

April 11, 2014

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 MOTION FOR SUMMARY DISPOSITION
ON SAFETY CONTENTIONS 2 and 3**

Introduction

The Nuclear Regulatory Commission (NRC) Staff moves for summary disposition on Contentions 2 and 3 to the extent they were admitted as safety contentions.¹ As safety contentions, they present a challenge to Powertech (USA) Inc.'s application for an NRC license. Because Powertech has supplemented its application with information addressing the safety issues raised in each contention, and because the Intervenors did not amend their contentions to challenge the new information, there is no longer any genuine issue of material fact relative to the contentions. The Board should therefore dismiss Contentions 2 and 3 to the extent they allege that Powertech fails to meet the safety criteria in NRC regulations.

Background

I. Powertech's Application

In 2009, Powertech applied for an NRC license to be used in connection with the proposed Dewey-Burdock in-situ uranium recovery (ISR) facility in Fall River and Custer

¹ Counsel for the Staff consulted with counsel for the other parties to obtain their views on this motion. Counsel for Powertech stated that they support the motion. Counsel for the Oglala Sioux Tribe stated that they would prefer to first review the motion before taking a position. As of this filing, counsel for the Consolidated Intervenors have not taken a position on the motion.

Counties, South Dakota.² As part of its application, Powertech submitted a Technical Report to show that it meets NRC safety requirements for granting a license. In Powertech's case, the applicable safety requirements are in 10 C.F.R. Part 20 and Part 40.

After Powertech submitted its Technical Report, it supplemented the report with responses to the Staff's requests for additional information (RAIs).³ This supplemental information included a four-volume submittal in June 2011. This information also included a Groundwater Model for the Dewey-Burdock Project that Powertech submitted in February 2012. These documents were available for viewing through the NRC's Agencywide Documents Access Management System (ADAMS) soon after Powertech submitted them.⁴

II. The Staff's Safety Review

As with other applications for a new ISR license, the Staff conducted a safety review of Powertech's application. The Staff conducted its review to determine whether Powertech met the relevant criteria in 10 C.F.R. Parts 20 and 40.⁵ After evaluating both Powertech's initial application and its responses to the Staff's RAIs, the Staff found that Powertech met these criteria. The Staff documented its findings in a Safety Evaluation Report (SER) for the Dewey-Burdock Project. The Staff issued its SER in March 2013.⁶

In the SER, the Staff discusses Powertech's RAI responses at length. For example, the Staff refers to Powertech's revised data on baseline groundwater conditions in Section 2.5, "Background Surface Water and Groundwater Quality"; Table 2.5-6, "Summary of Aquifer Water

² On April 8, 2014, the NRC Staff issued Powertech Source Material License No. SUA-1600.

³ Attachment 2 lists the topics in Powertech's RAI responses that are relevant to the safety issues raised in Contentions 2 and 3.

⁴ In its monthly hearing file updates, the Staff notified the Board and the parties when Powertech's RAI submittals became available in ADAMS.

⁵ Part 40 includes an Appendix A, which contains additional criteria that the Staff uses to evaluate an ISR application.

⁶ Safety Evaluation Report for the Dewey-Burdock Project Fall River and Custer Counties, South Dakota (ADAMS Accession No. ML13052A182) (March 18, 2013).

Quality”; and in several subsections of Section 5.7.9, "Operational Groundwater and Surface Water Monitoring Programs." The Staff also refers repeatedly to Powertech’s RAI responses addressing the confinement of aquifers in which Powertech plans to conduct operations. For example, the Staff considers Powertech’s RAI responses in Section 2.3.3.2, “Site-Specific Geology”; Section 2.3.3.3, “Historic Borings, Mining, Breccia Pipes”; Section 2.4.3.6, “Groundwater Model”; Section 3.1.3, “Staff Review and Analysis”; and Appendix B, “Staff Analysis of Powertech Groundwater Model.”

III. The Intervenors’ Contentions

In their hearing requests, the Intervenors submitted a total of 21 contentions raising a variety of safety and environmental challenges to Powertech’s application. The Board admitted seven contentions.⁷ The contentions the Board admitted challenged Powertech’s analyses of cultural resources that may be affected by the Dewey-Burdock Project (Consolidated Intervenors’ Contention K and Tribe’s Contention 1), baseline groundwater quality (Contentions D and 2), hydrogeological confinement of the aquifers in which Powertech intends to operate (Contentions E and 3), and groundwater consumption (Tribe’s Contention 4).⁸

When ruling on the contentions in the Intervenors’ hearing requests, the Board did not specifically admit the contentions as safety contentions (*i.e.*, contentions challenging Powertech’s Technical Report) or environmental contentions (contentions challenging the Environmental Report). In an October 2012 teleconference, the Board discussed with the parties how it should characterize the admitted contentions.⁹ The Board later issued a teleconference summary explaining that the parties considered Contentions K, 1, and 4 to be environmental contentions, and that they either considered the remaining contentions to have

⁷ *Powertech (USA), Inc.* (Dewey-Burdock In-Situ Uranium Recovery Facility), LBP-10-16, 72 NRC 361, 443–444 (2010).

⁸ *Id.*

⁹ Order (Second Prehearing Conference Call Summary and Supplemental Initial Scheduling Order) (October 16, 2012) at 2.

environmental components or did not dispute that characterization.¹⁰ This meant that the contentions other than Contentions K, 1, and 4 were either safety contentions or had safety components. Those contentions were Contentions D and 2, which challenged Powertech's baseline groundwater data, and Contentions E and 3, which challenged Powertech's assessment of hydrogeology at the Dewey-Burdock site.

