**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**
**RECOMMENDATION**
**POWERTECH (USA) INC.**
**LARGE SCALE MINE PERMIT APPLICATION**

The Department of Environment and Natural Resources is recommending conditional approval of Powertech (USA) Inc.'s application for its proposed Dewey-Burdock Project, a uranium in situ recovery mining operation. Powertech's address is PO Box 812, Edgemont, South Dakota 57735. The resident agent is CT Corporation System, 319 South Coteau Street, Pierre, South Dakota 57501. The legal location of the proposed operation is:

> E1/2 NE1/4, E1/2 SE1/4, SW1/4 SE1/4, S1/2 NW1/4 SE1/4, SE1/4 SW1/4, and S1/2 NE1/4 SW1/4 Section 20; W1/2, W1/2 W1/2 NE1/4, and W1/2 NW1/4 SE1/4 Section 21; S1/2 Section 27; N1/2 NW1/4, SW1/4 NW1/4, and SW1/4 Section 28; Section 29; Section 30; E1/2 Section 31; Section 32; NW1/4, SW1/4, SE1/4, and S1/2 NE1/4 Section 33; Section 34; and Section 35; T6S-R1E, Custer County
>
> Section 1; Section 2; Section 3; W1/2 W1/2 Section 4, Section 5; Section 10; Section 11; Section 12; NW1/4, W1/2 NE1/4, and NE1/4 NE1/4 Section 14; and N1/2 Section 15; T7S-R1E, Fall River County

General Location: Approximately 13 miles northwest of Edgemont, South Dakota.

The proposed mining operation will involve in situ leach recovery methods. Powertech will use injection wells to pump groundwater fortified with oxygen and carbon dioxide into ore deposits to dissolve uranium. Production wells will be used to pump the uranium-laden fluids to the surface for recovery. The fluids from the production wells will be processed at two separate facilities at the mine site to extract and concentrate the uranium. Powertech may also recover vanadium in the future which will require additional processing equipment. After uranium has been removed from the ore body underlying a well field, the groundwater will be restored to meet Nuclear Regulatory Commission restoration standards. Powertech will also be required to obtain a U.S. EPA aquifer exemption for any well field. Wastewater generated by the operation will be treated and disposed primarily by injection in Class V injection wells permitted through the EPA Underground Injection Control Program. If there is not sufficient capacity in the Class V wells, the excess wastewater may be disposed by land application permitted under a Groundwater Discharge Plan, which is subject to approval by the State Water Management Board. The proposed post-mining land uses are rangeland and agricultural or horticultural crops.

The total acreage within the proposed permit boundary is about 10,580 acres, mostly on private land. About 240 acres of Bureau of Land Management land are included in the permit boundary. Powertech proposes to affect 2,528 to 3,792 acres depending upon whether primary deep injection or secondary land application is used for wastewater disposal. Estimated production is one million pounds of uranium oxide ($U_3O_8$) per year. Estimated duration of the operation is 20 years.

Pursuant to ARSD 74:29:01:15, the department is recommending conditional approval of Powertech's permit application. The department has determined that the application addresses all of the requirements of SDCL 45-6B and ARSD 74:29, and should be approved subject to the conditions attached to this recommendation. The application, with the recommended conditions, provides to

those portions of the operation within the jurisdiction and regulation of the board, the necessary safeguards to protect the environment during and following the term of operation and ensures that the land is appropriately reclaimed to a beneficial use following termination of the operation. This recommendation does not cover those elements of the mine that were previously subject to regulation under ARSD Chapter 74:29:11 (In situ leach mining) including the well fields, well field monitoring, well construction, excursion detection and mitigation, uranium processing facilities, and ground water restoration. These elements will be regulated by the U.S. EPA and the federal Nuclear Regulatory Commission.

This recommendation is being mailed to you pursuant to ARSD 74:29:01:15. Petitions to intervene and become party to the proceedings pursuant to ARSD 74:29:01:09 must be filed with the Department of Environment and Natural Resources no later than April 22, 2013. Since intervention petitions were received after the Notice of Filing was published, a hearing on the mine permit application will be scheduled for a future date. All parties to the hearing will be notified of the date and location of the hearing when scheduled.

