WUC

Water Utility Council of the PA-Section, American Water Works Association (PA-AWWA)

GOVERNMENT RELATIONS UPDATE

From Gmerek Government Relations, Inc.

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PA- Section, American Water Works Association
National Association of Water Companies
Water Works Operators' Association of Pennsylvania

EPA Announces Funding to Create Two New Drinking Water Innovation Centers

On September 9, 2014, the U.S. Environmental Protection Agency (EPA) continues its commitment to improving America's drinking water by providing over $8 million to create two national centers for research and innovation in small to medium sized drinking water systems.

"These centers will help to develop innovative and practical solutions for challenges faced by smaller drinking water systems, which make up the majority of public water systems in the United States," said Lek Kadeli, Acting Assistant Administrator for EPA's Office of Research and Development. "Providing cost effective solutions to help these systems deliver safe, high quality drinking water will help improve the health, economy and security of our nation's communities."

The recipients are the University of Colorado Boulder's Design of Risk Reducing, Innovative Implementable Small System Knowledge (DeRISK) Center, and the University of Massachusetts Amherst's Water Innovation Network for Sustainable Small Systems (WINSSS) Center. These two EPA funded centers will develop and test advanced, low cost methods to reduce, control, and eliminate groups of water contaminants that present challenges to communities worldwide.

Ninety seven percent of the nation's roughly 160,000 public water systems serve fewer than 10,000 people each. These drinking water systems face many obstacles including limited resources, aging infrastructure, and complying with a variety of regulations. These centers will help strengthen the technical, managerial, and financial capacities of drinking water providers throughout the country. Both centers will collaborate with a range of stakeholders to support problem-oriented research on groups of water contaminants and their origins. This research marks a move towards developing transdisciplinary results that will be nationally acceptable and applicable.

These grants, part of EPA's research on safe and sustainable drinking water, support the development of water clusters-- networks of businesses, researchers, and others involved in water technology. Colorado and Massachusetts are both home to water cluster organizations. These organizations are leading the way in developing cutting-edge technologies and bringing them to the market, where they can solve water challenges that

threaten health and daily activities while promoting technological innovation and economic growth.

For more information on the grant recipients and centers: http://www.epa.gov/ncer/smalldw

For more information on the water technology innovation cluster: http://www2.epa.gov/clusters-program

Source: EPA Press Release, 9/9/2014

Chesapeake Bay Management Team Meeting

The Department of Environmental Protection (Department) will hold a meeting of the Chesapeake Bay Management Team on Thursday, September 18, 2014, at 9:30 a.m. at the Department's Bureau of Laboratories, 2575 Interstate Drive, Harrisburg, PA.

Questions concerning the meeting can be directed to Rhonda Manning at (717) 772-4472 or rmanning@pa.gov. The agenda and meeting materials for the meeting will be available through the Department Interstate Waters Office web site at www.dep.state.pa.us (DEP Keywords: "Interstate Waters Office").

Source: PA Bulletin, 9/13/2014

House Environmental Resources to Consider Legislation Removing Stream Buffer Protection

On September 15, 2014, the House Environmental Resources and Energy Committee will meet to consider legislation including a bill to remove the stream buffer requirements in special protection watersheds. The agenda includes:

- House Bill 1565 (Hahn-R) amends The Clean Streams Law, further providing for potential pollution. Specifically, the legislation would eliminate the current requirement for stream buffers in High Quality and Exceptional Value streams. However, an amendment will be offered to require alternative best management practices and additional stream buffers elsewhere in the watershed.

- Senate Bill 1155 (Scarnati-R) amends the Surface Mining Conservation and Reclamation Act, establishing the Aggregate Advisory Board within the Department of Environmental Protection.

- House Resolution 925 (Rapp-R) is a Resolution directing the Joint State Government Commission to conduct a study and report on the scale and impact of wind turbines in this Commonwealth.

Source: Gmerek Government Relations

$3 Million in Small Water Sewer Program Grants Announced By CFA

The Commonwealth Financing Agency Tuesday announced the award of $3 million in Small Water and Sewer Program grants to 30 projects across the state. Click Here for a list of grants awarded.

Source: PA Environmental Digest, 9/15/2014

Penn State: Residual Fracking Water Not a Risk to Groundwater

Hydraulic fracturing -- fracking or hydrofracturing -- raises many concerns about potential environmental impacts, especially water contamination.