After the Board ruled on the initial contentions, the Intervenors filed two additional sets of contentions. The Intervenors first filed contentions in response to the Draft Supplemental Environmental Impact Statement (DSEIS) that the Staff issued in November 2012. The Intervenors filed additional contentions in response to the Final (FSEIS) the Staff issued in January 2014. The Intervenors did not, however, file any contentions based on Powertech's RAI responses or other supplemental information Powertech submitted in support of its application. Nor did the Intervenors seek to amend their previously admitted contentions to challenge Powertech's new information.

When ruling on the Intervenors' DSEIS-related contentions, the Board consolidated the Intervenors' admitted contentions to the extent they raised similar issues. As a result, Contentions D and 2 became Contention 2, while Contentions E and 3 became Contention 3. The safety contentions in this hearing are therefore Contention 2 (baseline groundwater conditions) and Contention 3 (hydrogeological confinement).

Legal Standards

I. Summary Disposition

The hearing in this matter is being conducted under the procedures in Subpart L of 10 C.F.R. Part 2. Under Subpart L, the parties may file summary disposition motions to resolve

¹⁰ *Id.*

issues before the evidentiary hearing.¹¹ The Board may grant a motion for summary disposition on any matter for which a party shows (1) there is “no genuine issue as to any material fact,” and (2) “the moving party is entitled to a decision as a matter of law.”¹² In reaching its decision, the Board should consider whether granting the motion for summary disposition will expedite resolution of the matter before the Board.¹³

To support its motion, “[t]he moving party must attach a short and concise statement of material facts for which the moving party contends that there is no genuine issue to be heard.”¹⁴ The moving party must also explain in writing the basis for the motion.¹⁵ The moving party need not, however, submit affidavits with its motion.¹⁶ Once the moving party makes a proper showing for summary disposition, “if the party opposing the motion does not show that a genuine issue of material fact exists, the Board may summarily dispose of all arguments on the basis of the pleadings.”¹⁷

¹¹ 10 C.F.R. § 2.1205. In its hearing schedule for this proceeding, the Board set specific deadlines for summary disposition motions. The deadline for summary disposition motions regarding previously admitted contentions is April 11, 2014.

¹² *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), CLI-11-14, 74 NRC 801, 805–806 (2011); *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-12-26, 76 NRC 559, 564 (2012).

¹³ 10 C.F.R. § 2.1205(c) states that, when ruling on a motion for summary disposition, the Board shall apply the standards set forth in Subpart G of 10 C.F.R. Part 2. Under Subpart G, “[t]he presiding officer need not consider a motion for summary disposition unless its resolution will serve to expedite the proceeding if the motion is granted.” 10 C.F.R. § 2.710(d)(1).

¹⁴ 10 C.F.R. § 2.1205(a).

¹⁵ *Id.*

¹⁶ 10 C.F.R. § 2.1205 does not mention affidavits. The NRC’s summary disposition rule for formal adjudications in Subpart G of Part 2 states that “[a]ny party to a proceeding may move, *with or without supporting affidavits*, for a decision by the presiding officer in that party’s favor as to all or any part of the matters involved in the proceeding.” 10 C.F.R. § 2.710(a) (emphasis added).

¹⁷ *Advanced Medical Systems, Inc.* (One Factor Row, Geneva, Ohio), CLI-93-22, 38 NRC 98, 102 (1993).

II. Contentions of Omission

As the Board explained when ruling on the DSEIS-related contentions in this proceeding, there are two primary types of contentions: contentions of omission and contentions of adequacy.¹⁸ “A contention of omission is one that alleges an application suffers from an improper omission, whereas a contention of adequacy raises a specific substantive challenge to how particular information or issues have been discussed in the application.”¹⁹ Generally, the plain language of a contention reveals whether the contention is one of omission, adequacy, or both.²⁰ In some cases, however, “it may be necessary to examine the language of the [contention’s] bases to determine the contention’s scope.”²¹ For example, even where a contention claims that the applicant’s discussion of siting alternatives in its Environmental Report is “woefully inadequate,” the specific bases in the contention may reveal a contention of omission.²²

If admitted into the hearing, a contention of omission may subsequently be rendered moot by license-related documents filed by the applicant that address the alleged omission.²³ Subsequent license-related documents may also render moot those bases within a “mixed” contention that challenge the omission of information from the application, as opposed to the

¹⁸ Memorandum and Order (Ruling on Proposed Contentions Related to the Draft Supplemental Environmental Impact Statement) (July 22, 2013) (ADAMS Accession No. ML13203A244).

¹⁹ *Florida Power & Light Co.* (Turkey Point Units 6 and 7), LBP-11-06, 73 NRC 149, 200 n.53 (2011).

²⁰ *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-16, 63 NRC 737, 742 (2006).

²¹ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 383 n.45 (2002) (internal quotation marks omitted).

²² *Private Fuel Storage* (Independent Spent Fuel Storage Installation), LBP-01-26, 54 NRC 199, 202 (2001). See also *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988) (explaining that when “the issue is the scope of a contention, there is no good reason not to construe the contention and its bases together in order to get a sense of what precise issue the party seeks to raise”).