A copy of the application may be reviewed at the department's Minerals and Mining Program, 523 East Capitol Avenue, Pierre, South Dakota, on the department's web page at http://denr.sd.gov/des/mm/powertechpage.aspx, the Custer County Register of Deeds in Custer, South Dakota, or the Fall River County Register of Deeds in Hot Springs, South Dakota. Information about the contents of a petition to intervene can be found at ARSD 74:09:01:01 (http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:09:01:01). Petitions should be mailed to the Minerals and Mining Program, 523 East Capitol Avenue, Pierre, South Dakota 57501-3182.

Persons needing further information about this permit application may contact Mike Cepak, Minerals and Mining Program, Department of Environment and Natural Resources, 523 East Capitol Avenue, Pierre, South Dakota 57501-3182, or phone (605) 773-4201.

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

April 15, 2013

**RECOMMENDED CONDITIONS**
**POWERTECH (USA) INC.**
**DEWEY-BURDOCK PROJECT**

General

1. The conditional approval of this permit application incorporates by reference those representations made by Powertech, as to plans, specifications, operations, environmental impacts, and reclamation as contained in the permit application submitted October 1, 2012, with supplemental information submitted on December 4, 2012, January 10, 2013 and April 2, 5, 9 and 11, 2013. The representations contained in these documents are general conditions of this permit unless modified by a future technical revision, amendment, or permit, or modified by other conditions imposed by the Board of Minerals and Environment (board).

2. This permit and all rights under it are expressly conditioned on the truth of representations made by the applicant, Powertech, its officers, and employees in the application and supporting documentation relating to the application. Should any material representation prove to be false, this permit and all rights under it may be canceled by the board.

3. The operation shall be conducted in compliance with all Custer and Fall River County requirements. All Custer County permits shall be obtained as necessary.

4. This permit is conditioned upon compliance with all applicable laws and regulations.

5. Powertech shall abide by the recommendations of the South Dakota Department of Tourism, the South Dakota Department of Agriculture, the South Dakota Department of Game, Fish and Parks, and the South Dakota Department of Health, except as modified or restated in these conditions.

Other Permits

1. Prior to appropriating water for its operations, Powertech shall obtain the necessary State of South Dakota Water Rights permits.

2. Prior to commencing operations in the permit area, Powertech shall obtain a Source and Byproduct Material License (License) from the United States Nuclear Regulatory Commission (NRC).

3. Prior to commencing operations in the permit area, Powertech shall obtain an aquifer exemption and Underground Injection Control (UIC) Class III permit from the United States Environmental Protection Agency (EPA).

4. Powertech shall obtain a UIC Class V permit from the EPA prior to disposal of mine waste waters through underground injection.

5. Powertech shall obtain a State of South Dakota Ground Water Discharge Plan prior to disposal of mine waste waters by land application. Land application of liquid wastes may not occur if sufficient capacity is available to dispose of the liquid wastes via Class V UIC well(s) permitted through the EPA. If insufficient Class V UIC capacity is available as determined by Powertech and demonstrated to the Department of Environment and Natural Resources (department), the excess treated liquid wastes may be disposed via land application in accordance with the Ground Water Discharge Plan and associated conditions, with department approval.

6. Powertech shall obtain a US Army Corps of Engineers 404 permit, if required, prior to initiating construction or mining activities that affect the waters of the United States.

7. Powertech shall obtain a South Dakota Surface Water Discharge Permit, if required, prior to discharging to surface waters. No discharge or release to surface water is allowed without a Surface Water Discharge Permit.

8. Powertech shall obtain, as necessary, a South Dakota Surface Water Discharge Permit for Storm Water Discharges associated with construction activities (Storm Water Permit for Construction Activities) and/or industrial activities (General Storm Water Discharges Associated with Industrial Activities).

Water Quality

1. Process solutions, waste water disposal, or surface water runoff from the site shall not cause violations of South Dakota Ground Water Discharge Permit requirements, ground water quality standards (ARSD 74:54:01) outside of EPA's approved aquifer exemption boundary, or surface water quality standards (ARSD 74:51:01), as appropriate. There shall not be any unauthorized loss or release of solutions from the uranium recovery process to the surface environment or ground water outside EPA's approved aquifer exemption boundary.

2. On or prior to March 1 of each year the mine is in operation, Powertech shall submit an annual surface and ground water characterization report beginning the year the mine permit is granted. This report shall include, but not be limited to, water quality and water level data gathered and an interpretation of the data.

3. Referencing Powertech's Large Scale Mine Permit application, Powertech shall sample the surface water sites listed in Table 5.5-2 and the ground water sites listed in Table 5.5-1 on a quarterly basis, and shall sample monthly the sites listed in Table 5.5-3 for the parameters listed in Table 6.2-1.

