. Tribe’s Brief at 51–52, Consolidated Intervenor’s Brief at 33–37. In fact, the Staff considered all these features, but found no evidence that they exist within the Dewey-Burdock boundary. Ex. NRC-008-A-1 at 191–92, Ex. NRC-134 at 27–28.³⁵ While the Intervenor cite evidence that features such as faults and fractures exist in southwest South Dakota, they do not point to any evidence that these features exist at the Dewey-Burdock site itself.

Finally, the Intervenor claim that the EPA’s September 2014 Preliminary Assessment of the Darrow/Freezeout/Triangle abandoned uranium mines, which are partially within the Dewey-Burdock site, shows that the Staff failed to adequately characterize the hydrogeology of the site. Tribe’s Brief at 54–56 (citing Ex. OST-025, OST-026). In its Preliminary Assessment, the EPA finds that it needs to conduct further investigations to determine whether it might be responsible for cleanup of the Darrow/Freezeout/Triangle area under the Comprehensive Environmental Response, Compensation, and Liability Act, (CERCLA), 42 U.S.C. §§ 9601–9628. The EPA’s Preliminary Assessment does not, however, show any deficiency in the FSEIS. In particular, the EPA relies on the same data the Staff used when preparing the FSEIS, and it reaches the

³⁵ The Staff did not rely solely on Powertech’s application materials when reviewing information on faults and fractures, as the Tribe suggests at page 45 of its brief. Rather, the Staff independently reviewed numerous other sources of information in this area. See, e.g., Ex. NRC-001 at A3.19; Ex. NRC-151 at A3.5–A3.7, A3.10 (listing sources that the Staff consulted for information on geologic features in the Dewey-Burdock area).

same conclusions as the Staff. Ex. NRC-174 at A10, A11. In fact, the EPA refers to the Staff's findings throughout its Preliminary Assessment. *E.g.*, Ex. OST-026 at 11, 13, 29, 30. The EPA's Preliminary Assessment is, moreover, just what its title states—a *preliminary* review of data—and it does not “establish a causal link to the contamination of ground water and nearby ground wells,” as the Tribe alleges. Tribe's Brief at page 55. The EPA's only definitive statement is that it plans to conduct a Site Investigation in 2015. Ex. OST-025 at 1.

In conclusion, the Staff thoroughly analyzed the hydrogeology in the Dewey-Burdock area, and its findings in the FSEIS are well supported.

2. The Staff Permissibly Included Conditions in Powertech's License Requiring Confirmatory Data on Hydrogeological Confinement

The Intervenors argue that, rather than determining the hydrogeological conditions in the Dewey-Burdock area during its NEPA review, the Staff is improperly allowing Powertech to gather data after its license has issued. Tribe's Brief at 46–49, 52–53; Consolidated Intervenors' Brief at 26–32. In particular, they argue that much of the information Powertech must submit under License Condition 10.10, “Hydrologic Test Packages,” should have been submitted at the pre-license stage. The Intervenors argue that allowing Powertech to submit this information after it has received a license violates both NEPA and Criterion 5(G)(2) in Appendix A of 10 C.F.R. Part 40, which requires an ISR applicant to describe the characteristics of geologic formations underlying its proposed site.

The Intervenors' arguments are foreclosed by the Commission's decision in *Hydro Resources*, CLI-06-01, 63 NRC at 5–6. In *Hydro Resources*, the Commission rejected the Intervenor's argument that using license conditions to gather certain site-specific data violates NEPA and the AEA. The Commission addressed not only information on baseline water quality, but site-specific information needed to confirm the confinement of ISR production zones.

Specifically, the Commission stated:

The site-specific data to confirm proper baseline quality values, *and confirm whether existing rock units provide adequate confinement* cannot be collected

until an *in situ* leach well field has been installed, a point described by the NRC staff's expert.

Id. (emphasis added). The Commission further stated that using license conditions to gather site-specific, confirmatory data does not violate either NEPA or the AEA:

Given the prescriptive nature of the license conditions and their applicable procedures or methodologies, and the hearing opportunity accorded to the intervenors to challenge the adequacy of those procedures, we find reasonable the Presiding Officer's conclusion that the intervenors' hearing rights are not violated by these license conditions.