²³ *McGuire*, CLI-02-28, 56 NRC at 382–383.

adequacy of existing information.²⁴ These rules apply because, if an intervenor were allowed to ignore relevant information as it became available and go to a hearing on its original contention, that contention “could be readily transformed—without basis or support—into a broad series of disparate claims.”²⁵ This would circumvent the NRC’s rules for contentions, which prohibit “notice pleading” and require an intervenor to specifically address the parts of an application it is challenging.²⁶

III. Summary Disposition Rules Applied to Contentions of Omission

Where a contention alleges that information is missing from an application but the applicant later provides the information through RAI responses, the contention becomes moot, and the Board should grant summary disposition on those grounds.²⁷ Even if an intervenor challenges the validity of the new information, this will not defeat the motion for summary disposition.²⁸ If the intervenor seeks to challenge the applicant’s new information, it must file a new or amended contention.²⁹ The new or amended contention must be timely filed and meet the NRC’s contention admissibility standards.³⁰

²⁴ *Oyster Creek*, LBP-06-16, 63 NRC at 742 n.7 (explaining that the applicant’s “commitment to perform periodic [ultrasonic testing] measurements would have mooted the ‘omission’ component of the contention, but not necessarily the ‘substantive’ component (unless [the applicant] committed to perform [ultrasonic testing] measurements consistent with the contention’s prescribed frequency).”).

²⁵ *Entergy Nuclear Vermont Yankee LLC and Entergy Operations, Inc.* (Vermont Yankee Nuclear Power Station), LBP-05-13, 61 NRC 429, 431 (2005) (quoting earlier unpublished order in same proceeding).

²⁶ 10 C.F.R. § 2.309(f)(1)(vi).

²⁷ *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-05-19, 60 NRC 134, 182 (2005).

²⁸ *Private Fuel Storage*, LBP-99-23, at 493.

²⁹ *Id.*

³⁰ 10 C.F.R. § 2.309(c)(1), (f)(1), and (f)(2). Although summary disposition is typically applied to contentions of omission, neither NRC rules nor Commission precedent forecloses a Board from granting summary disposition on a contention of adequacy. To the contrary, the Board has suggested that summary disposition is appropriate where the applicant subsequently addresses an alleged inadequacy in its application that is the basis for the contention. See *Oyster Creek*, LBP-06-16, 63 NRC at 742 n.7 (“AmerGen’s commitment to perform periodic [ultrasonic testing] measurements would have mooted the

Discussion

As safety contentions, Contentions 2 and 3 allege that Powertech's application lacks information needed to meet requirements in 10 C.F.R. Part 20 or Part 40. Because Contentions 2 and 3 challenge Powertech's application, the Intervenors needed to amend their contentions to address relevant information in Powertech's RAI responses.³¹ The Intervenors failed to do so, and the safety components of Contentions 2 and 3 thus became moot. Because the safety components of these contentions became moot, the Board should dismiss these components from the hearing.³² In other words, the Board should confirm that the hearing now involves only environmental contentions, not any challenge to whether Powertech meets the safety criteria in 10 C.F.R. Part 20 or Part 40.

The Staff is attaching to this motion a statement of facts on which the Staff contends there is no genuine issue to be heard (Attachment 1). Below the Staff explains why, based on these facts, the Staff is entitled to summary disposition on Contentions 2 and 3 as a matter of law. The Staff is also attaching a table showing how Powertech's RAI responses addressed the safety issues raised in Contentions 2 and 3 (Attachment 2).

The Staff is filing this motion because resolving the safety components of Contentions 2 and 3 through summary disposition will expedite the hearing.³³ Litigating these contentions would require the parties to spend additional time addressing the applicable safety requirements when preparing their testimony, exhibits, and statements of position. Litigating these contentions would not only require additional preparation for the hearing, but would likely require

'omission' component of the contention, but not necessarily the 'substantive' component (unless AmerGen committed to perform [ultrasonic testing] measurements consistent with the contention's prescribed frequency)."). In other words, the contention of adequacy *would have been subject to summary disposition* if the applicant committed to performing the specified measurements.

³¹ *McGuire*, CLI-02-28, 56 NRC at 383; *Private Fuel Storage*, LBP-99-23, at 493.

³² *Vermont Yankee*, LBP-05-13, 61 NRC at 431.

³³ See 10 C.F.R. § 2.710(d)(1) (stating that the Board need not consider a summary disposition motion "unless its resolution will serve to expedite the proceeding if the motion is granted").

additional witnesses at the hearing. The parties would spend additional time addressing these issues in the evidentiary hearing and in their proposed findings of fact and law. The evidentiary hearing would likely take longer, and the Board's decision on the merits of the contentions might take longer to prepare. In brief, resolving the safety components of Contentions 2 and 3 now will help expedite resolution of the hearing.

Contention 2 (Baseline Groundwater Conditions)

In Contentions D and 2, the Intervenor alleged that Powertech's application omitted necessary information concerning baseline conditions in the groundwater that may be affected by the Dewey-Burdock Project. Although the Board has since combined these contentions into a single Contention 2, as admitted they stated:

Contention D – Powertech's presentation and analysis of baseline water quality data in its Application is inadequate. Further, Powertech's analysis of aquifer confinement fails to include an analysis of how artesian and horizontal flow could impact surrounding aquifers and surface waters.

Contention 2 – Failure to include necessary information for adequate determination of baseline ground water quality.

These are contentions of omission. In both the second sentence of Contention D and in Contention 2, the issue presented is whether Powertech's application omits necessary information related to baseline conditions at the Dewey-Burdock site. While the first sentence in Contention D appears to raise an issue concerning the adequacy of Powertech's application, rather than its completeness, that is not borne out by the language of Contention D as proposed by the Consolidated Intervenor.³⁴ In Contention D, the Consolidated Intervenor made the following arguments:³⁵

³⁴ See *McGuire*, CLI-02-28, 56 NRC at 383 n.45 (explaining that in some cases "it may be necessary to examine the language of the [contention's] bases to determine the contention's scope") (citations omitted).

³⁵ All references are to the Consolidated Intervenor's Hearing Request.