4. The department reserves the right to modify the water quality monitoring defined in condition no. 3 above if water quality monitoring results indicate a modification is warranted. Modifications may include establishing additional surface and ground water monitoring sites, adding parameters, changing sampling frequency, or changing sampling schedules.

Surface and Ground Water Mitigation Plans

1. If any completed component of the facility contaminates ground water outside of the exempted aquifer or the mine permit boundary to the point that ground water quality standards are violated, or there is a discharge or release to surface water, the department may, in conjunction with an enforcement action, require Powertech to develop and submit a site-specific mitigation plan for department review and approval. The plan shall describe those measures that will be taken to mitigate and further prevent surface or ground water contamination. Such measures may include, but are not limited to:

   a. Obtaining a Surface Water Discharge permit;
   b. Installing additional water treatment system facilities; and
   c. Treating contaminated ground water or surface water.

   As part of the mitigation plan, Powertech shall include cost estimates for implementing mitigation measures. If the department determines that further remedial measures are needed, the department reserves the right to require Powertech to submit additional bond and plans and specifications, including construction quality assurance plans, for approval.

Sedimentation and Erosion Control

1. Powertech shall submit a final sediment and erosion control plan prior to the commencement of construction activities. Updates to the plan shall be submitted prior to the development of new well fields, roads, and facilities.

2. Erosion and sedimentation controls shall be in place and functional during all phases of clearing, earthwork, construction, mining, and reclamation, and during the postclosure period in the permit area, in accordance with Powertech's General Permits for Storm Water Discharges associated with construction and/or industrial activities. Powertech shall submit a map developed in accordance with a storm water permit for the mine permit area showing sediment and erosion control locations and type prior to any land disturbance in the permit area. The Best Management Practices/Storm Water Pollution Prevention Plan shall be updated as needed.

   Interim sedimentation and erosion controls shall be used on disturbed land during clearing, construction, mining, and reclamation until these areas are stabilized, in

accordance with the General Permits for Storm Water Discharges associated with construction and/or industrial activities.

3. Powertech shall inspect, clean out, repair, or upgrade the sediment and erosion controls as necessary to maintain compliance with its Surface Water Discharge Permit and General Permits for Storm Water Discharges associated with construction and/or industrial activities, as applicable. Prior to land disturbance, Powertech shall submit a maintenance plan for the control structures to the department for review and approval.

4. Powertech shall install rock check dams, diversion ditches, or other adequate structures needed to minimize channelization and erosion from surface runoff. Surface water diversions and final reclamation drainage channels must meet the requirements of ARSD 74:29:07:09.

Plans and Specifications - General

1. Powertech shall submit detailed plans and specifications for the following facilities prior to the construction of each respective facility:

   a. Diversion ditches and culverts;
   b. Land application systems, berms and catchment basins; and
   c. Major sedimentation and erosion control structures.

   Within 30 days of submission, the department shall approve, disapprove, conditionally approve, or request additional information necessary to approve the plans and specifications. The department will not unreasonably withhold its final approval of the plans and specifications if they reflect the technical parameters specified in the permit. If disapproved, the department shall identify those items necessary for approval. If plans and specifications are disapproved or a request for additional information is made, the department shall have 30 days after receipt of Powertech's response to approve, conditionally approve, or disapprove the plans and specifications.

2. Conditions placed on plans and specifications approvals by the department shall be considered permit conditions. Conditions placed on plans and specifications will not alter the conceptual design of the facility as permitted. Powertech may request a hearing before the board to contest any conditions placed on plans and specifications approvals.

3. If the department requires, Powertech shall submit to the department as-built drawings (record drawings) complete with technical specifications for facilities required to have plans and specifications submitted. Powertech shall submit the required drawings within 60 days of completion of each component of the facility.

Construction Quality Assurance (CQA)

1. As part of a detailed plans and specifications document, if the department requires, Powertech shall submit a CQA plan for construction to include diversion ditches, culverts, land application berms, catchment basins, major sedimentation and erosion control structures, and any associated lining systems. If required, the CQA plan shall be submitted to the department for review and approval.

2. Conditions placed on CQA methods, monitoring, testing, sampling, and documenting, shall be considered permit conditions. Powertech may request a hearing before the board to contest any conditions placed on CQA plan approvals.

