

October 14, 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)	)	

**SUPPLEMENTAL TESTIMONY ON THE U.S. BUREAU OF LAND MANAGEMENT LETTER,  
TAKE PERMIT APPLICATION, AND DRAFT AVIAN MANAGEMENT PLAN**

**Q1: Please state your name, position, and employer, and briefly describe your role in reviewing Powertech's application for a license related to the Dewey-Burdock Project.**

**A1a:** My name is Haimanot Yilma. I am an Environmental Project Manager in the NRC's Office of Nuclear Materials Safety and Safeguards (NMSS). My job duties are described in my initial written testimony at Ex. NRC-001, answer A1.a. I am submitting a revised statement of professional qualifications to reflect that, since I last testified in this hearing, my former office, the Office Federal and State Materials and Environmental Management Programs (FSME), became part of NMSS. Except for that change, my job duties remain largely the same. My statement of professional qualifications can be found at Ex. NRC-003-R.

**A1b:** My name is Kellee Jamerson. I am an Environmental Scientist in the NRC's Office of Nuclear Material Safety and Safeguards. My job duties are described in my initial written testimony at Ex. NRC-001, answer A1.b. I am submitting a revised statement of

professional qualifications to reflect that, since I last testified in this hearing, my former office, the Office Federal and State Materials and Environmental Management Programs (FSME), became part of NMSS. Except for that change, my job duties remain largely the same. My statement of professional qualifications is found at Ex. NRC-004-R.

A1c: My name is Amy Hester. I am a Research Scientist in the Geosciences and Engineering Division of the Southwest Research Institute. Ex. NRC-007 provides a statement of my professional qualifications. I was directly involved in preparing the Dewey-Burdock FSEIS. I was the primary author of the ecology section in the FSEIS and I contributed to the socioeconomics section of the FSEIS.

**Q2: Have you previously testified in this hearing?**

A2a: Haimanot Yilma. Yes, I submitted prefiled testimony (Exs. NRC-001 and NRC-151) and testified orally in the hearing.

A2b: Kellee Jamerson. Yes, I submitted prefiled testimony (Exs. NRC-001 and NRC-151) and testified orally in the hearing.

A2c: Amy Hester. Yes, I submitted prefiled testimony on Contention 14 (Ex. NRC-001) in the hearing.

**Q3: What is the purpose of your testimony?**

A3: (H. Yilma, K. Jamerson, A. Hester) We are providing this testimony in order to address three documents that Powertech recently disclosed to the parties in the Dewey-Burdock hearing. These documents are:

- A July 8, 2014 letter from the U.S. Bureau of Land Management (BLM) to Powertech requesting additional information on Powertech's Plan of Operations for the Dewey-Burdock Project
- A January 10, 2014 Permit Application Powertech submitted for a non-purposeful eagle take at the Dewey-Burdock Project

- A September 2013 Draft Avian Management Plan Powertech prepared for the Dewey-Burdock Project

**Q4: When did you obtain these three documents?**

A.4: (H. Yilma, K. Jamerson, A. Hester) The documents were submitted to the parties by Powertech on September 12, 2014, by order of the Board.

**Q5: Are the documents relevant to the issues raised in any of the admitted contentions?**

A.5: (H. Yilma, K. Jamerson, A. Hester) The take permit and Avian Management Plan are both potentially relevant to Contention 6 (mitigation measures). The BLM correspondence on Powertech's Plan of Operations is potentially relevant to Contention 1A (protection of cultural resources) and Contention 6 (mitigation measures).

**Q6: What actions have you taken in response to the documents?**

A.6: (H. Yilma, K. Jamerson, A. Hester) We reviewed the documents to determine if they contain information that affects the Staff's impact assessment in the FSEIS.