- “No coordinated, statistically-sound data set for **all** Baseline Water Quality (both surface and ground water) is presented in these [application] documents” (page 37, first paragraph, quoting Opinion of Dr. Robert Moran) (emphasis in original)
- Powertech must statistically summarize all historic water quality data and all recently collected data in separate tables, including all “less than values.” (page 37, second paragraph 2, quoting Moran Opinion)
- “More importantly, it is unclear whether Powertech has baseline (pre-operational) ground water quality data that describes the non-ore zone regions of the relevant aquifers.” (pages 37–38, quoting Moran Opinion)
- “Dr. La Garry’s Opinion indicates a violation of Section 51.45 and also of Criterion 5B of Appendix A of Part 40 by failing to adequately describe the confinement of the host aquifer, fails to analyze properly secondary porosity in the form of faults and joints, artesian flow, and horizontal flow of water within the uranium-bearing strata.” (page 38, citing Opinion of Dr. Hannan LaGarry)

The first three of these claims on their face allege that Powertech’s application omits necessary information, specifically: (1) a set of all baseline water quality data, (2) a statistical summary of those data, and (3) baseline data on non-ore zones. The Consolidated Intervenors’ fourth claim—that Powertech “fail[ed] to adequately describe” various issues—is ambiguous. Read in context with the Consolidated Intervenors’ other arguments in Contention 4, however, this claim is reasonably construed as alleging that Powertech’s application omits required information. The Consolidated Intervenors’ concluding argument in Contention D is that Powertech’s “[f]ailure to include these analyses violates Section 51.45, especially subsection (c) and (e) thereof.”³⁶ Although the Consolidated Intervenors are referring to environmental requirements here, this language confirms that the essential claim in Contention D is that Powertech’s application omits necessary data.

In June 2011, Powertech provided information that addressed the claims of omission in Contention 2. Powertech’s RAI response included substantial new information on baseline groundwater conditions at the Dewey-Burdock site. For example, Powertech updated the groundwater quality summary tables in its Technical Report, as well as the appendices showing surface water analytical results and groundwater analytical results. Powertech also provided

³⁶ Consolidated Intervenors’ Hearing Request at 39.

additional information on livestock and domestic wells in the Dewey-Burdock area. In addition, Powertech addressed whether the unconfined Fall River groundwater zone may be hydraulically connected to the ground surface in the vicinity of Burdock wellfields II and IV. As shown in Attachment 2, Powertech's June 2011 RAI response provided substantial information on the safety issues raised in Contention 2.

The Staff's SER for the Dewey-Burdock Project confirms that the new information was relevant to whether Powertech's analyses of groundwater conditions met NRC safety requirements, the issue raised in Contention 2. The Staff cites Powertech's RAI responses in numerous SER sections that are relevant to baseline water quality. These sections include Section 2.5, "Background Surface Water and Groundwater Quality"; Table 2.5-6, "Summary of Aquifer Water Quality"; and several subsections of Section 5.7.9, "Operational Groundwater and Surface Water Monitoring Programs."

Because Contention 2 claimed that Powertech's application omitted necessary information, the Intervenors needed to amend their contentions to address Powertech's RAI responses, which provided information relevant to their claims.³⁷ Having failed to amend their contentions, the Intervenors cannot argue now that the additional baseline data Powertech submitted does not address all of the concerns raised in their original contention.³⁸ The Intervenors cannot, in other words, belatedly argue that Powertech's June 2011 submittal inadequately addresses the issues they raise.³⁹

In sum, the Board should dismiss Contention 2 as a safety contention⁴⁰ If the Board declines to dismiss the safety components of Contention 2 in their entirety, it should

³⁷ *McGuire*, CLI-02-28, 56 NRC at 383.

³⁸ *Vermont Yankee*, LBP-05-13, 61 NRC at 431.

³⁹ *McGuire*, CLI-02-28, 56 NRC at 383.

⁴⁰ Even if the Board were to construe certain bases within Contention 2 as challenging the adequacy of Powertech's application, rather than the omission of information from the application, summary

nonetheless dismiss the bases within Contention 2 that allege omissions in Powertech's Technical Report.⁴¹

Contention 3 (Hydrogeological Confinement)

In Contentions E and 3, the Intervenors argued that Powertech's application omitted necessary information on the hydrogeological confinement of the aquifers in which Powertech plans to conduct ISR operations. Before the Board combined these contentions into a single Contention 3, they read:

Contention E (merged with J) – The lack of adequate confinement of the host Inyan Kara aquifer makes the proposed operation inimical to public health and safety in violation of Section 40.31(d). Further, Applicant's failure to describe faults and fractures between aquifers, through which the groundwater can spread uranium, thorium, radium 226 and 228, arsenic, and other heavy metals, violates Section 51.45(c) and (e).

Contention 3 – Failure to include adequate hydrogeological information to demonstrate ability to contain fluid migration.

Both Contention E and Contention 3 are contentions of omission. Although the first sentence in Contention E did not allege either an omission or inadequacy in the application itself, the underlying claim was that Powertech's application omits data showing that the Inyan Kara aquifer is adequately confined. The second sentence alleged that the application omits a description of faults and fractures between aquifers. Contention 3 likewise alleged an omission, namely that Powertech's application omits hydrogeological information demonstrating fluids will not migrate away from the host aquifer.

disposition would be appropriate. The critical inquiry should not be whether a contention may be construed as one of "omission" or "adequacy"—certain contentions could reasonably be framed either way. Rather, the Board should determine whether the applicant subsequently provided information relevant to the claims in the contention. See *Oyster Creek*, LBP-06-16, 63 NRC at 742 n.7 (suggesting that the applicant could have rendered moot even the "substantive" component of the contention if it had committed to performing measurements as described in the contention). Here, Powertech's extensive RAI submittals provided information relevant to each of the claims the Intervenors made in Contention 2. Accordingly, summary disposition should be granted regardless of whether any basis within Contention 2 might be construed as challenging the adequacy of Powertech's application.