Pond Leakage Response

1. Powertech shall notify the department of all pond leaks that are also reported to the NRC (reportable leak as defined by NRC). For leakage reporting to the pond leak detection system, Powertech shall give notice to the department via email or telephone within 48 hours after detection of reportable leakage. For leakage through the pond lining system and into the environment, Powertech shall report to the department immediately after detection.

2. For pond leakage into the environment, Powertech shall implement response actions as necessary to mitigate releases and cleanup contamination to state standards.

Air Quality

1. Powertech shall comply with all requirements under the Clean Air Act.

2. Powertech shall effectively control fugitive dust emissions during all phases of construction and operation. Powertech shall follow the applicable control measures or other techniques and measures that are equally effective as identified in the Natural Events Action Plan (NEAP) approved August 4, 2005 (information on the NEAP is available from the department's Air Quality Program).

Complaints

1. Powertech shall notify the department within five working days of written complaints concerning the operation. Powertech shall submit to the department a copy of any reports or mitigation plans regarding the complaints. The department, on finding that a complaint is based in fact and represents a permit violation or hazardous situation, will require Powertech to develop a mitigation plan to correct the violation or the hazard. The completion date for the mitigation plan will be set at the time of the department's request.

Wildlife Protection

1. Powertech shall install protective structures and make every effort to contain solutions and chemicals, and keep areas harmful to wildlife in a condition where access by wildlife is minimized. This includes, but is not limited to, process and retention ponds, process solution delivery systems, and process buildings. Process solution and retention pond design shall include wildlife protection features such as the following:

   a. Fencing with mesh and height specifications for large and small mammal exclusion;
   b. Pond design to include avian deterrent systems such as solution covers or hazing systems to prevent bird and bat contact with toxic solutions (if present at concentrations above department-approved trigger values); and
   c. Provisions or designs facilitating egress should wildlife become entrapped in steep sided ponds.

2. The final version of the avian monitoring and mitigation plan shall be submitted to the department and the Department of Game, Fish, and Parks for approval prior to the commencement of construction activities. The representations contained in the approved plan are general conditions of Permit No. 480 unless modified by a future technical revision, amendment, or permit, or modified by other conditions imposed by the board.

3. Powertech shall promptly notify the Department of Game, Fish and Parks if species or critical habitat of species designated as threatened or endangered on state or federal lists are discovered within the permit area.

4. Powertech shall report wildlife mortalities within 24 hours to the Department of Game, Fish and Parks.

5. Powertech shall secure a South Dakota Scientific Collector's Permit pursuant to ARSD 41:09:16 and SDCL 24-6-32, prior to taking or collecting any wildlife species. Powertech shall obtain any required federal permits, as necessary, prior to taking, possessing, breaking or destroying any nest or the eggs of the kinds of birds, for which the taking or killing is otherwise prohibited.

Biological Assessment and Monitoring

1. Powertech shall implement a response plan to assess impacts to the aquatic system if a discharge, release or spill of process solutions, waste water, or toxic solutions in concentration in excess of ground or surface water quality standards (ARSD 74:54:01 and 74:51:01) impacting aquatic resources occurs. The decision to implement this plan will be mutually agreed upon by the department and the Department of Game, Fish and Parks. This plan shall require Powertech to mobilize, as soon as practicable, a qualified person to complete a quantified assessment of damages to the stream

ecosystem. A preliminary report of these findings shall be provided to the state within 15 working days of completion of field data collection and a final report shall be provided to the state with 45 working days of receiving the preliminary report.

Spill Contingency Plan

1. All affected land under Permit No. 480 shall be included under Powertech's spill contingency plan. Prior to the commencement of construction activities, Powertech shall submit for department approval a final spill contingency plan covering Permit No. 480.

2. Powertech shall immediately report to the department any reportable discharge or release of regulated substances to the environment in accordance with SDCL 34A-12 and ARSD 74:34:01, or if it could cause a violation of surface or ground water quality standards. Powertech shall report suspected discharges of regulated substances to the department within 24 hours after the suspected release is identified.

3. Cleanup of any discharges or releases shall be initiated immediately and conducted in accordance with applicable state and federal laws, rules and requirements.

Well Fields

1. For any wells constructed, including injection, production and monitoring wells, Powertech shall prepare and file well construction records as required by ARSD 74:02:04:65. The well construction records shall be submitted to the water rights program within one month of well completion.

2. Powertech shall maintain records of well testing results, including those for mechanical integrity testing (MIT), and shall provide the records to the department upon request.

