

RULES AND DIRECTIVES

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From: Ferne Pennyfather <pennyfather@yahoo.com>
To: <nrcprep@nrc.gov>
Date: Tue, Sep 4, 2007 7:56 AM
Subject: Uranium Recovery NO TO GEIS

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In Colorado a Canadian Company, Powertech Uranium Corp, has acquired rights to mine uranium on 5,760 acres close to the Weld-Larimer border near Nunn and only 15-20 miles from large centers of population. The uranium price has increased dramatically in recent years so profits over \$100 per pound are now achievable giving Powertech about \$1bn total profit. Consequently, Powertech is extremely anxious to capitalize on its mineral rights and is in the process of applying for the necessary permits.

Powertech proposes to extract uranium oxide using "in-situ recovery" (ISR) by drilling numerous holes 250-600 feet down and inserting a caustic liquid that dissolves uranium oxide and also other heavy metals. The solution is pumped to the surface for processing then the "cleansed" liquid is cycled round again. Powertech may also use surface mining in the south of their site where uranium deposits are shallower.

The geologists "Report on the Centennial Project, Weld County, Colorado" prepared for Powertech on March 28, 2007 glosses over the potential environmental impacts for both ISR and surface mining. However, recent history shows the mining industry has extremely unreliable environmental practices. Review of existing and previous ISR sites show numerous leakage events often of tens of thousands of gallons of toxic liquids. This June, Smith Ranch in Wyoming had a 198,500 gallon spill containing 8ppm uranium two days after spilling 840 gallons containing 41.2ppm uranium.

The ISR process raises a number of major concerns, the chief of which is water quality.

The Denver Basin groundwater aquifer covers 7,000 square miles from Weld to Colorado Springs and from the Front Range to Limon. Within the Denver Basin there are four aquifers on top of each other, one of which, the Laramie-Fox Hills aquifer, will be used for the ISR mining. As geologic and hydrogeologic systems are highly complex no guarantee can ever be given that the caustic liquid with dissolved uranium and other heavy metals will not leak into the Laramie-Fox Hills aquifer and then into the other aquifers poisoning the groundwater upon which hundreds of thousands of people, agriculture and industry depend. Additionally, leakage from surface equipment, pipes and containment ponds can result in contamination of the groundwater.

At the end of mining operations it is extremely questionable whether groundwater and site itself can be returned to pre-mining conditions. At the Bruni ISR mine in Texas there were significant issues. During operation it had continual problems with surface spills and underground excursions contaminating soil and groundwater. Final cleanup efforts were ineffective and the company requested the lowering of restoration standards to allow higher residual contaminants in the groundwater. After several years of restoration the company still had significant problems meeting those reduced standards. Companies are reluctant to invest the money to adequately restore sites as there is no return on investment for cleaning up contamination. Where authorities have required bonds to cover costs they have often been totally inadequate and the costs of clean-up were born by the taxpayer after the company has vacated the site. The clean-up costs of the

Canadian owned Summitville Mine in Colorado cost the taxpayer \$147.5 million not to mention the sterilizing of 18 miles of the Alamosa River with cyanide run-off.

In view of the above comments I believe that it is extremely irresponsible for the NRC to "fast-track" applications for in-situ uranium mining and I strongly believe that each case should be individually assessed in the most stringent manner. All in-situ sites are not the same either in terms of proximity to areas of large population, agriculture and industry or in relation to the geological conditions pertaining at the site.

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