⁴¹ See *Oyster Creek*, LBP-06-16, 63 NRC at 742 n.7 (explaining that the applicant's commitment to perform testing would have mooted the "omission" component of the contention, if not necessarily the "substantive" component).

The Intervenors' hearing requests confirm that Contentions E and 3 were contentions of omission. The Consolidated Intervenors argued that Powertech had not shown that the aquifers in which it proposed to conduct operations were adequately confined.⁴² They also argued that Powertech failed to describe the extent to which the Dewey-Burdock area contains faults and fractures through which groundwater might spread contamination.⁴³ The Oglala Sioux Tribe argued that Powertech's application failed to provide sufficient information on two issues: (1) the geological setting of the Dewey-Burdock area, and (2) the potential effects of the Dewey-Burdock Project on adjacent surface and groundwater resources.⁴⁴ Thus, the hearing requests confirm that the Intervenors' contentions focused on the *omission* of information from Powertech's application.

After filing its application in 2009, Powertech submitted additional information that was directly relevant to the claims in Contention 3. In its June 2011 RAI response, Powertech addressed most of the safety issues the Intervenors raised in Contention 3. Powertech's RAI response addressed: (1) the potential for surface water to be spring fed with production zone groundwater through unplugged exploratory drill holes, (2) the potential for hydraulic influence of operations on newly identified underground mine workings within or in close proximity to newly revised well field areas, (3) potentially inadequate hydraulic containment of production fluids from proposed operations, and (4) potentially inadequate hydraulic containment of production fluids from the hydraulic effects of breccia pipes.⁴⁵

Powertech addressed the remaining issues raised in Contention 3 in February 2012, when it submitted a 125-page report titled "Numerical Modeling of Hydrogeologic Conditions at

⁴² Consolidated Intervenors' Hearing Request at 39

⁴³ *Id.* at 56.

⁴⁴ Oglala Sioux Tribe's Hearing Request at 21.

⁴⁵ See Revised Responses to the Request for Additional Information (RAI) for the Technical Report (TR); Powertech (USA) Inc.'s Proposed Dewey-Burdock Project (ADAMS Accession No. 11207A711) (June 28, 2011) at 2 (summarizing hydrogeological data in RAI response).

the Dewey-Burdock Project, South Dakota.”⁴⁶ The report assessed the hydraulic response of the Fall River and Chilson Aquifers to Powertech’s proposed operations.

In Attachment 2, the Staff compares the issues the Intervenors raised in Contention 3 to the information Powertech provided in its June 2011 RAI response and its February 2012 report. As the attachment shows, the new information Powertech submitted was directly relevant to the Intervenors’ claims in Contention 3.

The Staff’s SER also shows that the new information Powertech submitted was highly relevant to the issues raised by the Intervenors. The Staff evaluates Powertech’s June 2011 and February 2012 submittals in numerous sections of the SER. For example, the Staff refer to these submittals in Section 2.3.3.2, “Site-Specific Geology”; Section 2.3.3.3, “Historic Borings, Mining, Breccia Pipes”; Section 2.4.3.6, “Groundwater Model”; Section 3.1.3, “Staff Review and Analysis”; and Appendix B, “Staff Analysis of Powertech Groundwater Model.”

Because Contention 3 claimed that Powertech’s application omitted necessary information, the Intervenors needed to amend their contentions to address Powertech’s new submittals.⁴⁷ Allowing the Intervenors go forward with Contention 3 as a safety contention would be inconsistent with NRC rules requiring that intervenors timely amend their contentions based on the availability of new information.⁴⁸

Based on Powertech’s RAI responses, there is no longer any genuine issue of material fact regarding the alleged omissions in Powertech’s Technical Report. The Board should therefore dismiss safety Contention 3 as a matter of law.⁴⁹ As with Contention 2, if the Board

⁴⁶ ADAMS Accession No. ML120620195 (February 27, 2012).

⁴⁷ *McGuire*, CLI-02-28, 56 NRC at 383.

⁴⁸ 10 C.F.R. § 2.309(c)(1)(iii).

⁴⁹ *Vermont Yankee*, LBP-05-13, 61 NRC at 431.

declines to dismiss the safety components of Contention 3 entirely, it should at least dismiss the bases within the contention that allege omissions in Powertech's Technical Report.⁵⁰

Conclusion

The Board should grant the Staff's motion for summary disposition and dismiss Contentions 2 and 3 as safety contentions.

Respectfully submitted,

*/Signed (electronically) by/
Michael J. Clark
Michael J. Clark
Counsel for the NRC Staff*

*/Signed (electronically) by/
Patricia A. Jehle
Patricia A. Jehle
Counsel for the NRC Staff*

Dated at Rockville, Maryland
this 11th day of April 2014

Enclosures: Attachment 1, Statement of Material Facts to Support Summary Disposition on Safety Contentions 2 and 3

Attachment 2, Powertech's RAI Responses Relevant to Safety Contentions 2 and 3

cc: Electronic Information Exchange Service List
Mr. David Frankel and Mr. Travis Stills by electronic mail

⁵⁰ *Oyster Creek*, LBP-06-16, 63 NRC at 742 n.7

Attachment 1

April 11, 2014

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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)
POWERTECH (USA) INC.,) Docket No. 40-9075-MLA
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(Dewey-Burdock In Situ Uranium Recovery)
Facility))

**NRC STAFF'S STATEMENT OF MATERIAL FACTS TO SUPPORT MOTION FOR
SUMMARY DISPOSITION ON SAFETY CONTENTIONS 2 and 3**

In support of its motion for summary disposition on Safety Contentions 2 and 3, the NRC Staff submits this statement of material facts for which there is no genuine issue to be heard. In its accompanying motion, the Staff explains why, based on these facts, the Board should grant summary disposition on Safety Contentions 2 and 3 as a matter of law.