3. For any well abandoned and plugged, Powertech shall prepare and file well plugging records as required by ARSD 74:02:04:71. The plugging records shall be submitted to the water rights program on an annual basis.

4. For corrective actions done on wells that are improperly sealed, completed, or abandoned, Powertech shall submit copies of the corrective action plans. The corrective action plans shall be submitted to the water rights program on an annual basis.

Excursions

1. Powertech shall give notice of an excursion to the department at the same time notice is given to the NRC in accordance with NRC License Condition 11.5. Powertech shall also submit the excursion notification letter required by NRC License Condition 11.5 within seven days after the excursion is confirmed.

2. Powertech must restore ground water from any excursions outside the aquifer exemption boundary to either ambient conditions or South Dakota Ground Water Quality Standards (ARSD 74:54:01) as applicable.

   The department may take regulatory action against Powertech for any excursion outside the aquifer exemption boundary that violates South Dakota Ground Water Quality Standards.

Groundwater Restoration

1. The department's Ground Water Quality Standards in ARSD 74:54:01 apply to all ground water in the state with total dissolved solids concentrations less than 10,000 mg/L, except within EPA's approved aquifer exemption area. Outside of EPA's approved aquifer exemption area, Powertech's mining operation shall not cause ground water to violate the Ground Water Quality Standards. Inside EPA's approved aquifer exemption area, Powertech shall comply with all NRC ground water restoration requirements.

Land Application

1. Powertech shall submit for approval final plans and specifications and an operating and maintenance plan for the land application catchment basins prior to the commencement of land application.

2. Prior to the commencement of land application activities, Powertech shall submit its Standard Operating Procedures (SOP) for the operation of the land application system to the department for approval.

3. The application rate at the land application sites shall be controlled to prevent any surface runoff of the effluent. Powertech must ensure the application rate does not cause water to accumulate in the catchment areas or pond in the land application areas during normal operations to prevent impacts to wildlife.

4. Powertech shall develop a comprehensive sampling plan for soils and vegetation within the land application area for the department and Department of Game, Fish, and Parks approval prior to the commencement of land application operations. The plan shall address soil and vegetative sampling prior to and upon completion of land application within the catchment areas and pivot points and include a map showing

soil and vegetation sample locations. The plan shall also address the potential for metals bioaccumulation in vegetation from land applied solutions, including the following:

a. Characterizing solutions to determine monitoring parameters;
b. Environmental pathway and receptor analysis;
c. Baseline and reference metal concentrations in the terrestrial food chain;
d. Species monitoring strategies;
e. Reporting schedules; and
f. Data and method validation.

As part of the plan, Powertech shall collect baseline data on the soils and vegetation within the land application areas at least 60 days prior to the commencement of land application activities. Based on the baseline data, Powertech shall develop and submit for the department and Department of Game, Fish, and Parks approval trigger values for metals and metalloids in soils and vegetation. If a trigger value for a parameter is exceeded it will initiate a response action for mitigative and contingency measures.

5. Regarding condition no. 4 above, Powertech shall sample soils for the following parameters: calcium, magnesium, potassium, sodium, sulfate, SAR, arsenic, copper, lead, molybdenum, selenium, uranium, vanadium, and zinc. The department reserves the right to modify the soil sampling parameters if soil sampling results indicate a modification is warranted.

Maintenance and Retention of Records

1. Powertech shall retain records of all monitoring information at the mine site for the following:

a. Laboratory analyses, including a description of or reference for the procedures and methods used for sample collection, preservation, and quality control and the name, address, telephone number, and laboratory identification number of the laboratory performing the analyses;
b. Calibration and maintenance records and all original records of continuous monitoring instrumentation, and copies of all reports required by the permit;
c. The nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures; and
d. Information requested by the department for inclusion in the annual report.

Records shall be retained for a period of at least three years from the date of the sample, measurement, or report. This period may be extended by request of the department at any time. The department may require Powertech to submit the records to the department at any time during the retention period.

