

## Company touts government grants to use acid mine drainage for fracking

Manuel Quiñones, E&E reporter

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A unit of Battelle Memorial Institute, the well-known nonprofit science and technology company, is touting new government grants that will allow it to increase the use of polluted water spewing out of coal mines for hydraulic fracturing operations.

Lawmakers and regulators in Pennsylvania have been wanting to encourage oil and gas drillers to use at least some of the 300 million gallons of often smelly and discolored water that comes out of flooded abandoned mines.

Last year, the Pennsylvania Department of Environmental Protection released a final white paper aimed at helping companies navigate bureaucratic, permitting and liability issues. As a result, the practice is beginning to take off.

Winner Water Services Inc., a Battelle venture, earlier this month announced receiving a \$1.2 million grant from the Department of Energy and another \$500,000 from the Pennsylvania Department of Community and Economic Development to treat polluted mine water at a Butler County, Pa., site and then use it in the fracking process.

"The first year is critical for us," said WWS CEO John Ontiveros, stressing the need to prove the technology and its long-term market viability.

"After that," he said in an interview, "we're looking at places in northeast Pennsylvania where they have a lot of abandoned mines and some challenges getting water."

Battelle and Winner Water Services, which markets itself as a leader in providing water for frac jobs, tried out their so-called HydroFlex water treatment technology at a pilot site in Johnstown, Pa., in 2008.

"We've developed an extractant that removes the iron and the sulfates," creating water that is cleaner but still below drinking standards, said Ontiveros. "And then we remove those contaminants and recycle the extractant."

But cost concerns kept the technology from taking off. Despite the magnitude of the acid mine drainage problem in the Keystone State, scarce federal and state funds have communities looking for the cheapest treatment options, often using limestone and settling ponds.

They also face liability issues. Even nonprofits worry that cleaning water from abandoned mines means regulators will make them responsible for the site or any further problems.

The growth of fracking, a water-hungry enterprise, plus the white paper addressing liability concerns, is allowing companies to make money from treating polluted water and selling it for frac jobs.

"We're one of the pioneers," said Ontiveros. "We may not provide [water for] the entire frac [job], but we may be one of the multiple sources that provide the water."

The practice is called a win-win because acid mine drainage often goes untreated and fracking operations don't necessarily need clean water. Seneca Resources Corp., an energy firm, has also boasted using coal mine-impaired water for hydraulic fracturing.

"We hope it gets huge," Ontiveros said, noting that he is in talks with potential users in places like Colorado. "This technology is adaptable."

In a separate development, a peer-reviewed study published late last year in the journal *Environmental Science and Technology* suggested that acid mine drainage could help remove radioactive pollutants from hydraulic fracturing wastewater.

The practice of using mine wastewater in fracking is not without controversy, however. Environmental groups have protested Pennsylvania legislation meant to add further liability protections to companies wanting to use mine water for fracking ([EnergyWire](#), Jan. 21).

Those environmental groups worry about letting polluters off the hook and about further damaging the environment by taking impaired water from one location and injecting it in another.

"The activities that would occur as a result of the enactment of SB411 are far-reaching and require comprehensive analysis and yet the General Assembly has not conducted any study or analyses of the potential impacts," groups told lawmakers in a letter. "This is a consequential mistake that must be avoided."