1. On February 25, 2009, Powertech (USA) Inc. applied for an NRC source and byproduct materials license to be used in connection with its proposed Dewey-Burdock in-situ uranium recovery (ISR) facility in Custer and Fall River Counties, South Dakota. On August 10, 2009, Powertech submitted revisions to its application. On October 2, 2009, the NRC Staff notified Powertech that it found the revised application acceptable for detailed technical and environmental review.
2. In order to receive an NRC license, an ISR applicant must show it meets applicable regulations in 10 C.F.R. Parts 20 and 40, as well as applicable criteria in Appendix A of Part 40.
3. Powertech's application included a Technical Report, which Powertech submitted to demonstrate that it meets the NRC's safety requirements for granting a license.
4. On March 8, 2010, the Consolidated Intervenors requested a hearing on Powertech's application for an NRC license. On April 6, 2010, the Oglala Sioux Tribe requested a hearing.
5. In their hearing requests, the Consolidated Intervenors and the Oglala Sioux Tribe both proposed contentions related to baseline groundwater conditions in the Dewey-Burdock area. They also proposed contentions related to the hydrogeological confinement of the aquifers in which Powertech plans to conduct ISR operations.
6. The Board granted the hearing requests of both the Consolidated Intervenors and the Oglala Sioux Tribe. The Board also admitted their contentions related to baseline groundwater conditions and hydrogeological confinement. As admitted by the Board, the contentions related to baseline conditions stated:

Contention D [Consolidated Intervenor] – Powertech’s presentation and analysis of baseline water quality data in its Application is inadequate. Further, Powertech’s analysis of aquifer confinement fails to include an analysis of how artesian and horizontal flow could impact surrounding aquifers and surface waters.

Contention 2 [Oglala Sioux Tribe] – Failure to include necessary information for adequate determination of baseline ground water quality.

The contentions related to hydrogeological confinement stated:

Contention E (merged with J) [Consolidated Intervenor] – The lack of adequate confinement of the host Inyan Kara aquifer makes the proposed operation inimical to public health and safety in violation of Section 40.31(d). Further, Applicant’s failure to describe faults and fractures between aquifers, through which the groundwater can spread uranium, thorium, radium 226 and 228, arsenic, and other heavy metals, violates Section 51.45(c) and (e).

Contention 3 [Oglala Sioux Tribe] – Failure to include adequate hydrogeological information to demonstrate ability to contain fluid migration.

7. The Board subsequently combined the Intervenor’s related contentions into Contention 2 (baseline groundwater conditions) and Contention 3 (hydrogeology).
8. On various dates, the NRC Staff requested additional information from Powertech regarding its Technical Report. The Staff requested this information to help determine whether Powertech met regulations in 10 C.F.R. Parts 20 and 40, as well as applicable criteria in Appendix A of Part 40. The Staff’s requests for additional information (RAIs) were as follows:

Date	ADAMS Accession Number	Title or Description of Request
05/28/2010	ML101460286	NRC Staff Request for Additional Information for Proposed Dewey-Burdock In Situ Recovery Facility
09/13/2012	ML12255A258	Summary of August 30, 2012 Public Meeting with Powertech Inc, to Discuss Powertech’s Proposed Environmental Monitoring Program related to the proposed Dewey-Burdock Project
09/09/2013	ML13253A082	Email concerning review of Powertech’s additional statistical analysis of radium-226 soil sampling data and gamma measurements and request for information

Date	ADAMS Accession Number	Title or Description of Request
12/09/2013	ML13343A116	NRC Staff review of revised statistical analysis of the Radium 226 (soil) and gamma radiation correlation for screening surveys at the proposed Dewey-Burdock Project requesting additional information

9. On various dates, Powertech submitted information in response to the Staff's RAIs. Powertech's RAI responses were as follows:

Date	ADAMS Accession Number	Title and Summary of Contents
06/28/2011	ML112071064 (ADAMS package, 28 documents in package)	Revised Responses to the Request for Additional Information (RAI) for the Technical Report (TR); Powertech (USA) Inc.'s Proposed Dewey-Burdock Project, Volumes 1-4 <ul style="list-style-type: none"> • Volume 1: Response Text and Figures • Volume 2: Exhibits 2.6-1 through 5.7-1 • Volume 3: Appendices 2.5-D through 2.7-L • Volume 4: Appendices 2.7-M through 7.3-C
02/27/2012	ML120620195 (ADAMS package, 2 documents in package)	Powertech submission of Petrotek "Numerical Modeling of Hydrogeologic Conditions Dewey-Burdock Project South Dakota, Powertech Dewey-Burdock Project" <i>ML12062A096</i>
04/11/2012	ML121030013	Powertech's ORP [oxidation-reduction] Measurements
06/13/2012	ML12173A038	Powertech (USA) Inc.'s Additional Regional Meteorological Data for Proposed Dewey-Burdock Project <ul style="list-style-type: none"> • Addendum to TR RAI Response 2.5-1(c) • Addendum to TR RAI Appendix 2.5-D <ul style="list-style-type: none"> ○ Newcastle Meteorological Station Audit Reports ○ Antelope Mine Meteorological Station Audit Reports ○ Buckskin Mine Meteorological Station Audit Reports ○ Dry Fork Mine Meteorological Station Audit Reports ○ Standard Operating Procedures For Meteorological Monitoring Station Audit