Id. Accordingly, the Commission has fully addressed the issue raised by the Intervenors here, and the Board should reject their arguments.

Setting aside *Hydro Resources*, the Intervenors' claim that the Staff cannot use license conditions to confirm hydrogeological confinement overlooks NEPA's underlying purpose, which is to ensure a federal agency consider the environmental impacts of its proposed action. See *Middle Rio Grande Conservancy Dist. v. Norton*, 294 F.3d 1220, 1224 (10th Cir. 2002) ("NEPA's purpose is to ensure that federal agencies fully consider the environmental ramifications of their actions."). The conditions that the Staff has included in Powertech's license will ensure that the impacts of the Dewey-Burdock Project are consistent with the impacts described in the FSEIS. For example, under License Condition 10.10, before beginning operations in a new wellfield Powertech must "document that all perimeter monitoring wells are screened in the appropriate horizon in order to provide timely detection of an excursion." Ex. NRC-012 at 8. If Powertech cannot make this showing, it will be unable to operate in the wellfield. License Condition 10.10 is not merely a condition of Powertech's license, but a legally enforceable mitigation measure. Accordingly, the Staff may properly rely on this license condition when evaluating the impacts of the Dewey-Burdock Project. *Cf. O'Reilly v. U.S. Army Corps of Eng'rs*, 477 F.3d 225, 231 (5th Cir. 2007) (explaining that an agency may rely on mitigation measures to reduce a project's impacts below the level of significance under NEPA, thus eliminating the need for an EIS); *Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and*

Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, 76 Fed. Reg. 3843, 3844 (January 21, 2011) (same).

In conclusion, the license conditions requiring Powertech to submit site-specific, confirmatory data on hydrogeology are consistent with both Commission precedent and NEPA generally.

D. Contention 4: The Staff Fully Considered the Amount of Groundwater Powertech Will Use during the Dewey-Burdock Project

The Intervenors argue that the Staff insufficiently considered the amount of water Powertech will use during the Dewey-Burdock Project. Tribe's Brief at 56–60, Consolidated Intervenors' Brief at 47–53. They claim, in part, that the FSEIS provides conflicting information on water usage. Tribe's Brief at 56. They further claim that, despite the testimony in the hearing, the evidentiary record still lacks information on how much water will be lost due to contamination, reverse osmosis, evaporation, and deep well disposal. Tribe's Brief at 57, Consolidated Intervenors' Brief at 50–51. In particular, they criticize Powertech's water balance for the Dewey-Burdock Project, to which the Staff refers in the FSEIS. Tribe's Brief at 57–58, Consolidated Intervenors' Brief at 51–52. They also claim that the Staff deferred to the SDDENR's analyses of Powertech's water rights applications, but without following applicable NEPA procedures. *Id.* at 58–60.

None of these arguments has merit. The argument that the FSEIS provides conflicting information on water usage appears to be taken from the Tribe's contention on the Draft SEIS (DSEIS). In its DSEIS-related Contention 4, the Tribe cited paragraph 22 of Dr. Moran's Supplemental Declaration, where he claimed that pages 2-15, 2-34, and 4-57 through 4-59 of the DSEIS presented conflicting information on groundwater usage. As the Staff explained in response, what Dr. Moran referred to as "conflicting information" was actually different water usage estimates for different processes and different permitting scenarios. Staff Response at 21–22. The Tribe did not pursue this issue after its DSEIS contentions, and during the hearing it

failed to submit evidence supporting its claim of “conflicting” information. The Board should therefore reject the Tribe’s argument.

The Intervenors’ claim that the FSEIS lacks information on how much water will be used during various activities at the Dewey-Burdock Project also lacks merit. These issues have all been addressed through the water balance Powertech submitted and the testimony in the hearing. For example, during the oral hearing witnesses from both Powertech and the Staff explained that Powertech’s water balance fully accounts for water lost through evaporation. Tr. at 1145–1148 (testimony of Mr. Demuth, Mr. Fritz, and Mr. Prikryl). The water balance also accounts for water used in deep well disposal. Tr. at 1147–1148 (testimony of Mr. Prikryl). Furthermore, because reverse osmosis would be part of Powertech’s deep well disposal process, this form of treatment is already accounted for in Powertech’s water balance. See FSEIS at 2-35 (explaining that “[w]ater balances are presented for each liquid waste disposal option that could be implemented in the Dewey and Burdock areas”) and 2-52 (describing use of reverse osmosis with Class V (deep well) disposal option). Ex. NRC-008-A-1 at 146. See also Ex. APP-016-D at 312–13 (describing use of reverse osmosis). Although the Intervenors also argue that the record lacks information on how much water will be lost due to “contamination,” Powertech’s water balance fully addresses the amounts of water that will be used during waste disposal, whether disposal is through deep wells (Class V injection) or land application of wastewater. Tr. at 1145–1148; Ex. NRC-001 at A4.5, A4.10.