Submittal of NRC and EPA Reports and Documents

1. Powertech shall submit to the department, for information purposes only, the following information, reports or documents required by NRC or EPA for the Dewey–Burdock Project:

    a. Supplemental information regarding well fields B-WF-6, B-WF-7 and B-WF-8 in the Darrow Mine area, including hydrologic test packages, concerning the development of these well fields;
    b. All surface water and ground water sampling data provided to the NRC or EPA at the same time they are provided to the NRC or EPA;
    c. Water quality data from the four quarterly samples required by NRC under NRC License Condition 12.10 for each well within 2 km (1.25 miles) of the boundary of each wellfield as measured from the perimeter monitoring well ring. This data shall be submitted at the same time it is submitted to the NRC;
    d. Plans and specifications, including as-built or record drawings, for the following facilities:
        i. Central processing plant;
        ii. Satellite plant;
        iii. Process and retention ponds;
        iv. Well fields and header houses;
        v. Uranium byproduct material handling and disposal systems;
        vi. Modification to facilities, including:
            a) Pond water storage capacity and pond configuration;
            b) Conversion of waste water or storm water ponds to process ponds;
            c) Recovery processes within the processing facilities, including the recovery of vanadium; and
            d) Relocation of processing facilities;
    e. Plans for response actions to leakage detected in pond liner systems;
    f. Modifications to the mine plan;
    g. Modifications to well field configuration within the permitted affected areas;
    h. Modification to mine design and disturbance areas to include contiguous areas of potential ore;
    i. Modification to the size of area to be worked at any one time;
    j. Well field hydrogeologic data and injection authorization data packages for each well field;
    k. The semiannual report required by NRC under Materials License Condition 11.1 B, which discusses the status of the well fields in operation. The report progress of wellfields in restoration and restoration progress, status of any long-term excursions, and a summary of MITs conducted during the reporting period;
    l. The groundwater quality data required by NRC under Materials License Condition 11.3. This data includes the background groundwater quality for the ore zone, overlying aquifers, underlying aquifers, alluvial aquifer, and perimeter monitoring areas;

m. Reports regarding groundwater restoration provided to the NRC or EPA. This includes, but is not limited to, the following reports:
   i. Notification when mining of a well field or production area is completed and groundwater restoration has begun;
   ii. Target restoration values for the well field;
   iii. Restoration sampling;
   iv. Restoration progress reports;
   v. Any plans to modify groundwater restoration methods or schedules;
   vi. Notification when restoration values are achieved; and
   vii. Amendment of target restoration values or application for alternate concentration limits;

n. Any reports regarding excursions provided to the NRC or EPA, including, but not limited to, the following reports:
   i. Quarterly reports required by NRC under Materials License Condition 11.1 A that include a summary of excursion parameter concentrations, wells placed on or removed from excursion status, corrective actions taken, and the results for all wells that were on excursion status during the quarter;
   ii. The initial report of the excursion, including monitoring data or other information that indicates any contaminant may cause adverse impacts to an unauthorized zone;
   iii. A report describing the excursion and its cause;
   iv. Verifying analyses taken from the affected well and the monitoring wells adjacent to the affected well;
   v. Other results from excursion-related monitoring;
   vi. Remedial action plan and schedule for mitigating the excursion, including steps taken or planned to reduce, and eliminate the excursion;
   vii. A ground water analysis report;
   viii. Follow-up progress reports, including the quarterly and semi-annual reports required by the NRC under NRC License Condition 11.1; and
   ix. Amended remedial actions plans for excursions;

o. Radiation surveys provided to the NRC, including, but not limited to, the following reports:
   i. Radiation survey plans of surface facilities; and
   ii. Radiation survey results;

p. The Safety and Environmental Review Panel (SERP) annual report;

q. Any plans to modify the chemicals added to the lixiviant to include alternative oxidizing agents such as hydrogen peroxide and alternate complexing agents such as sodium bicarbonate;

r. Reports to EPA regarding the amount of waste water disposed via Class V UIC wells; and

s. Bonding or financial assurance related correspondence submitted to NRC and EPA, copies of NRC's and EPA's financial assurance review, and the final approved financial assurance arrangements with NRC and EPA.

Reclamation

1. Available topsoil or other material suitable for use as a plant growing medium shall be removed for road, land application system, diversion and erosion control construction, and stockpiled for use in reclamation. Topsoil stockpiles shall be clearly labeled and shall be stabilized to prevent wind and water erosion. Berms and/or other sediment and erosion control structures shall be installed on and around topsoil stockpiles to minimize erosional loss of soil resources.

2. Powertech shall submit updated topsoil salvage estimates, updated topsoil stockpile locations, and topsoil estimates for upgraded and new access roads prior to the commencement of construction activities.

3. Until final closure and bond release, Powertech shall maintain sufficient access to reclaimed areas to allow for any necessary reclamation maintenance. Roads not necessary for future use shall be reclaimed after the successful reclamation of all affected areas.