**Q7: Will you be updating the FSEIS in response to these documents?**

A.7: (H. Yilma, K. Jamerson, A. Hester) The information provided in the take permit application and the Avian Management Plan is consistent with the information provided in the FSEIS. Although these documents contain some specific examples of mitigation measures beyond those listed in the FSEIS, neither document calls into question the analyses or determinations presented in the FSEIS. If Powertech provides new information in response to the BLM's request, the Staff will consider the information and determine whether, under 10 C.F.R. § 51.92, we need to prepare a supplement to the FSEIS.

**Q8: In its letter, the BLM asks that Powertech provide maps showing the “location of exploration activities, drill sites, mining activities, processing facilities, waste rock and tailings disposal site, support facilities, structures, buildings, and access routes.” BLM letter at ¶ 1. Is the BLM’s request relevant to any of the issues considered in the FSEIS?**

A8: (H. Yilma, K. Jamerson, A. Hester) Powertech already submitted the information requested by the BLM in the Dewey-Burdock Technical Report (APP-015-A through V at 2-98a, 2-100, 2-100a, 3-25c, and 3-25d), in the Dewey-Burdock Environmental Report (APP-040-A through EE at 1-28, 3-18, 4-84, and 4-89), and in its responses to RAIs on the Environmental Report (Ex. APP-050 at 11, 46, 47, and 64). The Staff evaluated Powertech’s submissions and presented its discussion in various FSEIS section (e.g., Sections 2.1.1.1.1, Site Description; 2.1.1.1.2, Construction Activities; 2.1.1.1.2.1, Buildings; 2.1.1.1.2.2, Access Roads; 2.1.1.1.2.3, Wellfields; 2.1.1.1.2.3.1, Injection and Production Wells; 2.1.1.1.2.3.2, Monitoring Wells; 2.1.1.1.2.3.6, 2.1.1.1.2.3.5, 2.1.1.1.2.3.4, Wellfield Hydrogeologic Data Packages; Well Construction, Development, and Testing; Pipelines; 2.1.1.1.2.3.7, Power Lines). Ex. NRC-008-A-1. The Staff then used this information when making its impact determinations under each resource area listed in Chapter 4 of the FSEIS. Ex. NRC-008-A-2. Unless Powertech provides BLM with additional information not contained in its NRC license application, the Staff does not expect to change its impact findings in the FSEIS.

**Q9: Is it possible that Powertech may report new areas of direct disturbance, either for power lines or access road construction? How would the identification of new areas of disturbance affect the impact determinations in the FSEIS?**

A9: (H. Yilma, K. Jamerson, A. Hester) Yes. Once Powertech has specific plans for placing new power lines, the Staff will review the information to determine if it proposes new

areas of direct disturbance. If Powertech alters the plans for access roads that it submitted to the NRC as part of its license application, the Staff will review those plans, in accordance with 10 C.F.R. § 51.92, to determine if they change our impact assessment in the FSEIS.

**Q10: The letter also states that the Plan of Operations will need to describe power line construction to protect raptors, and that power lines on BLM land are typically constructed to Avian Power Line Interaction Committee (APLIC) standards. Does this statement in any way affect the analysis in the FSEIS?**

A10: (H. Yilma, K. Jamerson, A. Hester) No. The Staff discusses the APLIC standards as an NRC-recommended mitigation measure in the FSEIS. Exs. NRC-008-A-2 at 4-89; NRC-008-B-1 at 6-14. Therefore, BLM's recommendation that Powertech follow this standard will not change the Staff's conclusions regarding impacts to raptors.

**Q11: How would the identification of new areas of disturbance affect the NRC's impact determination for cultural properties?**

A11: (H. Yilma, K. Jamerson) The Programmatic Agreement (PA) at Section 6 specifically anticipates that future identification of cultural resources may be necessary if power transmission lines are installed in areas not yet identified. Ex. NRC-018-A at 8. Section 6 (a) of the PA provides that Powertech will notify the NRC and BLM in writing, if it "determines that ground-disturbing activities will be required for the installation of electrical transmission lines outside the license boundary. Powertech must provide written notification at least four months prior to [beginning construction]." Section 6 (b) further states that "Powertech must provide the NRC, the BLM, and the SD SHPO a proposed work plan for a survey to inventory historic properties within the APE for each transmission line as part of the written notification." The plan must include "methods for identification of all kinds of cultural properties within the transmission line corridor,

including identification of properties of religious and cultural significance with the involvement of the Tribes.” The proposed plan should also include “report preparation requirements and schedules for the identification efforts.” Section 6 (c) of the PA further states that “[t]he NRC will distribute the proposed work plan to the 23 consulting Tribes soon after it is received from Powertech.”

