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MINERALS & MINING PROGRAM

Department of Environment  
and Natural Resources  
PMB 2020  
Joe Foss Building  
523 East Capitol  
Pierre, South Dakota 57501-3182  
Attn: Steven M Pirner

April 17, 2013

Dear Mr Pirner,

I am writing to voice concern of the mine permit application for Powertech Dewey-Burdock Project (Reference ARSD 74:20:01:11) and the concerns it brings to our state. After reviewing the information submitted by Powertech, I find areas that have not been addressed.

#### 1. Induced Seismicity

According to the US Department of Energy Earth Science Division and the Lawrence Berkeley National Laboratory: [http://esd.lbl.gov/research/projects/induced\\_seismicity/primer.html#causes](http://esd.lbl.gov/research/projects/induced_seismicity/primer.html#causes)

"Although research is still being carried out on the detailed causes of induced seismicity, there are many different applications associated with induced seismic activity. In addition to the subsurface stresses, fluid pressures play a key role in causing seismicity. Explained in simple terms, fluids can play a major role in controlling the pressures that are acting on the faults. The fluid pressure in pores and fractures of the rocks is called the "pore pressure." The pore pressure acts against the weight of the rock and the forces holding the rock together (stresses due to tectonic forces). If the pore pressures are low (especially compared to the forces holding the rock together), then only the imbalance of natural in situ earth stresses will cause an occasional earthquake. If, however pore pressures increase, then it would take less of an imbalance of in situ stresses to causes an earthquake, thus accelerating earthquake activity. This type of failure, illustrated in Figure 1, is called shear failure. Injecting fluids into the subsurface is one way of increasing the pore pressure and causing faults and fractures to "fail" more easily, thus inducing an earthquake."

With this information about induced seismicity and the possibility of stress on the fault lines in the area, I would think that data and an impact study from Jewel Cave National Monument and Wind Cave National Park would be considered.

Current Jewel Cave statistics: The Third Longest Cave in the World. Length: 166.26 miles as of 3/15/2013 and Depth: 631 feet. Wind Cave statistics from March 2011: Length 136.13 miles and the sixth longest cave in the world.

I did find information with monitoring air quality from the pdf file <http://denr.sd.gov/des/mm/documents/Powertech/> from Jack Fritz, P.E. Project Manager Powertech dated December 2, 2013: "Powertech currently is performing detailed ambient air quality modeling that is being coordinated with NRC and EPA. The modeling will evaluate the potential impacts of emissions from the Dewey-Burdock Project on ambient air quality to nearby residences and potential near-field impacts within 50 km of the proposed permit area (including Jewel Cave National Monument). In addition, the modeling specifically will address potential impacts on air quality related values (AQRVs) at the Wind Cave National Park, the nearest Class I area. The modeling results will be publicly available and will be submitted to DENR upon request."

Data for the fault lines can be found at <http://www.sdgs.usd.edu/pubs/pdf/B-41.pdf> from the Geology Survey Program.

## 2. Public and Occupation Health Safety.

Powertech has stated that it shall abide by the recommendations of the South Dakota Department of Health; however, I could not find any documentation for this statement. Particularly any evidence of collaboration with hospital and clinics in the local area; if there was a public or occupational health safety issue with yellow cake.

South Dakota is a state listed on the Civil Division of the United States Department of Justice website concerning the Radiation Exposure Compensation Act. It does list workers and transporters who have been exposed to levels can be compensated for their health injury. Again, I did not see any documentation concerning safety of employees or subcontractors.

## 3. Finances

On the recommended conditions of reclamation bonds under SDCL45-6B of the amount of \$395,000; I have concerns with the financial status of Power Tech after reviewing their web page's financial statement of November 6, 2012. Please review the company's financial information on line. This is an interesting open source article from the Rapid City Journal. "Powertech asking South Dakotans to take huge risk" February 23, 2013 6:30 am • [Susan Henderson Third-generation cattle rancher who lives south of Edgemont](#)

"Powertech (USA), Inc., a Canadian company with just 10 employees owned by a stock market hedge fund, is planning a massive uranium mining operation near Edgemont. Last year, according to their unaudited financial report, they lost about \$1.6 million. The top four officers are paid about \$818,000. Powertech borrowed \$7.5 million in exchange for stock from a unit of GDF Suez, a huge global utility whose stock went

down 27 percent in the last year (see Financial Times January 2013.) This move diluted the already troubled stock.

About five years ago the Powertech stock was selling for \$5.43 per share; currently it is about \$0.12. Thus, stockholders who bought 100,000 shares for \$543,000 now have an investment worth \$12,000 - a huge loss. Powerful people in South Dakota, including legislators, government officials and local investors may have lost thousands. Understandably they want their money back.”

Also, the department should examine the open source document from the Department of Energy: “Fiscal Year 2003 Status Report” at <http://pbadupws.nrc.gov/docs/ML0332/ML033230312.pdf> : The Tennessee Valley Authority reports from Edgemont, SD, a major clean up site.

#### 4. Madison and Minnelusa Aquifer

Our state is a homestead state dependent on farmers, ranchers that support the world with produce. A major source of revenue is tourism and hunting. Mindful consideration of this project must be examined when you look at the financial loss of a spill by Powertech.

#### 5. Processing or Transportation

Documentation and decisions if Powertech will be transporting uranium 238 or yellowcake U308 to a processing plant in Nebraska or constructing a facility at the site.

These are just a few concerns the Department of Environment and Natural Resources should review when you are considering the Dewey- Burdock Project. The impact of your decision affects many generations of this state. President Ulysses S. Grant signed the mining law of 1872 to promote the development of the western United States, which has had a lasting environmental footprint. Now, one hundred and forty one years later we need to look at which footprint the United States' citizens should leave.

Sincerely,



Carol Laverick

CC: Governor Dennis Daugaard, Nuclear Regulatory Commission,  
Superintendent Larry Johnson Jewel Cave National Monument,  
Superintendent Vidal Davila, Wind Cave National Park