Date	ADAMS Accession Number	Title and Summary of Contents
		<ul style="list-style-type: none"> • Addendum to TR RAI Appendix 2.5-E <ul style="list-style-type: none"> ○ Statistical Methodology for Assessing Representativeness of Wind Data
10/19/2012	ML12305A056	<p>Powertech (USA) Inc.'s Supplemental Sampling Plan and Responses to Comments Regarding Draft License SUA-1600; Dewey-Burdock Project; Docket No. 40-9075; TAC No. J 00606</p> <ul style="list-style-type: none"> • Supplemental Preconstruction and Preoperational Sampling Plan • Responses to Comments Related to Draft License • Conditions and Public Meeting of August 30, 2012
08/19/2013	ML13238A174 (ADAMS package, 2 documents in package)	<p>Powertech's Additional Statistical Analysis of Radium-226 Soil Sampling Data and Gamma Measurements for Dewey-Burdock Project</p>

10. In its RAI responses, Powertech provides information on baseline groundwater conditions and hydrogeological confinement. Attachment 2 to the NRC Staff's Motion for Summary Disposition on Safety Contentions 2 and 3 (April 11, 2014) lists RAI responses that provide relevant information. Attachment 2 identifies the relevant portions of the RAI responses by ADAMS Accession Numbers and page numbers.
11. On March 20, 2013, the Staff issued its Safety Evaluation Report (SER) for Powertech's application. The Staff prepared the SER to document its findings on whether Powertech has demonstrated that it meets the applicable safety requirements in 10 C.F.R. Part 20, Part 40, and Appendix A to Part 40.
12. In numerous sections of the SER, the Staff refers to the information Powertech provided in its RAI responses concerning baseline groundwater conditions and hydrogeology. The SER sections that refer to Powertech's RAI responses on these issues include:
 - a. Section 2.3.3.2, "Site-Specific Geology";
 - b. Section 2.3.3.3, "Historic Borings, Mining, Breccia Pipes";
 - c. Section 2.4.3.6, "Groundwater Model";
 - d. Section 2.4.4, "Evaluative Findings" [of hydrologic site characterization];
 - e. Section 2.5, "Background Surface Water and Groundwater Quality";
 - f. Table 2.5-6, "Summary of Aquifer Water Quality";
 - g. Section 3.1.3, "Staff Review and Analysis";
 - h. Section 3.1.3.1, "Ore Body";
 - i. Section 3.1.3.5, "Water Balance";

- j. Section 3.1.3.6, "Wellfield Operational Monitoring Network";
 - k. Section 3.1.4, "Evaluative Findings" [of ore body characteristics];
 - l. Section 3.2.3.3, "Wellfield Operations";
 - m. Section 5.7.9, "Operational Groundwater and Surface Water Monitoring Programs" (multiple references in various subsections);
 - n. Section 6.1.3.2, "Restoration Methods";
 - o. Section 6.1.3.5, "Groundwater Restoration Monitoring"; and
 - p. Appendix B, "Staff Analysis of Powertech Groundwater Model."
13. In the SER, the Staff finds that Powertech has demonstrated that it meets the safety requirements for its requested license. In making this finding, the Staff took into account the information Powertech provided in its RAI responses.
14. The Intervenor has not filed new contentions based on Powertech's responses to the Staff's RAIs on the Technical Report. Nor have the Intervenor sought to amend their previously admitted contentions based on Powertech's RAI responses.

Respectfully submitted,

/Signed (electronically) by/
Michael J. Clark
Michael J. Clark
Counsel for the NRC Staff

/Signed (electronically) by/
Patricia A. Jehle
Patricia A. Jehle
Counsel for the NRC Staff

Dated at Rockville, Maryland
this 11th day of April 2014

Attachment 2
Powertech's RAI Responses Relevant to Safety Contentions 2 and 3

Contention	RAI Response	ADAMS Number for Specific Document	Relevant Pages	Brief Description of Issue RAI Response Addresses
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B719	at 186-237	Appendix 2.7-G, "Groundwater Quality Data," ML092870354 revised extensively with TR changes identified in Hydrology TR RAI 2.7-1 through TR RAI 2.7-23 and revised Appendix 2.7-G Groundwater Quality Summary Tables.
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B764	2.7-1(a) to 2.7-1(j)	Exhibits 2.7-1(a) to 2.7-1(j) contain revisions to aquifer cross sections.
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B771	2.7-B-1 through 2.7-B-21	Revised appendix for Section 2.7: Appendix 2.7-B Pump Test Results and Analysis – Replacement Tables
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B771	2.7-C-1 through 2.7-C-50	Revised appendix for Section 2.7: Appendix 2.7-C Surface Water Quality Summary Tables
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B771	2.7-F-1 through 2.7-F-850	Revised appendix for Section 2.7: Appendix 2.7-F Surface Water Analytical Results

Attachment 2
Powertech's RAI Responses Relevant to Safety Contentions 2 and 3

Contention	RAI Response	ADAMS Number for Specific Document	Relevant Pages	Brief Description of Issue RAI Response Addresses
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B771	2.7-G-1 through 2.7-G-147	Revised appendix for Section 2.7: Appendix 2.7-G Groundwater Quality Summary Tables
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML11208B777	2.7-H-1 through 2.7-H-624	Revised appendix for Section 2.7: Appendix 2.7-H Groundwater Analytical Results
		ML11208B778	2.7-H-625 through 2.7-H-1277	
		ML11208B784	2.7-H-1278 through 2.7-H-1899	
		ML11208B827	2.7-H-1900 through 2.7-H-2369	
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML112150229	2.9-I-1 through 2.9-I-9	Revised appendix for Section 2.7: Appendix 2.9-I Radionuclide Concentrations in Surface Water

