



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
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denr.sd.gov

October 31, 2012

Richard Blubaugh
Powertech (USA) Inc.
5575 DTC Parkway, Suite #140
Greenwood Village, CO 80111

Dear Mr. Blubaugh:

The department has completed its review of Powertech's large scale mine permit application submitted on October 1, 2012. For the sections of the application where DENR does not have specific regulatory authority (e.g., radiological report, well design, well integrity, etc.), it did not consider these sections in its procedural completeness or technical reviews. These areas will be considered for information purposes only. It should be noted that these areas do have value in giving the reviewers and the public a better idea of scope of the proposed operation.

Based on our review, we developed the following list of items that are needed to complete the application.

Procedural Completeness Items

1. Application Form and SDCL 45-6B-6(3, 4, and 8(a)): Please submit a new large scale mine permit application form with the name, address, and phone number of Powertech's resident agent. The South Dakota Secretary of State lists CT Corporation as Powertech's resident agent.

Under mineral owners, Powertech lists BLM as a mineral owner. However, Powertech needs to identify in Appendix 2.2-A the unpatented mineral claims holders where BLM mineral ownership is shown. Also, these unpatented claims need to be shown on Plate 2.2-1, similar to how the claims are shown in Figure B-4 in Appendix 3.4-A.

Also, on the application form, Powertech checked "Lease" at the source of legal right to enter and initiate operations. This would include unpatented claims. Please submit copies of all leases for the proposed affected area. The leases can be marked confidential to protect sensitive information in the leases.

In Appendix 2.2-A, BLM is listed as a mineral owner in W1/2SE1/4 Section 29. However, Plate 2.2-1 shows that BLM is not a mineral owner in this section. Please list the correct mineral owner for this section.

Powertech did not include the Burlington Northern/Santa Fe (BNSF) Railroad as a surface owner within the proposed permit boundary area. BNSF is considered a surface owner since the railroad right of way goes through the permit boundary. Please list the BNSF as a surface owner in Appendix 2.2-A and Plate 2.2-2. Also, Powertech needs to identify the mineral owner for the railroad right of way area.

Also, the county road runs adjacent to the railroad. If Custer County and Fall River County owns the county road right of way, they should also be listed as surface owners in Appendix 2.2-A and Plate 2.2-2.

Finally, please indicate the direction of mining in the various well fields. Also, Powertech needs to describe how well field BWF-7 in the old Darrow mine area will be developed in the pits and on the old spoil piles, and how these areas will be reclaimed.

2. Certification of Applicant Form: The certification of applicant form submitted with the mine permit application was not completed correctly. Please submit a new certification of applicant form by following the example enclosed with this letter.
3. SDCL 45-6B-4, SDCL 45-6B-32(5), and ARSD 74:29:02:02: Please submit a letter from the Custer County Planning Department stating Powertech is in substantial compliance with the procedures to obtain county permits.
4. SDCL 45-6B-7(1): In Plate 6.4.1, please show the affected acreage boundary on the map and indicate the number of affected acres that will be reclaimed to rangeland and the number of affected acres that will be reclaimed to agricultural or horticultural cropland.
5. SDCL 45-6B-7(5), SDCL 45-6B-33(3), SDCL 45-6B-92(7), and ARSD 74:29:02:06: Please address whether there are any archaeological, cultural, or historic sites eligible for inclusion on the National Register of Historic Places and steps Powertech will take to protect these sites.
6. SDCL 45-6B-10(4): Are there any old oil and gas pipelines within 200 feet of the boundaries of the proposed affected land? If so, they need to be shown on a map. Also, please show the affected acreage boundary on Figures 3.1-1 and 3.2-6.
7. SDCL 45-6B-12, SDCL 45-6B-39, and ARSD 74:29:06:01: Please submit proof, such as certified mail receipts, that a copy of the operating and reclamation plan was mailed to the surface owners within the proposed mine permit boundary. This includes the BNSF Railroad and Custer and Fall River County as mentioned in item number 1 in this letter. Powertech is also required to submit an instrument of consultation and approval of the reclamation seed mix and the postmining land uses from the BNSF Railroad and Custer and Fall River County.

