

Industry questions timing of EPA's decision

Water concerns delay Wyoming uranium projects

By DUSTIN BLEIZEFFER - Star-Tribune energy reporter | Posted: Friday, March 26, 2010

The U.S. Environmental Protection Agency has told the Nuclear Regulatory Commission to go back to the drawing board with its site-specific environmental reviews of three proposed in-situ uranium mines in Wyoming.

The in-situ method of mining uranium involves a series of wells used to flush a sodium bicarbonate solution through a formation dissolving the uranium, which is then pumped to the surface.

Of particular concern to the EPA is the potential contamination of aquifers that provide drinking water.

Carol Rushin, acting regional administrator of EPA's Region 8 office, sent a letter to the NRC earlier this month criticizing the fact that the analysis for each project only considered one wastewater disposal method: deep "Class I" injection wells.

For example, Ur Energy's proposed Lost Creek project in Sweetwater County would inject wastewater at a depth of about 8,400 feet. But the Safe Drinking Water Act requires that Class I wastes be injected below the lowermost underground source of drinking water, Rushin wrote. In the Lost Creek area, both the Tensleep and Madison formations exist below the proposed 8,400-foot injection zone.

The same situation exists throughout many areas of the Rockies. That means if states are forced to enforce this view of Class I injection, it presents a major hurdle for dozens of proposed in-situ uranium proposals in the region, as well as potential carbon sequestration projects.

However, many of the companies proposing in-situ uranium mines in Wyoming already have pending Class I injection permits at the state's Department of Environmental Quality.

Like many states, Wyoming holds primacy of the Safe Drinking Water Act, which basically means state regulators -- not the EPA -- decide how to comply with the federal law.

"Just last year [Wyoming DEQ] approved three new Class I wells in the Powder River Basin. My question is, why are they [EPA] asking now? Why is it a problem this year? Nothing's changed in the rules and regulations," said Wayne Heili, vice president of Ur Energy's mining division.

Steve Jones, watershed protection program attorney for the Wyoming Outdoor Council, said there are other options for the in-situ uranium mining industry -- and that's to treat the water for proper surface or underground disposal.

After all, access to safe drinking water is one of the most critical issues in the western United States.

"The Madison aquifer is an important aquifer in Wyoming, and it should be protected," Jones said.

Heili said there are treatment options. But injection is the preferred and most economic option.

The Class I program applies to sources of drinking water that have a salinity concentration of 10,000 parts per million or less. However, many groundwater formations range below and above that threshold.

"It may well be that the Madison at the bottom of the (Powder River) Basin is more than 10,000 parts per million, but the Madison somewhere is 10,000 per billion or less and is used as a source of drinking water," said Wyoming State Geologist Ron Surdam.

For example, Gillette and Moorcroft pull drinking water from the Madison formation in northeast Wyoming. Even if the Madison has a salinity concentration higher than 10,000 parts per million in southern Wyoming where the Lost Creek project would inject wastewater above the formation, the same Class I requirement applies.

Surdam said that plans to inject liquefied carbon dioxide into deep saline formations face the same challenge under the Safe Drinking Water Act. The EPA is drafting rules for how it will permit carbon sequestration -- a strategy key to maintaining Wyoming's coal industry under pending climate change legislation.

Surdam said he hopes the EPA ultimately adopts Wyoming's view on the matter, which is to require the operator to demonstrate that a Class I injection will not harm an aquifer that could be a drinking water source.

Permitting process

In 2007, after several years of increased prices in the uranium market, the NRC received notice of more than 20 in-situ uranium mine proposals across the West, mostly in Wyoming. In response, the NRC launched a "generic" environmental impact statement to provide analysis of the in-situ leach mining process.

A final version of the document was issued in May.

At that time, the NRC decided to require a "supplemental environmental impact statement" for each mining project rather than a more simplified "environmental assessment," which the agency had considered.

The EPA's criticism is aimed at three of those supplemental environmental impact statements. In her March 3 letter to the NRC, Rushin indicated that if concerns listed by the EPA Region 8 are not adequately resolved, the matter would be referred to the Council on Environmental Quality.

The Council on Environmental Quality is under the authority of the White House and can settle disputes between federal agencies.

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By the numbers

* The energy derived from 1 pound of uranium is equivalent to 20,000 pounds of coal.

-- Source: Wyoming Mining Association

* More than 200 million pounds of uranium have been mined in Wyoming since 1954. More than 300 million pounds of "historic" reserves remain.

-- Source: Uranium One