**Q12: BLM also asks for information on the location of waste rock and tailing disposal areas. BLM letter at ¶ 1. Does the FSEIS address these areas?**

A12: (H. Yilma, K. Jamerson, A. Hester) The in-situ uranium recovery process does not generate tailings. The tailings and waste rock referred to in the BLM letter are likely related to past conventional mining activities in the Burdock area. This information is described in the Safety Evaluation Report (SER) in the discussion on historic mining. Ex. NRC-134 at 28–29. The FSEIS also discusses aspects of conventional mining. Exs. NRC-008-A-1 at 157, 158, and 178; NRC-008-A-2 at 575 and 594. However, as we explain in the FSEIS, conventional mining was not part of the Staff’s detailed environmental analysis. Ex. NRC-008-A-1 at 157 and 158.

**Q13: The BLM also seeks information on road dimensions, construction methods, and fencing specifications on the public land portion of the project (the 240 acres managed by BLM). BLM letter at ¶ 2. Were these issues considered in the FSEIS?**

A13: (H. Yilma, K. Jamerson, A. Hester) Chapter 4 of the FSEIS evaluates impacts from overall road construction and fencing proposed by Powertech on specific resource areas, including, land use, air, noise, cultural resources, ecological resources, and visual impacts. Exs. NRC-008-A-2 at 311, 312, 386, 392, 394, 453, 464, and 465; see *generally* NRC-008-A-1. Unless Powertech provides BLM with significant additional information not contained in its NRC license application, the Staff does not expect to change its impact findings in the FSEIS.

**Q14: The BLM requires that fencing meet the requirements of the BLM Fencing Handbook. BLM letter at ¶ 2. Did the Staff address fencing in the FSEIS?**

A14: (H. Yilma, K. Jamerson, A. Hester) Powertech discusses fencing in Ex. APP-050 at 55. Powertech commits to fencing all buildings and structures associated with its NRC license. Ex. APP-050 at 55. Fencing will also be used to protect large game, limit potential impacts to avian species around pond areas, and control livestock access to land application areas. Ex. APP-050 at 55. These commitments will minimize impediments to large game and limit radiological exposure to avian species and grazing stock. These commitments will also ensure there are no exposures or health risks that would be associated with radioactive constituents reaching the food chain, as required by 10 C.F.R. Part 20, Appendix B. Ex. APP-050 at 55. Unless Powertech provides BLM with significant additional information not contained in its license application, the Staff does not expect to change its impact findings in the FSEIS.

**Q15: The BLM requests information on the location and content of signs at the Dewey-Burdock facility. BLM letter at ¶ 2. Did the Staff consider this issue in the FSEIS?**

A15: (H. Yilma, K. Jamerson, A. Hester) Powertech provided information on signs in its Environmental Report and committed to following the requirements of 10 C.F.R. § 20.1901. Ex. APP-050 at 55. This regulation requires a licensee to use signs to make individuals aware of potential radiation exposures and to minimize exposures. The Staff took Powertech's commitment into account when making its safety findings in the SER, and the Staff used the SER to inform its findings in the FSEIS. The SER was also part of the Record of Decision for the Dewey-Burdock application.