Finally, as the Staff has explained throughout the hearing, it did not defer to the SDDENR’s analyses of Powertech’s applications to use water from the Madison and Inyan Kara Aquifers. The Staff reviewed those applications independently and found, as the SDDENR did, that Powertech’s water usage will not exceed the annual recharge rate of either aquifer. Exs. NRC-001 at A4.16–A4.18, NRC-151 at A4.2–A4.3. The Staff also independently prepared a three-level model simulating groundwater drawdown in the Madison Aquifer. Ex. NRC-134 at 87–88. In addition, the Staff reviewed the information on water usage Powertech submitted with

its NRC application, including its water balance for the Dewey-Burdock Project. Ex. APP-016-B at 68–73, Ex. NRC-008-A-1 at 128–129. The Staff therefore did not defer to the SDDENR’s analyses, as the Intervenor’s claim; the Staff merely cited those analyses as support for its own review, which reached the same conclusions.

To summarize, the Staff fully considered how much water Powertech will use during the Dewey-Burdock Project, and the Intervenor’s fail to show any NEPA violation.

E. Contention 6: The Staff Discussed Mitigation Measures, Including the Effectiveness of those Measures, Consistent with NEPA

For Contention 6, the Intervenor’s repeat arguments they have made throughout the hearing. Tribe’s Brief at 60–75, Consolidated Intervenor’s Brief at 53–56. The Intervenor’s argue that the Staff’s inclusion of Chapter 6 in the FSEIS—a summary of mitigation measures that *supplements* its analyses of mitigation measures in other chapters—somehow shows a violation of NEPA. Tribe’s Brief at 61. They argue that in the FSEIS the Staff erred by referring to certain mitigation measures that have not yet been finalized, despite case law contradicting their arguments. Tribe’s Brief at 62–66. They further claim that the Staff failed to discuss whether mitigation measures will be effective in reducing environmental impacts, overlooking the Staff’s relevant discussions, along with case law showing the Staff’s discussions compare favorably to EISs the federal courts have found to comply with NEPA. Tribe’s Brief at 66–72, Consolidated Intervenor’s Brief at 54. In brief, the Intervenor’s arguments lack support, and the Staff discussed mitigation measures as required under NEPA.

1. The Staff’s Summary of Mitigation Measures in Chapter 6 of the FSEIS Does Not Show Any NEPA Violation

The Intervenor’s argue that the Staff violated NEPA because the FSEIS Chapter titled “Mitigation” provides only a summary of mitigation measures and the Staff provides few details on such measures elsewhere in the FSEIS. Tribe’s Brief at 61. In fact, the Staff discusses mitigation measures extensively in Chapter 4 of the FSEIS, which addresses the environmental impacts of the Dewey-Burdock Project. Ex. NRC-001 at A6.2–A6.5. The Staff also discusses

mitigation measures in FSEIS Chapter 2, “In-Situ Uranium Recovery and Alternatives,” and Chapter 7, “Environmental Measures and Monitoring Programs.” There is no requirement that the Staff discuss mitigation measures in a single FSEIS chapter. Given the nature of mitigation measures—they are, after all, measures to reduce environmental impacts—the Staff appropriately discussed them in the FSEIS chapters pertaining to environmental impacts. This is consistent with how the NRC prepares its EISs, and with how other agencies prepare EISs. *See, e.g., Wilderness Society*, 822 F. Supp. 2d at 942–43 (noting that the agency’s discussion of mitigation measures was “set forth in Chapter 2 (‘Alternatives’) and Chapter 4 (‘Environmental Impacts’) of the FEIS[.]”). Accordingly, the Intervenor’s fail to identify any NEPA violation.

