

In-Situ Uranium Leaching-Related Activities by OPRA's Underground Injection Control Program

The Region 8 UIC Program is preparing to receive Class III UIC permit applications at two ISL uranium sites. Injection wells at both sites will be regulated by EPA Region 8. These UIC Class III ISL Permits will be the first nationally that EPA would issue and directly regulate under a direct implementation program. Powertech (USA) Inc. (Powertech) is proposing to submit permits for the Centennial Site in Weld County, CO, and the Dewey-Burdock site south of Rapid City, SD. The target receipt date for the Dewey-Burdock permit application is December 31, 2008. No target date has been set for the Centennial permit application.

Region 8 UIC program staff are engaging in the following activities to prepare for handling the permit applications in an efficient and informed manner.

I. Meetings and conference calls with the co-regulating agencies in Colorado and South Dakota to initiate an informal coordinated effort for permit application review and permit issuance for the ISL sites. These agencies include:

1. Colorado Department of Natural Resources (CDNR)
Division of Reclamation, Mining, and Safety
State Engineer's Office under the Division of Water Resources
2. Colorado Department of Public Health and Environment (CDPHE)
Hazardous Materials & Waste Management Division Radiation Program, which issues the radioactive materials license under agreement with the Nuclear Regulatory Commission.
3. Weld County Commissioners, who requested a presentation on EPA's UIC program and its role in regulating ISL mining. Weld County will issue a land use permit.
4. South Dakota Department of the Environment and Natural Resources (SD DENR)
Minerals and Mining Program
Ground Water Quality Program

II. Review of amended state ISL injection well regulations proposed by SD DENR¹ agencies. These amended state regulations are at least equivalent to federal UIC regulations, and will allow for increased ground water protection and restoration requirements to be applied to in-situ uranium operations. These more detailed amended state regulations will facilitate ~~easier~~ (smoother?) coordination between the Region 8 UIC Program and the DENR programs that regulate ISL injection wells in South Dakota.

III. Establishing a contract with an independent, third party contractor. The contractor will observe aquifer tests at the Centennial project site in Colorado, review the aquifer test data, and perform hydrologic and geochemical models simulating active mining and

¹ The CDRMS is currently updating state regulations related to ISL mining.

restoration in the project area. One reason the Centennial project is receiving ~~a much higher level of~~ **this level of** technical scrutiny is because many residences located near the proposed Centennial project rely on private wells for their drinking water, and many of those drinking water wells are completed in the same Fox Hills Formation aquifer as the mining zone aquifer. The data and models provided by the contractor will provide information how water withdrawal from those drinking water wells could affect and complicate ground water flow patterns in the project area, thus helping EPA develop permit requirements that better protect underground sources of drinking water (USDWs) in the Centennial project area. In contrast, the Dewey Burdock site in SD is mainly ranch land, with far fewer private drinking wells. At Dewey-Burdock, the private residences that did have drinking water wells completed in the mining zone aquifer agreed to have Powertech replace their drinking water wells with new, deeper wells that are not in hydrologic connection with the mining zone aquifer.

IV. The Region 8 UIC Program met with Powertech early on. Region 8 has developed permit application guidance documents and policy statements regarding criteria and processes used for permit application review, developing permit requirements, and for evaluating and approving exemption of a USDW aquifer for ISL mining. Federal regulations for UIC Class III facilities tend to be very general and do not provide detailed information helpful to companies developing permit applications and aquifer exemption requests.

V. In developing permit application guidance documents and policy statements, UIC staff also consulted or met with a number of mining companies with interests in Region 8, with consultants and experts on ISL mining, aquifer characterization and modeling, and with staff from state UIC programs and other EPA Regions.

VI. Coordination with WY DEQ Land Quality Division (LQD). In 2005, the LQD, the Division responsible for the delegated UIC Class III program, passed regulations governing noncoal rules (ISL regulations). At that time, Region 8 identified and commented to LQD regarding several issues that needed to be addressed prior to approving their regulations. One outstanding issue concerns the language used to describe the boundary of an exempted aquifer. EPA must approve any exemption of a USDW aquifer at an ISL project before injection is allowed. Region 8 EPA and LQD have met twice this year to discuss resolution of this issue. LQD intends to modify their regulations such that their aquifer exemption language is as strict as EPA regulations. At the request of LQD, EPA provided LQD with a formal letter denying approval of the already-passed noncoal ISL rules to provide to the Wyoming Environmental Quality Council (EQC). The LQD is expecting an ISL permit application with aquifer exemption in the near future which likely will need to be issued before any new noncoal rules become final.