**Q16: The BLM seeks detailed power line installation information, along with measures Powertech will take to protect ecological resources. BLM letter at ¶ 3. Did the Staff address power lines in the FSEIS?**

A16: (H. Yilma, K. Jamerson, A. Hester) Yes. We considered the installation of power lines when assessing impacts in various resource areas, such as land use, ecology, cultural resources, and visual effects. See generally Exs. NRC-008-A-1 at 307–568; NRC-008-A-2. The Staff will evaluate any additional information presented by Powertech regarding installation methodology to determine if the impact assessments already presented in the FSEIS need to be supplemented. As stated above, we will apply the standard in 10 C.F.R. § 51.92 to determine if the FSEIS needs to be supplemented.

**Q17: The BLM requests information on whether a solution containing magnesium chloride will be used on BLM property to reduce fugitive dust and impacts to air quality. BLM letter at ¶ 4. Would a solution containing magnesium chloride to reduce fugitive dust change the Staff’s findings on impacts to air quality, surface or groundwater quality, or ecological resources?**

A17: (H. Yilma, K. Jamerson, A. Hester) We addressed fugitive dust extensively in FSEIS Sections 3.7 and 4.7, as well as in Appendix C. Exs. NRC-008-A-2 at 237-241; NRC-008-A-2 at 420-444; NRC-008-B-2 at 317-352. We determined that the impacts on air quality would be small to moderate depending on the waste disposal method and the phase of operation. Ex. NRC-008-A-2 at 421–451.

When we issued the FSEIS, Powertech had not proposed using magnesium chloride to reduce fugitive dust. Therefore, the use of magnesium chloride was not part of the mitigation incorporated into the air emission inventory provided by Powertech and used in the FSEIS analyses. If Powertech decides to use magnesium chloride to control fugitive dust, the Staff will review the information Powertech submits to the BLM and determine whether this information affects any of our impact assessments in the FSEIS, in accordance with 10 C.F.R. § 51.92 requirements.

**Q18: BLM also requests information on Powertech’s soil management plan. BLM letter at ¶ 4. Does the Staff anticipate that Powertech’s plan will change its FSEIS findings?**

A18: (H. Yilma, K. Jamerson, A. Hester) No. The Staff does not expect to change its findings because Powertech already included information regarding its soil survey in Sections 3.3.5.2.4, 4.5.2, 4.5.8, and 5.3 of its Environmental Report. Ex. APP-040-A. We analyzed this information in Sections 2.1.1.2, 4.4.1.1.1, and 4.4.1.2.1 of the FSEIS. Ex. NRC-008-A-1 at 100; NRC-008-A-2 at 337, 338, and 342. Provided Powertech does not submit information that conflicts with the information previously submitted, the Staff will not have to reexamine its findings in the FSEIS and SER.

**Q19: Can you sum up whether the BLM letter affects your conclusions in the FSEIS?**

A19: (H. Yilma, K. Jamerson, A. Hester) In its letter, the BLM seeks additional information from Powertech. Much of the information sought by the BLM was considered by the Staff when preparing the FSEIS. If Powertech provides any new information in its response to the BLM’s letter, the Staff will consider that information and determine whether, under 10 C.F.R. § 51.92, we need to prepare a supplement to the FSEIS. The BLM letter is not, however, significant new information that in itself requires supplementing the FSEIS.

**Q20: Turning to the take permit application, does this document affect the conclusions in the FSEIS?**

A20: (H. Yilma, K. Jamerson, A. Hester) No. The information provided in the take permit application is consistent with the information provided in the FSEIS. As one example, FSEIS Section 3.6.3 states “Project construction will not directly impact any of these nests or roosts.” See Ex. NRC-008-A-1 at 227–234. This statement is consistent with

the permit application at pages 4 and 9, which states that no trees with eagle nests will be physically impacted.