2. Mitigation Measures Need Not Be in Final Form for the Staff to Discuss Them in the FSEIS

The Intervenor’s argue that the Staff violated NEPA because the FSEIS refers to certain mitigation measures that are still being developed by Powertech in coordination with other federal and state agencies. Tribe’s Brief at 62–66. In particular, the Intervenor’s argue that the Staff failed to specify mitigation measures that will be included in Powertech’s groundwater discharge permit and avian monitoring plan. The Intervenor’s also argue that the Staff should have included additional information in a number of other areas, rather than simply stating that mitigation plans will be submitted in the future.

The Intervenor’s’ arguments rest on a misreading of the FSEIS. In the FSEIS, the Staff does not simply state that “mitigation plans will be developed later,” as the Intervenor’s allege. Rather, the Staff refers to industry practices that have historically been used as mitigation measures and explains which standards other agencies will use to evaluate Powertech’s mitigation plans. Ex. NRC-001 at A6.6, A6.7. The Staff, in other words, analyzes mitigation measures as thoroughly as possible based on the existing information. This is consistent with NEPA, which does not require that the Staff provide every conceivable detail regarding the mitigation measures it identifies. *See O’Reilly v. U.S. Army Corps of Eng’rs*, 477 F.3d 225, 231

(5th Cir. 2007) (“[T]he Supreme Court has held that proposed mitigation measures need not be laid out to the finest detail, even within the more labor-intensive context of an environmental impact statement.”) (citing *Methow Valley Citizens Council*, 490 U.S. at 352). Nor did the Staff need to defer issuing the FSEIS until other agencies approved mitigation plans for activities falling under their jurisdictions. *Methow Valley*, 490 U.S. at 352 (“There is a fundamental distinction, however, between a requirement that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete mitigation plan be actually formulated and adopted, on the other.”).

For the resource areas cited by the Intervenors, the Staff fully discusses the available information on mitigation measures. For example, the Staff discusses groundwater discharge requirements—requirements that will serve as mitigation measures—in a number of FSEIS sections, including Sections 2.1.1.1.6.2, 4.5.1.1.2.2, and 4.5.1.1.2.3. Ex. NRC-008-A-1 at 146; Ex. NRC-008-A-2 at 354–55. The Staff discusses land application monitoring measures in FSEIS Section 7.5. Ex. NRC-008-B-1 at 95–100. For wildlife, the Staff incorporated into the FSEIS relevant information from both Powertech’s groundwater discharge permit application and its water rights applications. For example, on pages 4-108 through 4-110 of the FSEIS the Staff discusses impacts to soil and vegetation, as well as wildlife impacts. Ex. NRC-008-A-2 at 414–16. The Staff also refers to SDDENR requirements, including requirements of Powertech’s groundwater discharge plan, which will reduce these impacts. While the Staff did not incorporate specific measures from Powertech’s avian monitoring plan into the FSEIS, Powertech did not submit a draft monitoring plan until September 2014, and this plan was therefore unavailable for the Staff to incorporate in the FSEIS. The Staff did, however, explain in the FSEIS that Powertech would be submitting an avian monitoring plan, and it referred to the legal standards that would apply to the plan. Ex. NRC-001 at A6.17.

The Intervenor also claim the Staff failed to discuss mitigation measures that will help protect groundwater resources. In particular, the Intervenor claim the FSEIS does not adequately discuss procedures for identifying abandoned or improperly plugged boreholes, pumping test methodologies, the time period for groundwater restoration, and mitigation measures that could compensate for potential leakiness in the Fuson Shale. Tribe’s Brief at 69–70. In fact, the Staff fully discusses each issue in the FSEIS. The Staff discusses borehole plugging procedures in FSEIS Section 4.5.2.1.1.2.2, explaining that Powertech will identify abandoned or improperly plugged boreholes using historical records, color infrared imagery, field investigation, and potentiometric surface evaluation. Ex. NRC-008-A-2 at 370. The Staff discusses pumping test methodologies in several FSEIS sections, explaining what specific information Powertech must obtain through these tests. Ex. NRC-008-A-1 at 112–13. The Staff discusses the time period for groundwater restoration in FSEIS Section 2.1.1.1.4.2, explaining that Powertech must implement a groundwater stability monitoring program for *a minimum of 12 months* (not “only” 12 months, as the Tribe states on page 69 of its brief) and referring to the standards for establishing Commission-approved background water quality and maximum contaminant levels. Ex. NRC-008-A-1 at 134. Finally, the Staff addresses the potential leakiness of the Fuson Shale through License Conditions 10.10.A and 10.10.B—with the latter condition requiring Powertech to obtain a license amendment in order to begin operating in wellfields near abandoned open-pit mines—and by obtaining Powertech’s commitment to address any improperly plugged or abandoned boreholes before beginning operations. Ex. NRC-012 at 8–9; Ex. NRC-008-A-2 at 369–71.