8. SDCL 45-6B-32(4, 6, 7, and 8): In Table 1.1-2, the Permit Application References is only noted for these subsections of the statute. However, Powertech needs to address these subsections of the statute in the mine permit application instead of just noting them. Therefore, please address the following comments related to the subsections of this statute identified below:
- (4) Please identify any buildings, railroads, and other significant, valuable, and permanent man-made structures within 200 feet of the proposed affected area and describe how the stability of these structures will be protected during the mining operation.
 - (6) Powertech needs to address whether the proposed mining operation and reclamation can be carried out in conformance with SDCL 45-6B-35.
 - (7) Powertech needs to address whether it is currently in violation of the provisions of SDCL 45-6B with respect to any mining operations in South Dakota.
 - (8) Powertech can refer to the section of the mine permit application department's special, exceptional, critical, or unique lands determination is located.
9. SDCL 45-6B-33(5) and SDCL 45-6B-92(1): In the mine permit application, Powertech states a bald eagle mitigation plan will be developed for review and approval by the Department of Game, Fish, and Parks. However, SDCL 45-6B-92 requires Powertech to address plans for mitigating potential impacts to bald eagles in the mine permit. Also, Powertech is required to show under SDCL 45-6B-33(5) that a state threatened species such as the bald eagle will not be jeopardized during the mining operation. Therefore, please submit a plan to mitigate impacts to bald eagles. The plan can be similar to the mitigation plan for raptors and other migratory birds in Section 5.6.11.2 in Volume 1 of the mine permit application.
10. SDCL 45-6B-37 and ARSD 74:29:07:04(2-5): In the grading plan in Section 6.4.3.1 in Volume 1 of the mine permit application, please address separately the proposed grading activities for the well field mud pits, the central and satellite plants, the land application areas, and the access and haul roads. Also, please address section 2 through 5 of this regulation. In addressing these sections, please include a timetable for grading each of the above mentioned areas. Also, please describe how erosion and sedimentation will be controlled during final grading activities, how areas outside the graded areas will be protected from slides, if any depressions to accumulate water will be created during final grading, and how existing drainage will be preserved during final grading.
- Finally, please include each subsection of ARSD 74:29:07:04 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.
11. SDCL 45-6B-43 and ARSD 74:29:07:15: Please submit a letter from the Custer County Weed Board showing that Powertech consulted with the agency during development of the noxious weed control plan.

12. SDCL 45-6-44: Powertech is required to consult with adjacent landowners during development of the reclamation plan. The instrument of consultation can consist of a written receipt from the adjacent landowners stating that they received a copy of the reclamation plan.
13. SDCL 45-6B-46(2): Please address any areas within the permit boundary that cannot be vegetated due to poor or toxic soil conditions and cannot be remedied by fertilization, chemical treatment, or other such treatment. This includes well field BWF-7 in the old Darrow mine area that will be developed in the pits and on the old spoil piles
14. SDCL 45-6B-92: Please address the following critical resources and how impacts to the resources will be mitigated:
 - (8) Air Quality – Any air quality impacts to nearby receptors similar to the noise impact analysis.
15. ARSD 74:29:02:04(2, 3, and 4): Please provide a narrative description of the pre-mining contours. Also, please provide post-mining cross-sections of the central and satellite processing areas. In addition, the location of the mine spoil piles need to be shown on Plates 5.3-1 and 5.3-2. Finally, Powertech should also refer to Section 6.4.3.1 in the reference in Table 1.1-2 for ARSD 74:29:02:04(2).
16. ARSD 74:29:02:11(10 and 13): Please submit a conceptual spill contingency plan that addresses the procedures Powertech will use to report spills of plant reagents, fuel, and other chemicals to all state and federal agencies and the personnel responsible for reporting the spills. Also, please provide conceptual plans and specifications for the land application diversions, berms, and catchment areas.
17. ARSD 74:29:02:12 (2, 4, and 5): Maps 1 through 3 in the Baseline Wildlife Report in Appendix 3.9-A and Plates 315, 335, 337, and 338 in Appendix 5.3-A need to be signed by the person preparing the maps and plates. Also, Powertech needs to identify the purpose the map is fulfilling on Exhibit 3.5-A-1 in Appendix 3.5-A and Plates 315, 335, 337, and 338 in Appendix 5.3-A. In addition, Plate 1 in Appendix 3.2C needs a legend.

