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Is Storing Coal Slurry in Mines Truly Safe?

MORGANTOWN, W.Va., March 22, 2009 /The Associated Press/ Sunday Gazette-Mail. Regulators in a handful of Appalachian states that let coal companies inject slurry into abandoned mines say they're confident that the practice is safe, but an Associated Press survey shows they lack scientific data to answer citizens who believe aquifers, water wells and their own health are at risk.

None of the five states contacted by AP has studied the chemical composition of slurry, a byproduct left when clay, sulfur and other impurities are removed from coal to make it burn more efficiently. For decades, slurry has been injected back into abandoned underground mines in Appalachia as a cheap alternative to building massive dams or filtration and drying systems.

However, hundreds of West Virginians are suing coal companies in two cases, claiming chemicals and metals in the slurry have leaked into aquifers, contaminated well water and caused health problems ranging from kidney disease to cancer.

An e-mail survey of environmental regulators in West Virginia, Kentucky, Alabama, Pennsylvania and Ohio found that none of the states tracks exactly how much slurry is pumped underground.

"There's just a complete lack of oversight by any of the agencies that are supposed to be regulating this," activist Vivian Stockman of the Ohio Valley Environmental Coalition charges. "In our opinion, this is hazardous waste and it should be regulated and monitored."

The U.S. Environmental Protection Agency has for decades allowed states to use old underground mines as "backfill wells" for waste, documenting at least 5,000 sites in 17 states, at last count in 1999. EPA figures, though, also include sites for storing sludge, ash, sand and other materials, making it impossible to know how many contain liquid coal slurry.

The AP's review suggests the injection of coal slurry is rare in Pennsylvania and Ohio, which reported two injection sites each. Alabama operators reported 11 active sites, Kentucky 14, and West Virginia permits 15 companies to inject slurry.

The industry insists the wells are safer than dams, which can fail and flood communities.

Jason Bostic, vice president of the West Virginia Coal Association, says injection sites are chosen with health and safety – not just geology – as primary concerns. If the practice weren't safe, he adds, the EPA wouldn't allow it.

Neither the EPA nor the state regulatory agencies contacted by the AP has confirmed a link between a slurry injection site and contaminated drinking water. However, Stephen Lester, science director at the Center for Health, Environment and Justice in Falls Church, Va., argues that that's because scientists lack sufficient tools to track materials in injected deep underground. A pollution link that might seem obvious to someone with black or orange water streaming from the tap, he says, cannot be easily proven.

“So you end up with an engineer declaring what he believes is the case and a community saying, ‘Well, here’s what we have,”’ Lester says. “Almost invariably, the regulator is going to side with the person who has the degrees.”
Lester’s group has not tracked coal waste, but it has documented 43 leaks of other waste at 473 industrial injection wells nationwide since 1973. Half of those contaminated groundwater.

Kentucky Coal Association President Bill Caylor insists that injection is safe and says slurry is essentially coal, dirt, water and harmless chemicals that help suspended solids clump together. He points to a 2005 report in which a Kentucky task force concluded that slurry “has no more heavy metals that the soil nearby or the soil in your backyard.”

However, the study, completed after the failure of a 300 million-gallon Martin County Coal Corp. dam focused on short term surface exposure – not long-term ingestion of slurry.

No one can declare underground injection safe without meaningful scientific study, says organic chemist Bill Orem of the U.S. Geological Survey in Reston, Virginia.

“Does coal slurry have a health impact? I don’t know,” Orem says, “and for somebody to say it has no health impact is not correct, either.”

Coal contains substances that are potentially toxic and carcinogenic, Orem says, and his agency is eager to study the composition of slurry and the potential health hazards.

However, the agency has neither the invitation nor the access it needs: Waste areas and injection sites are on private property, and coal operators usually deny access to get samples.

“If we could get access to the sites,” Orem says, “we would do this for nothing.”

West Virginia regulators are having water and slurry samples from six injection sites analyzed by an outside lab and expect to report their findings in May, but one state legislator has already introduced a bill to impose a moratorium on injections until more is known.

The EPA hasn’t studied underground injection of coal waste in a decade, but is said in 2002 that its existing rules were adequate to protect groundwater. In response to recent AP questions, the EPA pointed to the 2002 document.

While EPA does administer some injection programs, it has acknowledged that many states run their own, with regulations that “vary significantly in their scope and stringency.”

Allen Hershkowitz, a senior-scientist at the Washington-based Natural Resource Defense Council, has studied underground injection for decades and says the regulatory framework is “fraught with loopholes.”

“[The] EPA has been particularly negligent when it comes to coal-waste management,” he said. “Frankly, it would not be an unfair characterization to say [the] EPA’s behavior when it comes to coal-waste management borders on criminal.”

Underground injection is neither ecologically nor economically defensible, Hershkowitz said, nor allowing it subsidizes the industry and discourages waste-disposal innovation.

“Everything about this is wrong,” he said.

SOURCE The Associated Press