In conclusion, the Staff discussed mitigation measures in sufficient detail for an EIS. *O’Reilly*, 477 F.3d at 231. While in certain cases the Staff referred to mitigation measures that had not been finalized, NEPA did not require the Staff to withhold issuing the FSEIS for that reason. *Methow Valley*, 490 U.S. at 352.

3. The Staff Complied with NEPA by Discussing how Mitigation Measures Can Reduce Impacts in Various Environmental Areas

The Intervenor's argue that the Staff failed to analyze the effectiveness of numerous mitigation measures listed in the FSEIS. Tribe's Brief at 66–67, 72; Consolidated Intervenor's' Brief at 54. Although the Intervenor's do not specifically describe the type of additional analysis the Staff should have included in the FSEIS, they appear to suggest the Staff should have, at a minimum, assigned an "effectiveness rating" to each mitigation measure. They also cite one case where the district court remanded an EIS to the agency to consider, among other issues, "the efficacy of mitigation measures." Tribe's Brief at 67.

As the Staff explained in response to the Board's post-hearing questions, NEPA does not require an agency to prove that the mitigation measures it identifies will be effective in reducing environmental impacts. See *Biodiversity Conservation Alliance v. Bureau of Land Management*, 2010 U.S. Dist LEXIS 62431 (D. Wyo. 2010) at *60 ("Neither NEPA nor FLMPA impose a procedural requirement for the BLM to verify the efficacy of mitigation measures in order for the BLM to utilize those measures to protect public lands from [undue and unnecessary degradation]."). The agency must simply have a reasonable basis for identifying a measure as a possible means of reducing environmental impacts. *Methow Valley*, 490 U.S. at 353. While the agency must provide some sense of how the mitigation measures it identifies will help reduce environmental impacts, "[t]he discussion of effectiveness of mitigation measures does not need to be highly detailed." *Moapa Band of Paiutes*, 2011 U.S. Dist. LEXIS 116046 at *23. Moreover, where it is obvious how mitigation measures will help reduce environmental impacts, the agency need not discuss the effectiveness of those measures. See *Oregon Natural Desert Ass'n v. Jewell*, 2013 U.S. Dist. LEXIS 130466 (D. Or. 2013) at *5 ("The FEIS discusses the effectiveness of some mitigation measures and the effectiveness of other measures is obvious.").

For many of the mitigation measures that the Staff describes in the FSEIS, it should be obvious how they will reduce environmental impacts. Powertech's license includes numerous conditions that serve as legally enforceable mitigation measures and which are obviously directed to reducing impacts in specific resource areas. For example, License Condition 10.6, which addresses groundwater restoration, will limit impacts to groundwater.³⁶ For other measures, the Staff explains at least briefly how they will reduce environmental impacts. The Staff has previously cited examples of FSEIS sections including these types of explanations, comparing the FSEIS's text to that of an EIS which, according to the reviewing court, adequately discussed the effectiveness of mitigation measures. Response to Post-Hearing Questions at 25–26, Initial Statement of Position at 45–46. The Staff does not devote pages to discussing the effectiveness of each mitigation measure, but that is not required. *Moapa Band of Paiutes*, 2011 U.S. Dist. LEXIS 116046 at *23; *Oregon Natural Desert Ass'n*, 2013 U.S. Dist. LEXIS 130466 at *5.