Finally, please include each subsection of ARSD 74:29:02:12 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.
18. ARSD 74:29:05:14(2): The permit application reference in Table 1.1-2 for the regulation (Section 5.7.2.6) does not address chemical characterization of land application solution. However, Section 5.4.1.1.4.1 does. Please change the permit reference for this regulation in the table.
19. ARSD 74:29:05:16: Please explain how each of the following items is addressed in the site evaluation and compatibility assessment to show site compatibility with the chemical composition of the land application solution and the amount of solution to be applied:

- (1) Impacts to wildlife grazing in the land application area;
- (2) Site geology;
- (3) Areas slopes, including the slope of the land application;
- (4) Site erodibility, including the potential for erosion during land application that was not address in Section 8.2 of the ground water discharge permit application;
- (5) The distances from the land application area to flowing streams;
- (6) Effect on adjacent land uses from land application solution that is not addressed in Plate 2.2-2; and
- (7) Effect site weather conditions would have on land application that is not addressed in Section 5.5.10.

Also, Powertech needs to also refer to Section 8 in the ground water discharge permit application in Table 1.1-2 for each subsection of ARSD 74:29:05:16. Finally, since Powertech is referring to sections of the ground water discharge permit application in addressing each sub section of this regulation, please submit a hard copy of the replacement pages and plates dated 4/16/12, 6/18/12, 7/3/12, and 8/10/12 so we can insert them into our copy of the application. Electronic copies of the application and the replacement pages and plates should be sent to the review agencies and the Custer and Fall River Register of Deeds office.

20. ARSD 74:29:05:17(8): Please address the maximum allowable metals accumulations values for soils and vegetation in the land application areas in subsection 8 of this regulation. Also, please include each subsection of ARSD 74:29:05:17 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.
21. ARSD 74:29:05:19: Sections 6.4 and 6.8.4 do not address revegetation of land application areas in the event vegetative species or cover change significantly during land application of solutions. Please include a separate section in Section 6 that discusses revegetation of land application areas.
22. ARSD 74:29:06:02(1 and 4): Please address subsections 1 and 4 of this regulation for the postmine land uses of rangeland and agricultural or horticultural cropland. This can be included as a separate section in the reclamation plan in Section 6. For section 4, Powertech needs to explain how each land use is:
 - a. Obtainable according to data on expected need and market;
 - b. Supported by commitments from public agencies where appropriate;
 - c. Practicable based on Powertech's financial ability to complete and reclaim the proposed operation;
 - d. Planned pursuant to a schedule attached to the reclamation plan that integrates the mining operation and reclamation with each postmine land use;
 - e. Consistent with existing state and local land use plans and programs; and
 - f. Is of beneficial use.

Also please include each subsection of ARSD 74:29:06:02 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.

23. ARSD 74:29:07:02(7 and 9): Please describe how the location of topsoil and spoil stockpiles will facilitate reclamation. Also, please describe how the design of the project facilities is compatible with the surrounding land uses.
24. ARSD 74:29:07:06(3): In the mine permit application, Powertech mentions that a comparison area will be used to determine vegetation success during final reclamation. Since the comparison area is essentially a reference area, please address Section 3 of this regulation. Please show the location of the comparison area on a map and address whether the area is large enough to make comparisons, if it will be affected by future mining, if it will be managed so there will not be significant changes in the cover, productivity, species diversity, and composition of the vegetation, and it is representative of the postmining land uses of rangeland and agricultural or horticultural cropland.
25. ARSD 74:29:07:07(2, 3, 5, 6, and 8): Please submit an estimate of the topsoil replacement depth and the volume of topsoil required to attain this depth for the reclaimed areas of the mine site. Also, please compare this to the amount of topsoil estimated to be salvaged and address whether there will be excess or limited topsoil. If there will be limited topsoil as Powertech states in the mine permit application, please address section 8 of this regulation regarding topsoil substitutes.

Also, due to the poor vegetation noted on drill sites under Powertech's exploration permit, please address section 3 of this regulation and address analyzing the topsoil to see if fertilizer or other amendments will be required to establish and sustain a vegetative cover on reclaimed areas. In addition, please address whether Powertech plans to temporarily distribute a portion of the topsoil. If so, please address section 2 of this regulation.

Finally, please list the permit application reference for ARSD 74:29:07:07(6) in Table 1.1-2. This regulation was not included in the table. Powertech should also refer to Section 6.4 in the permit application reference for ARSD 74:29:07:07(5).