Attachment 2
Powertech's RAI Responses Relevant to Safety Contentions 2 and 3

Contention	RAI Response	ADAMS Number for Specific Document	Relevant Pages	Brief Description of Issue RAI Response Addresses
Contention 2	Section 2.7 of the TR revised in June 2011 RAI Response	ML112150229	2.9-J-1 through 2.9-J-31	Revised appendix for Section 2.7: Appendix 2.9-J Radionuclide Concentrations in Groundwater
Contention 2	P&R 2.7-9	ML11208B719	at 201, 202-203	Describes and evaluates field investigations during the initial baseline monitoring period and the alluvial drilling program completed in May 2011 to further address potential discharge to alluvium from underlying aquifers. Maps and imagery.
Contention 2	P&R-2	ML11208B712	at 4-17	Identifies locations of and describes former and active oil and gas wells potentially within 2 km of site limits, including wells in former or active underground mine areas. Maps.
Contention 2	P&R-5	ML11208B712	at 22-25	Describes and evaluates the unconfined Fall River groundwater zone for hydraulic connection to ground surface at/near Burdock II and IV well fields, including the bottom of open mine pits. Section 2.7 of the TR changed due to RAI response P&R-5.
Contention 2	TR RAI 5.7.8-3(a) Response	ML11208B714	at 1	TR Table 6.1-1 revised to include all analyses listed in Table 2.7.3-1 of NUREG-1569, and is included in the response to TR RAI 6.1-3.

Attachment 2
Powertech's RAI Responses Relevant to Safety Contentions 2 and 3

Contention	RAI Response	ADAMS Number for Specific Document	Relevant Pages	Brief Description of Issue RAI Response Addresses
Contention 2	P&R-9	ML11208B712	at 31-33	Describes procedures Powertech will implement to detect and mitigate unplugged holes/wells could impact the control and containment of well field solutions. Identifies commitments to NRC and proposed mitigation and avoidance measures.
Contention 3	P&R-1	ML11208B712	at 1-3	<p>TR Supplement Exhibit 3.2-1 (re-evaluated and revised) REPLACED with Exhibit 3.1-4, identifying potential well fields; Exhibit 2.7-1 provides a cross section index for nine cross sections (Exhibits 2.7-1a through 1h and 1j) drawn through potential well fields to illustrate the scaled vertical positions of each ore body proposed for uranium recovery. Nine updated cross sections provide detailed lithologic interpretations of the host sandstones within the Fall River Formation and the Chilson Member of the Lakota Formation.</p> <p>Plate 2.6-1 of TR REPLACED with Figure 2.6-1, which clearly shows that there are no ore bodies within the Fuson Shale.</p>
Contention 3	P&R-2	ML11208B712	at 417	Identifies locations of and describes former and active oil and gas wells potentially within 2 km of site limits, including wells in former or active underground mine areas. Maps and stratigraphic charts.
Contention 3	P&R 2.7-9	ML11208B719	at 201-210	Results of historical and May 2011 alluvial drilling program do not show production zone groundwater discharge via artesian flow to alluvial aquifers or discharge from alluvial aquifers to Beaver Creek and/or Pass Creek, with exception of alkali flats. Maps & imagery.

Attachment 2
Powertech's RAI Responses Relevant to Safety Contentions 2 and 3

Contention	RAI Response	ADAMS Number for Specific Document	Relevant Pages	Brief Description of Issue RAI Response Addresses
Contention 3	P&R-9	ML11208B712	at 31-33	Describes procedures Powertech will implement to detect and mitigate unplugged holes/wells could impact the control and containment of well field solutions. Identifies commitments to NRC and mitigation / avoidance measures.
Contention 3	TR RAI 5.7.8-14	ML11208B714	at 519-522	Wellfield test procedures described. Pump testing procedures will be used to establish production and injection wells are hydraulically connected to the perimeter production zone monitor wells, that production and injection wells are hydraulically isolated from non-production zone vertical monitor wells, and to detect potentially improperly plugged wells or exploration holes. Stratigraphic charts indicate production zones presented.
Contention 3	TR RAI 6.1-3	ML11208B925	Appendix 6.1-A – 7.3-C-3.	Powertech provided “Drawdown Inyan Kara” report. Calculations were conducted to estimate the drawdown impacts to the Inyan Kara Aquifer in the vicinity of the Dewey-Burdock. These analytical calculations were prepared to supplement existing drawdown calculations. Results from the AQTESOLV analysis indicate that the Dewey Fault barrier boundary does have significant impacts on drawdown calculations for wells in the project vicinity.
Contention 3	Numerical Modeling Report	ML12062A096	Whole report	Petrotek “Numerical Modeling of Hydrogeologic Conditions Dewey-Burdock Project South Dakota, Powertech Dewey-Burdock Project”

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)	Date: April 11, 2014
Facility))	

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305, I certify that copies of the “NRC STAFF’S MOTION FOR SUMMARY DISPOSITION ON SAFETY CONTENTIONS 2 AND 3” have been served via the NRC’s Electronic Information Exchange (EIE) or, for those participants exempted from filing through the EIE, by electronic mail, on this 11th day of April 2014.

***/Signed (electronically) by/
Patricia A. Jehle***

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