The cases the Intervenors cite in their post-hearing briefs do not show any deficiency in the Dewey-Burdock FSEIS. The Tribe relies on *Wyoming Outdoor Council v. U.S. Army Corps of Eng'rs*, 351 F. Supp. 2d 1232, 1238 (D. Wyo. 2005). That case, however, involved the agency's attempt to use a mitigated finding of no significant impact (FONSI) to avoid preparing an EIS. The court found that the agency "fail[ed] to point to a shred of scientific evidence in the record to demonstrate that [the mitigation measure it identified] is a successful mitigation measure." *Id.* at 1251. For the Dewey-Burdock Project, the Staff did not rely on a FONSI, and the mitigation measures it identified therefore are not subject to the same level of scrutiny. See *Detroit Edison Co. (Fermi Nuclear Power Plant, Unit 3)*, LBP-12-23, 76 NRC 445, 467 (2012) (stating that, when an agency relies on mitigation measures to justify a FONSI "there must be some assurance that the mitigation measures constitute an adequate buffer against the

³⁶ In FSEIS Section 4.5.2.1.1.3, "Aquifer Restoration Impacts," the Staff discusses the success of aquifer restorations at NRC-licensed ISR facilities. Ex. NRC-008-A-2 at 373.

negative impacts from the authorized activity to render such impacts so minor as to not warrant an EIS.”) (internal citations omitted). In any event, for each mitigation measure listed in the Dewey-Burdock FSEIS, the Staff had a basis for concluding the measure will help reduce environmental impacts. For example, a number of mitigation measures listed in the FSEIS are best management practices that, by definition, have been used successfully to reduce impacts in certain environmental areas.³⁷

The Intervenors also cite two cases the Staff has previously addressed in its briefs: *South Fork Band Council of Western Shoshone of Nevada v. U.S. Dept. of Interior*, 588 F.3d 718, 727 (9th Cir. 2009); and *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1381 (9th Cir. 1998). Tribe’s Brief at 66, Consolidated Intervenors’ Brief at 54. As the Staff explained, the EISs involved in these cases are readily distinguishable from the Dewey-Burdock FSEIS. Initial Statement of Position at 45–46, Response to Post-Hearing Questions at 26. In *South Fork Band Council of Western*, “[n]othing whatsoever [was] said about whether the anticipated harms could be avoided by any of the listed mitigation measures.” 588 F.3d at 727. In *Neighbors of Cuddy Mountain*, the agency’s own expert admitted that the measures identified by the agency were not actually mitigation measures. 137 F.3d at 1381.

In conclusion, the Staff discussed the effectiveness of mitigation measures to the extent required under NEPA.

4. The Intervenors’ Other Arguments Lack Merit

The Intervenors make several other arguments related to mitigation measures, each of which the Board should reject. The Tribe claims that “the FSEIS concedes that [NHPA] consultation was not complete upon the conclusion of the NEPA process,” as reflected by “the lack of a signed Programmatic Agreement[.]” Tribe’s Brief at 68. The FSEIS concedes no such point, and in any event it was the Record of Decision for the Dewey-Burdock Project, not the

³⁷ The best management practices the Staff cites in the FSEIS are drawn from the Generic EIS (GEIS) for in-situ uranium recovery facilities, which lists the sources of these practices. Ex. NRC-010-B-1 at 110–114.

FSEIS, that concluded the NEPA process. See *NEPA and NHPA, A Handbook for Integrating NEPA and Section 106* (Ex. NRC-048) at 17 (“Only the ROD is a decision document under the CEQ regulations.”). The Staff issued the Record of Decision after finalizing the Programmatic Agreement, and the Tribe’s argument therefore lacks merit.

The Tribe alleges that ISR facilities have historically been unable to return groundwater constituents to preoperational levels and argues that the FSEIS should have considered the effectiveness of groundwater restoration measures. Tribe’s Brief at 70. In fact, the Staff fully considered this issue. In Section 6.1.3.3 of the SER, the Staff provides examples of existing ISR facilities at which restoration has been successful. As the Staff explained in its initial testimony, the restoration efforts at these projects involved methods similar to those proposed by Powertech for the Dewey-Burdock Project. Ex. NRC-001 at A6.13, A6.18. Moreover, as the Staff also explained in its testimony, in the FSEIS it responded to the Tribe’s own comments concerning the effectiveness of groundwater restoration. See Ex. NRC-001 at A3.5(6) (citing response to comment 127-000015 under Section E5.9.4, “Groundwater Restoration Criteria and Methods”). Based in part on the Tribe’s comments, the Staff added information on NRC-approved aquifer restorations at ISR facilities to FSEIS Section 4.5.2.1.1.3. *Id.* In response to additional comments from both the Tribe and other sources, the Staff also added relevant information to FSEIS Section 4.5.2.1.1.3, “Aquifer Restoration Impacts,” regarding the success of aquifer restorations. Ex. NRC-008-A-2 at 373.