4. Pursuant to ARSD 74:29:08, Powertech shall conduct concurrent and interim reclamation on all areas where mining or land disturbance is completed.

5. Powertech shall submit to the department and the Fall River and Custer County District Conservationists any required test plot or similar data on the performance of the approved seed mix on reclaimed areas. Information on forage production must also be submitted with this data.

6. As one of the measures of revegetation success in reclaimed areas, vegetative cover in the reclaimed areas shall be equivalent to the vegetative cover in the reference areas as determined through statistical methods approved by the department.

7. Powertech shall submit a copy of the revised decommissioning, decontamination, and reclamation plan required under NRC License Condition 12.23 at the same time it is submitted to the NRC. If there are any changes to the reclamation plan as outlined in the mine permit application, Powertech shall submit a technical revision covering those changes. If there will be a change in the overall postmine land use, a new mine permit application is required.

Reclamation Bond (under SDCL 45-6B)

1. Pursuant to SDCL 45-6B-21, Powertech shall submit a reclamation bond or surety (hereinafter bond) in the amount of three hundred ninety-five thousand dollars ($395,000.00) to cover the first year of construction in areas where the board has jurisdiction. Pursuant to SDCL 45-6B-27, the bond will be reassessed on a yearly basis to account for any planned land disturbance for the coming year. Issuance of the permit is contingent on the department's receipt of the first installment of the bond.

At the time of this recommendation, it is the intention of the department to enter into a Memorandum of Understanding (MOU) with the NRC regarding bonding for the entire mine site, subject to approval by the board. Conceptually, the MOU will specify that the NRC will hold the state's portion of the bond and that the parties to the agreement jointly manage the bond in terms of adjusting it as site conditions change through the mine life and releasing it as portions of the facility are decommissioned and reclaimed. The department's portion of the bond will cover costs for reclaiming the land application area, access roads, and other surface areas not associated with the central processing plant, satellite plant, process ponds, and well fields. NRC's portion of the bond will include facility decommissioning (central processing plant, satellite plant, process and retention ponds, facilities that store radioactive or byproduct material, and well fields), groundwater restoration, non-Class III and V well plugging, radiological surveys, and environmental monitoring. EPA will have a separate bond covering the plugging and abandonment of all Class III and Class V injection wells.

If the MOU is in place by the time of hearing, issuance of the permit shall be contingent on Powertech submitting the first installment of the bond to NRC.

Postclosure

1. All affected land under Permit No. 480 shall be included in the postclosure plan.

2. Before the start of the postclosure period, Powertech shall submit an updated postclosure plan, to include an updated hydrologic monitoring plan, to the department for approval. The postclosure plan shall be updated to reflect actual site conditions at the time of mine closure, and shall include, in addition to hydrologic monitoring, vegetation monitoring, sediment and erosion control systems, and miscellaneous maintenance and care.

   The department reserves the right to modify postclosure monitoring plans, schedules and parameters if monitoring results indicate a modification is warranted.

3. The postclosure period shall begin at the time the first well field has achieved ground water restoration and is released by the NRC. As each subsequent well field is restored and as other elements of the facility are decommissioned and reclaimed, they will enter into the postclosure period. The postclosure period shall last for a period not to extend beyond 30 years after the last well field has achieved ground water restoration and other elements of the facility are decommissioned and reclaimed, unless the board determines that a longer or shorter period is necessary for compliance with all applicable performance standards or design and operating criteria.

4. Powertech's liability for the affected mine area shall continue until certification of the completion of the postclosure care plan is approved by the board.

5. Powertech grants to the board or its representatives permission to enter the reclaimed area to monitor reclamation success and to take air, water, and biological samples

during the postclosure period. The department shall give Powertech the opportunity to accompany any inspector from the department or other agent of the board during the postclosure period.

Postclosure Bond

1. In accordance with SDCL 45-6B-91, Powertech shall submit a postclosure bond to cover postclosure care and maintenance costs. The postclosure bond shall be submitted in increments as the NRC releases well fields that have achieved ground water restoration and as other elements of the facility are decommissioned and reclaimed. The postclosure bond will be used by the state to carry out the post closure plan if Powertech fails to perform required postclosure care. The postclosure bond amount will be calculated as each well field or other element of the facility is released by NRC and will be adjusted for inflation and site conditions on an annual basis.