Currently, data show that the majority of water injected into wells stays underground, triggering fears that it might find its way into groundwater.

New research by a team of scientists should help allay those fears.

In a paper published in the current issue of the Journal of Unconventional Oil and Gas Resources, Terry Engelder, professor of geosciences, Penn State; Lawrence Cathles, professor of earth and atmospheric sciences, Cornell University; and Taras Bryndzia, geologist, Shell International Exploration and Production Inc., report that injected water that remains underground is sequestered in the rock formation and therefore does not pose a serious risk to water supplies.

Hydraulic fracturing is a drilling technique commonly used to extract gas from previously inaccessible "tight" gas reserves, including gas trapped in shale formations such as the Marcellus. During this technique between 1.2 and 5 million gallons of water mixed with sand and chemical additives are injected at high pressure into each well to fracture the rock and release the gas.

Typically less than half of the injected water returns to the surface as "flowback" or, later, production brine, and in many cases recovery is less than 30 percent. In addition to the chemical additives, flowback water contains natural components of the gas shale including salt, some metals, and radionuclides and could impair water quality if released without proper treatment.

While flowback water can be managed and treated at the surface, the fate of the water left in place, called residual treatment water or RTW, was previously uncertain.

Some have suggested that RTW may be able to flow upward along natural pathways, mainly fractures and faults, and contaminate overlying groundwater. Others have proposed that natural leakage of the Marcellus is occurring without human assistance through high-permeability fractures connecting the Marcellus directly to the water table and that hydraulic fracturing could worsen this situation.

The researchers report that groundwater contamination is not likely because contaminant delivery rate would be too small even if leakage were possible, but more importantly, upward migration of RTW is not plausible due to capillary and osmotic forces that propel RTW into, not out of, the shale.

Their study indicates that RTW will be stably retained within the shale formation due to multiphase capillary phenomena.

"Capillary forces and coupled diffusion-osmosis processes are the reasons the brines and the RTW are not free to escape from gas shale," said Engelder. "The most direct evidence of these forces is the observation that more than half the treatment waters are not recovered. Introducing treatment water causes gas shale to act like a sponge based on the principles of imbibition.

"Imbibition into gas shale is made possible by the high capillary suction that a fine-grained, water-wet shale matrix can exert on water. As water is wicked into gas shale, the natural gas in the shale is pushed out. The capillary forces that suck the RTW into the gas shale keep it there."

Estimating imbibition is complicated, but simple experiments conducted by the researchers show that water can be readily imbibed into gas shale in quantities fully capable of sequestering RTW. The researchers demonstrated this process in a series of experiments on cuttings recovered from the Union Springs Member of the Marcellus gas shale in Pennsylvania and on core plugs of Haynesville gas shale from NW Louisiana.

"The hydraulic fracturing fluid consists mostly of very low-salinity surface water, while the shale contains high concentrations of water soluble inorganic cations and anions," said Engelder. "During hydraulic fracturing water is lost to the formation while inorganic cations and anions are transferred from the formation to the hydraulic fracture. Diffusion osmosis assists the rapid imbibition of water by the shale and diffusion of ions into the treatment water causing the high salinities observed in flowback fluids. The point to be emphasized here is that this osmotic pressure pushes the hydraulic fracture fluids into the shale matrix, expelling gas and cations to make high-salinity flowback in the process."

The researchers believe that in addition to there not being enough water in the shale to contaminate groundwater, the most important point of their work is that multiphase capillary phenomena must be considered in cases where a non-aqueous fluid is present in the subsurface pore space.

The vadose zone -- the area from the surface to the groundwater -- and oil and gas migration cannot be understood using single-phase, porous-media flow methods, and any policy insights or prescriptions based on single-phase considerations will be fatally flawed, they argue.

"The practical implication is that hydrofracture fluids will be locked into the same 'permeability jail' that sequestered overpressured gas for over 200 million years," said Engelder. "If one wants to dispose of fracking waters, one could probably not choose a safer way to do so than to inject them into a gas shale."

The Research Partnership to Secure Energy for America and Penn State's Appalachian Basin Black Shale Group, an industrial affiliates group, supported this research.

Dr. Engelder may be reached at 814-865-3620 or sending email to: jte2@psu.edu .

Source: PA Environmental Digest, 9/15/2014

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