On pages 71–72 of its post-hearing brief, the Tribe lists FSEIS sections in which the Staff allegedly relies on vaguely or inadequately referenced mitigation measures. The Tribe overlooks, however, additional language in the FSEIS where the Staff further discusses these mitigation measures. For example, the Tribe claims that the Staff relies on the future issuance of a National Pollution Discharge Elimination System (NPDES) permit to identify mitigation measures for preventing and cleaning up spills. Tribe’s Brief at 71. The Tribe cites page 4-57 of the FSEIS to support its claim. Ex. NRC-008-A-2 at 363. The Tribes overlooks FSEIS

Sections 4.5.1.1.1.1 and 4.5.1.1.1.2, however, where the Staff describes NPDES-related mitigation measures in detail. For example, the Staff:

- refers to the permit regulations that will control the amount of pollutants that can enter surface water bodies, such as streams, wetlands, and lakes (Ex. NRC-008-A-2 at 347–48)
- explains that the Burdock central plant and Dewey satellite facility and supporting buildings will be constructed outside the 100-year floodplain of Pass and Beaver Creeks and away from other small ephemeral drainages (*Id.* at 348)
- states that facility buildings will be located away from intermittent drainage channels and outside of floodplains so facilities will not flood (*Id.* at 349)
- summarizes Powertech's proposed measures to protect against flooding in the wellfields, which include
 - (i) locating above-grade wellfield infrastructure outside the 100-year flood inundation boundary
 - (ii) constructing diversion or erosion control structures to divert flow and protect any well heads placed within the 100-year inundation boundary, and
 - (iii) sealing all well heads to withstand brief periods of submergence. (*Id.*)

The same holds true for almost all the other mitigation measures the Tribe cites on pages 71–72 of its brief, with the Staff discussing the measures in greater detail elsewhere in the FSEIS.

While the Staff does not specifically discuss sound abatement controls for equipment and facilities during the Dewey-Burdock Project's construction phase, as the Tribe notes on page 72 of its brief, it refers to other forms of sound abatement. For example, on page 4-148 of the FSEIS the Staff explains that Powertech will reduce noise impacts by avoiding construction at night and requiring workers to use personal hearing protection in high-noise areas. Ex. NRC-008-A-2 at 454. The Staff also refers to the standard that will be applied to mitigate noise impacts. See *id.* (referring to the "55-decibel daytime guideline to protect against activity interference and annoyance (EPA, 1974)"). Under NEPA, the test is not whether the Staff spelled out every possible mitigation measure, such as mufflers for vehicles and sound-absorbing panels for buildings, that could be used during the Dewey-Burdock Project. Rather, the test is whether the FSEIS, as a whole, provides "a reasonably complete discussion of

possible mitigation measures.” *Methow Valley*, 490 U.S. at 352. The Dewey-Burdock FSEIS satisfies that test, with extensive discussion of mitigation measures throughout the document.

On page 73 of its brief, the Tribe claims that in *Hydro Resources* the Commission found that a post-EIS analysis of mitigation measures for cultural resources violated NEPA. (Citing *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999).) To the contrary, in *Hydro Resources* the Commission found no fault with the Staff continuing to develop mitigation measures after it finalized the EIS. *Id.* The Commission’s decision is consistent with Supreme Court precedent holding that NEPA does *not* include a “substantive requirement that a complete mitigation plan be actually formulated and adopted” before an EIS can be issued. *Methow Valley*, 490 U.S. at 352.