**Q21: The last paragraph on page 1 of the application states that the potential for a take will remain even with the implementation of an avian plan. Does this statement affect the conclusions in the FSEIS?**

A21: (H. Yilma, K. Jamerson, A. Hester) No. In the FSEIS, we found that impacts to raptor species, specifically bald eagles, during all phases of the deep disposal well option will be SMALL. During all phases of the land application option, impacts will be MODERATE. And SMALL to MODERATE impacts are anticipated during all phases of the combined disposal option. An eagle 'take' may occur but result in a SMALL impact because one take occurrence, or several for that matter, will neither destabilize nor noticeably alter any important attribute of the resource. The Staff identifies the anticipated impact levels on all resources and alternatives for all phase of operations, from construction through operations, during aquifer restoration, and as part of decommissioning. Ex. NRC-008-A1 at 160-166. The Staff addresses impacts on the ecology specifically in Table 4.6-5 of the FSEIS. Ex. NRC-008-A-2 at 419. The potential for a take does not support a change to a moderate impact determination. Information in the take permit application does not support finding that potential impacts are lesser or greater than the impacts identified in the FSEIS.

**Q22: Does the take permit application list any mitigation measures that were not specified in the FSEIS?**

A22: (H. Yilma, K. Jamerson, A. Hester) The take permit application does list some measures to limit potential impacts to bald eagles that were not specifically listed in the FSEIS. For example:

- Site header houses outside the 0.5-mi buffer; position doors and lighting on opposite side from nests; locate employee parking on far side of buildings
- Drill wells during the non-breeding season
- Limit lighting in nest buffer areas
- Remote monitoring of wellfields
- Park vehicles between nest and foot traffic to provide a visual barrier
- Incremental acclimation plan by gradually decreasing buffer areas
- Biologists have 'stop-work' authority
- Investigate and, if feasible, construct artificial nests beyond the buffer areas

These are not entirely newly proposed mitigation measures. Rather, they are specific aspects of general mitigation measures, such as access controls, lighting, and buffers that the Staff discusses in the FSEIS. For example, as we explain in the FSEIS, Powertech committed to distance restrictions that regulatory agencies have found appropriate for protecting raptor nests during the breeding season. Ex. NRC-008-A-2 at 395.

In the FSEIS, we also specifically discussed the siting of ISR facilities using a buffer zones for raptor nests, an approach recommended by the BLM. Exs. NRC-008-A-2 at 395; NRC-008-B-1 at 73. Powertech's Environmental Report (Ex. APP-040-C at 5-10) and the FSEIS (Exs. NRC-008-A-2 at 498; NRC-008-B-1 at 69) also discuss limiting the use of exterior lights, lowering the height of lighting units, and shielding light sources.

We acknowledge that in the FSEIS we did not identify every specific mitigation measure for avian species listed in the take permit application. Nonetheless, we discussed appropriate mitigation measures throughout the FSEIS, with the expectation that Powertech would refine the measures in coordination with the U.S. Fish and Wildlife

Service (FWS), the South Dakota Department of Environment and Natural Resources (SDDENR), and the BLM, as necessary.

**Q23: But do any of these specific measures change your impact assessment in the FSEIS?**

A23: (H. Yilma, K. Jamerson, A. Hester) No. The potential for an eagle take remains regardless of the implementation and effectiveness of these new commitments. Thus, we still conclude that the potential impacts to eagles will be SMALL during all phases of the deep disposal well option, MODERATE during all phases of the land application option, and SMALL to MODERATE during all phases of the combined option.

**Q24: Turning to Powertech's draft avian management plan, does this document affect your conclusions in the FSEIS?**

A24: (H. Yilma, K. Jamerson, A. Hester) This document describes certain mitigation measures, such as the gradual acclimation of bald eagles to human disturbance, that Powertech had not previously identified in its Environmental Report or in its RAI responses. For the same reasons stated above, however, the mitigation measures outlined in the draft avian management plan do not change the FSEIS impact determinations. While fewer individual birds may be negatively affected if the mitigation measures described in the plan are followed, this result cannot be guaranteed. Furthermore, we continue to find that the land application disposal option and combined option will noticeably alter, but not destabilize, important wildlife habitat that is present at the Dewey-Burdock site, thus leading to potentially SMALL to MODERATE impacts. In addition, in the FSEIS we reported that overall disturbances to raptors will be less with the deep disposal well option than with the land application option. A summary of ecological impacts is presented in Table 4.6-5 of the FSEIS. Ex. NRC-008-A-2 at 419.