26. ARSD 74:29:07:08(2): In Section 6.2, Powertech needs to address compliance with South Dakota surface water quality standards for surface water sites and ground water quality standards in the land application area. Also, please include each subsection of ARSD 74:29:07:08 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.
27. ARSD 74:29:07:09(1, 3, 4, 5, 6, and 8): It appears the diversion ditches around the process facilities and ponds were designed for a 100 year, 24 hour storm event. However, in section 6 of this regulation, diversions around milling or processing facilities using potentially toxic chemical or materials **must** be designed to carry the flow from a six-hour probable maximum precipitation (PMP) event. Since the Central and Satellite Processing Facilities will be using potentially toxic chemicals and other materials, please submit revised ditch designs for the six-hour PMP event.

Also, for the surface water diversions, please describe how the bottom and side slopes of the diversions will be stabilized and how they will be protected from erosion. Also, please describe how the diversions will be constructed to minimize hazards to humans, wildlife, and livestock and if the ditches will discharge onto topsoil or spoil stockpiles or other unconsolidated material such as newly reclaimed areas. Finally, will culverts or bridges be necessary to allow access over the diversions? If so, please submit plans and specifications for the culverts or bridges.

Also, please include each subsection of ARSD 74:29:07:09 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.

28. ARSD74:29:07:10 (2 and 3): Please describe how the intermittent stream diversions will be stabilized and protected from erosion. Also, please include each subsection of ARSD 74:29:07:10 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.
29. ARSD 74:29:07:12(1, 2, 5, and 9): Will any roads be constructed within the cottonwood galley riparian zone along Pass Creek? If so, please address the feasibility of constructing roads in the riparian zone and describe how will negative impacts to Pass Creek are minimized. Also, please describe the drainage controls that will be used on the roads. Finally, describe how utility corridors such as power lines and pipelines will be constructed and maintained to control degradation of water quality and quantity.

Also, please include each subsection of ARSD 74:29:07:12 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.

30. ARSD 74:29:07:14: Please discuss whether the spoil material will be acid forming, toxic, or a source of water pollution and how it will be mitigated if it is a source. Also, please include each subsection of ARSD 74:29:07:14 and the applicable permit application reference in Table 1.1-2. The table currently does not list each subsection of the regulation.
31. ARSD 74:29:07:16: Please discuss the potential for subsidence in the well fields from in-situ mining activities.
32. ARSD 74:29:07:21(1): For an agricultural crops postmining land use, please describe the crop production in the surrounding area that will be used to determine reclamation success.

Technical Comments

1. Please submit on a disk, electronic copies of Plates 5.3-1, 5.3-2, and 6.4-1 and Figures 2.0-1 and 3.1-1 in .dwg format so we can use them in our ArcMap software to confirm affected, permit boundary, surface mine affected, reclamation, bonding, and other acreages.

2. Figures 3.1-1 and 3.2-6, Volume 1: Please show the affected acreage boundary on these figures. Also, Table 3.1-3 needs to show the distance of the nearest residences shown in Figure 3.1-1 from the proposed affected areas instead of the center of the permit area.
3. Secondary Access Roads, Page 5-77: In the second paragraph of this section, it states secondary access road culverts are designed to convey the discharge from a 2-year, 24-hour storm event. However, the table in Plate 5.3-3 states the culverts were designed for a 2-year, 6 hour storm event. Which storm event is correct?
4. Section 5.6.3.2, page 5-132: DENR should also be listed as one of the agencies that will be notified in the event of an excursion. Even though the NRC will have regulatory authority on excursions, DENR would like to be notified in the event there are any questions from the public, other agencies, or the press on any excursions.
5. The land application monitoring plans appear to only include the areas around the pivots. There is some concern that the areas where water could pool, such as catchment areas, can also have impacts to soil and vegetation in the land application areas. Please address other areas such as the catchment areas in the soil and vegetation sampling plans and monitoring plans.

Finally, in accordance with ARSD 74:29:06:01, the department concurs with Powertech and the surface owners that rangeland and agricultural or horticultural cropland are appropriate postmine land uses.

In addition to our procedural completeness and technical comments, we have also enclosed comments on the mine permit application from the Department of Game, Fish, and Parks. Please also respond to these technical comments.

Should you have any questions concerning this letter, please do not hesitate to contact me. Please be aware the department is continuing its review of the application, and any additional comments or questions developed will be forwarded to you.

Sincerely,

\s/

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\s/

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Enclosures