Finally, the Tribe argues that the Staff “turns the relationship between NEPA and the NHPA on its head” by using ongoing NHPA activities—the Tribe is presumably referring to the Programmatic Agreement—to discuss mitigation measures that should have been included in the FSEIS. Tribe’s Brief at 73. In fact, the Staff’s approach is consistent with NEPA, which does not require an agency to withhold issuing an EIS until it finalizes mitigation plans for historic resources or any other resource. *Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, NM 87313), CLI-06-29, 64 NRC 417, 427 (2006); *Nuclear Innovation North America LLC* (South Texas Project Units 3 and 4), LBP-11-07, 73 NRC 254, 265 (2011):

F. Contention 9: The Staff Complied with NEPA when Evaluating Licensing Actions Related to the Dewey-Burdock Project

The Intervenor’s argue that the FSEIS “excludes analysis of project approvals that EPA and South Dakota control,” and for that reason fails to analyze “connected actions” as required by NEPA. Tribe’s Brief at 75–76. In particular, the Intervenor’s argue that the Staff failed to analyze Powertech’s applications for Class III and Class V injection permits, which Powertech must obtain from the EPA, and its application for an NPDES permit, which it must obtain from the SDDENR. Tribe’s Brief at 76–77. The Intervenor’s argue that the Staff failed to consider

both the impacts of the actions for which Powertech must obtain these permits, as well as mitigation measures that will be included in the permits.

The Staff has addressed these arguments throughout the hearing. As the Staff explained in its testimony, it fully considered the environmental impacts associated with actions falling under the authority of the EPA and the SDDENR. The Staff analyzed Powertech's applications for Class III and Class V injection wells, which the EPA is currently reviewing, throughout the FSEIS. Ex. NRC-001 at A9.1–A9.3, A9.7. The Staff also analyzed impacts related to EPA permits Powertech might obtain under the Safe Drinking Water Act and Subpart W of the EPA's regulations. *Id.* at A9.5, A9.7. In addition, the Staff analyzed impacts related to actions for which Powertech must obtain NPDES permits from the SDDENR. *Id.* at A9.6, A9.7.

While the Staff did not analyze mitigation measures contained in “projects approvals” from the EPA or the SDDENR, as the Tribe states on page 75 of its brief, it could not do so, because Powertech had not obtained the approvals when the Staff issued the FSEIS. NEPA did not, however, require the Staff to defer issuing the FSEIS until Powertech obtained all permits related to the Dewey-Burdock Project. As the Supreme Court has held, “it would be incongruous to conclude that the [federal agency] has no power to act until the local agencies have reached a final conclusion on what mitigation measures they consider necessary.” *Methow Valley*, 490 U.S. at 352. In any event, even though Powertech had not yet received permit approvals from the EPA and the SDDENR when the Staff issued the FSEIS, the Staff assessed the impacts of the related actions by considering the reasonably foreseeable conditions those agencies would include in any permit. Ex. NRC-001 at A9.6, A9.7.

Finally, the Intervenor argue that the Staff incorrectly relies on Powertech's proposal to dispose of liquid waste through a Class V underground injection permit. Tribe's Brief at 79. The Intervenor argue that Powertech will be unable to obtain such a permit, implying that the Staff failed to consider the environmental impacts if Powertech must dispose of liquid waste through an alternative method. The Intervenor overlook, however, that in addition to considering waste

disposal through a Class V permit, the Staff analyzed the impacts if Powertech disposes of waste through other methods. Ex. NRC-001 at A9.10.

In conclusion, the Staff complied with NEPA when evaluating actions related to the Dewey-Burdock Project for which Powertech must obtain other federal or state permits.

III. Conclusion

The record shows that the Staff complied fully with NEPA, the NHPA, and NRC regulations when reviewing the Dewey-Burdock application. The Board should therefore dismiss Contentions 1A, 1B, 2, 3, 4, 6, and 9.

Respectfully submitted,

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Dated at Rockville, Maryland
this 29th day of January 2015

January 29, 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

Pursuant to 10 C.F.R. § 2.305, I certify that counsel for the NRC Staff served copies of the "NRC Staff's Reply Brief" via the NRC's Electronic Information Exchange (EIE) on January 29, 2015. Counsel for the Staff served those representatives exempted from filing through the EIE with copies of its motion by electronic mail, also on January 29, 2015.

***/Signed (electronically) by/
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