2. The postclosure bond shall be held for a period of 30 years after reclamation bond release to ensure that all established reclamation and performance standards are met and that the affected land is stable and free of hazards, vegetation is self-regenerating, impacts to the hydrology and other natural resources have been minimized, and the site is maintenance free to the extent practicable. If the board finds that an extension of the postclosure period is necessary, the postclosure bond, or portion necessary to ensure continued compliance, shall be held for the extended period. If the board reduces the length of the postclosure care period, the postclosure bond shall be held until the end of the reduced period. Until the board finds that the site meets all applicable performance standards, the postclosure bond shall include funds to carry out required monitoring and maintenance work, and funds for contingencies. Funds left at the end of the postclosure period will be released to Powertech.

   When Powertech believes it is in full and continuing compliance with applicable performance standards, it may petition the board for release or reduction of the postclosure bond by submitting certification that postclosure care is complete.

3. The department and the board reserve the right to increase or reduce the amount of postclosure bond based on site performance factors including site stability, presence of hazards, revegetation success, hydrologic impacts, the need for long-term surface or ground water treatment, and releases of substances that adversely impact natural resources.

Technical Revisions

The board, pursuant to ARSD 74:29:03:16, hereby authorizes the department to approve proposed technical revisions to Powertech (USA) Inc.'s Dewey-Burdock Project mining permit for:

1. Modifying monitoring plans, locations, parameters, and time frames for subject matter areas not regulated by the NRC or EPA;
2. Modifying monitoring analytical methods, limits of detection and reporting requirements for subject matter areas not regulated by the NRC or EPA;
3. Modifying compliance limits or trigger values for chemical parameters for subject matter areas not regulated by the NRC or EPA;
4. Modifying plans and specifications for permitted facilities not regulated by the NRC or EPA;
5. Submitting and modifying quality control and quality assurance plans for facilities not regulated by the NRC or EPA;
6. Adding contiguous, affected land within the permit boundary with the total of such additions not to exceed twenty (20) percent of the permitted affected land area of 2,528 acres for this permit if deep disposal wells are used without land application to dispose treated wastewater or 3,793 acres for this permit if land application is used. The maximum amount of expansion allowed without land application (20% of 2,528 acres) is 505.6 acres, and the maximum amount of expansion allowed with land application (20% of 3,793 acres) is 758.6 acres;
7. Modifying or relocating diversions or erosion, sedimentation, or drainage control structures;
8. Modifying or relocating ancillary facilities within the permit boundary, including equipment storage areas, parking lots, office buildings, septic systems, perimeter fencing, utilities (phone lines, natural gas lines, power lines, water lines), sediment ponds, and stockpiles;
9. Relocating chemical or petroleum storage areas;
10. Modifying or relocating roads within the permit boundary;
11. Modifying or relocating utilities within the permit boundary;
12. Modifying topsoil stripping plans and relocating topsoil and spoil stockpiles;
13. Modifying the size of area to be worked at any one time;
14. Modifying dust control measures;
15. Modifying operating time tables for proposed operations;
16. Modifying the recovery process to include the potential recovery of vanadium;
17. Changing, modifying, developing, enhancing, or increasing water treatment technology, water treatment regimens and mineral processing technologies;
18. Modifying water usage and sources as allowed by water rights permits;
19. Modifying the size and configuration of the land application areas, including catchment areas, in conjunction with any changes to the ground water discharge plan;
20. Modifying the reclamation plan within the constraints of ARSD 74:29:03;
21. Modifying the reclamation time tables for proposed reclamation and decommissioning;
22. Implementing new and improved reclamation techniques as they are developed;
23. Modifying seeding mixtures or rates;
24. Using irrigation, fertilizer or nurse crops in reclamation;
25. Modifying reclamation or vegetation performance standards;
26. Relocating, adding or removing reference areas used to establish revegetation success;

27. Modifying stocking guidelines and reclamation success standards to reflect climatic conditions;
28. Modifying reclamation monitoring techniques;
29. Modifying livestock carrying capacities;
30. Modifying designated crop types for areas designated with the postmining land use of agricultural or horticultural cropland;
31. Modifying reporting procedures and parameters as allowed within the mining laws and mine permit; and
32. Modifying postclosure plans and monitoring time frames.

Technical revisions must comply with ARSD 74:29:03:03 and must be submitted to the department in writing. The department shall approve, disapprove, conditionally approve, or request additional information deemed necessary to approve technical revisions within thirty days of receipt.