The same assessment is found in the take permit application in the first paragraph of page 10.

**Q25: If you had been able to review the take permit application and draft avian plan before you finalized the FSEIS, would your impact determinations have changed?**

A25: (H. Yilma, K. Jamerson, A. Hester) No. Even with the refined mitigation measures listed in the take permit application and the draft avian plan, the potential impacts to avian species during all phases of the deep well injection option will be SMALL. These impacts will be continue to be MODERATE during all phases of the land application option, and SMALL to MODERATE during all phases of the combined options. The refined mitigation measures in the avian plan will not prevent all impacts from occurring.

As another example, in the FSEIS we made a MODERATE impact determination for the land application option because this option “is expected to noticeably alter, but not destabilize, the vegetation and important wildlife habitat that occur at the site.” Ex. NRC-008-A-2 at 414. The habitat at the Dewey-Burdock site is important to many species, not only birds. While the effects on habitat will be limited by measures proposed in the take permit application and draft avian plan information, they will not be eliminated.

**Q26: Does the Staff intend to supplement the FSEIS to take into account the take permit application or draft avian management plan?**

A26: (H. Yilma, K. Jamerson, A. Hester) No. Although these documents contain refined examples of mitigation measures, neither document calls into question the analysis in the FSEIS. The documents therefore do not present new and significant information within the meaning of 10 C.F.R. § 51.92. In fact, the take permit application and draft avian management plan *support* our analysis in the FSEIS. They support our analysis

because they provide specific examples of mitigation measures, such as access controls, lighting, and buffers that we already mentioned in the FSEIS.

October 14, 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)	)	

**AFFIDAVIT OF HAIMANOT YILMA**

I declare under penalty of perjury that my statements in prefiled Exhibits NRC-157 (NRC Staff's Supplemental Testimony) and NRC-003-R (Revised Statement of Professional Qualifications for Haimanot Yilma) are true and correct to the best of my knowledge and belief.

---

Executed in Accord with 10 CFR 2.304(d).

Haimanot Yilma  
Project Manager, Environmental Review Branch  
Division of Fuel Cycle Safety, Safeguards & Environmental  
Review  
Office of Nuclear Material Safeguards and Safety  
U.S. Nuclear Regulatory Commission  
Mail Stop: T8-F20  
Washington, DC 20555  
Telephone: 301-415-8029  
[Haimanot.Yilma@nrc.gov](mailto:Haimanot.Yilma@nrc.gov)

Executed in Rockville, Maryland

October 14, 2014

October 14, 2014

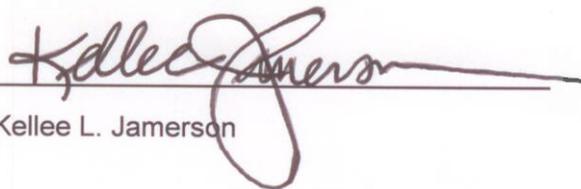
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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)	)	

**AFFIDAVIT OF KELLE L. JAMERSON**

I declare under penalty of perjury that my statements in prefiled Exhibits NRC-157 (NRC Staff's Supplemental Testimony) and NRC-004-R (Revised Statement of Professional Qualifications for Kellee L. Jamerson) are true and correct to the best of my knowledge and belief.

  
Kellee L. Jamerson

Executed in Rockville, Maryland

October 14, 2014

October 14, 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)	)	

**AFFIDAVIT OF AMY HESTER**

I declare under penalty of perjury that my statements in prefiled Exhibits  
NRC-157 (NRC Staff's Supplemental Testimony) and NRC-007 (Statement of Professional  
Qualifications for Amy Hester) are true and correct to the best of my knowledge and belief.

  
\_\_\_\_\_  
Amy Hester

Executed in San Antonio, Texas  
October 14, 2014