



October 31, 2008

Mr. Richard A. Cairo
General Counsel
Susquehanna River Basin Commission
1721 N. Front Street
Harrisburg, PA 17102-2391

RE: Proposed rule to require review and approval of any natural gas well development project targeting the Marcellus, Utica, or other shale formations and involving the withdrawal or consumptive use of waters of the Susquehanna River Basin.

Dear Mr. Cairo,

On behalf of Citizens Campaign for the Environment's (CCE) 80,000 members, CCE appreciates the opportunity to submit comments on the Susquehanna River Basin Commission's (Commission) proactive proposal to protect the resource and the communities that depend upon the Susquehanna River to avoid immediate and cumulative adverse impacts from the large influx of proposed projects to extract natural gas from local shale formations. CCE recognizes the potential threats to public water supplies, natural resources, and human health from industrial efforts to extract natural gas from shale formations.

Hydraulic fracturing to extract natural gas from shale is without a doubt gaining momentum as the US grasps to maintain its current energy supply. Natural gas extraction from shale formations is becoming more commercially viable, increasing interest in previously unreachable sources, like the Marcellus shale formation in the Eastern United States. Marcellus shale, like most shale formations, tends to split easily along the bedding plane. **Due to the Marcellus shale's tendency to easily erode, the hydraulic fracturing process poses significant risks including the possibility of contaminating ground and surface water during the extraction process.**

Hydraulic fracturing uses water, sand, and chemicals to fracture geological formations to access natural gas veins. As of right now, it is unknown how much water would be required to fracture the Marcellus shale formation. In the Barnett shale formation in Texas, fracturing combined with the horizontal well drilling uses approximately 3.5 million gallons of water per well, per frac job (each fracture is known as a frac job).

Each well would conceivably be fractured multiple times. According to Halliburton, multiple frac jobs are necessary as only 10% of gas in place is recovered from the initial completion. Wells in the Barnett shale formation have been fractured as many as ten times.

Aside from the millions of gallons of water that must be used for each well, chemical additives are often included. Chemical additives from oil shale fracturing in the Western States have included biocides and hydrochloric acid. Currently, the public in these states does not have access to the specific composition of the chemical mixtures used for oil and gas fracturing due to confidential business information claims made by the oil and gas corporations.

The Marcellus shale formation in New York is known to house unusually high levels of uranium, and the formation in general is known for its deposits of pyrite. Both of these elements are known as Normally Occurring Radioactive Materials (NORMs) and are redox-sensitive elements, meaning that a chemical reaction takes place when they are exposed to oxygen. Uranium in rock and soil is a common NORM in the United States, however, the Southern Tier of New York is already plagued by vapor intrusion from high radon levels and there is a high probability that uranium saturated water and rock will come to the surface during the extraction of Marcellus shale. Radon intrusion is a classified carcinogen by the US Environmental Protection Agency, and threatens human health and devalues property and quality of life for local residents. Pyrite is another NORM that is common in the Marcellus Shale formation. When pyrite is oxidized and exposed to another sulfate it has the potential to create sulfuric acid. Exposure of Marcellus shale layer in other parts of the geologic formation have lead to increased erosion and increased acidity in the surrounding ecosystem.

Extracting natural gas from the Marcellus shale formation not only poses risks to the Susquehanna River, but to all the inhabitants surrounding the River and the connecting ecosystems of the Delaware River, Hudson River, and drinking water sources in the Catskills. CCE strongly urges the Susquehanna River Basin Commission to not only carefully examine each and every proposed natural gas project affecting the Susquehanna, but to remember the effects of these projects can reach far outside of the river basin.

CCE offers the following specific comments on the proposed rulemaking.

1. Expanding project scope subject to Commission approval to include natural gas well development and related activities.
 - a. **Project definition.** CCE strongly supports the Commission taking a holistic approach to protecting the Susquehanna River and its communities by including the natural gas drilling pad for exploratory and production wells, as well as all water related facilities and activities related to natural gas drilling as in the definition of Project. **CCE recommends adopting the project definition as defined in section 806.3.**

2. Standards for water consumptive practices
- a. **Public notification.** CCE supports the Commission requiring the Project sponsor to notify the public of the notice of intent (NOI), with a sufficient description of the project and contact information in local newspaper of general circulation. CCE recognizes the wide geographic impact proposed projects may have the resource and its communities and the interested public must have ready access to the information. **CCE recommends that, in addition to publishing NOI in newspaper of general circulation, the project sponsor must post the information on the internet in a searchable format.**
 - b. **Municipal notification.** CCE recognizes that municipalities, in the Susquehanna River Basin, but outside of the defined project area, may be impacted by the project proposal and should be notified by the project sponsor of the proposed project. **CCE recommends that section 806.22, part (f), subpart (B) should read:**
 - i. **Send a copy of the NOI to the appropriate state agencies of the member state and to each municipality and county in the affected basin.**
 - c. **Reporting requirements.** CCE supports the Commission requiring natural gas extraction projects to include robust monitoring requirements. Including all water delivered or withdrawn per source, per day for each gas well for well drilling, hydrofracture stimulation, hydrostatic testing, and dust control, as well as all other water and fluids used by the project, including additive, flowback and brines. Section 806.30 requires quarterly reporting of this data to the Commission. **CCE recommends that the Commission require the project sponsor submit monitoring data quarterly in a format that can be readily posted to the Commission's website and easily searched and accessible for municipal officials and the public at large.**
 - d. **Disclosure of chemical additives.** The specific chemicals and additives used in drilling and hydrofracture stimulation and testing must be publicly available. Attempts by project sponsors to claim confidentiality or propriety on chemical compositions of solutions injected into the watershed and geological formations within the basin must be subject to rigorous environmental and public review. Protection of drinking water quality and public health must prevail over claimed "confidential business information." **CCE recommends the Commission require project sponsors to disclose, publicly, the specific chemical composition of additives and fluids and discuss how the chemicals interface and/or impact water quality, aquatic life, structural integrity of Marcellus, Utica or other shale formations and public health impacts by acute and chronic exposure.**

- e. **Flowback fluid or brine production and treatment requirements.** CCE believes the Commission should improve consistency, transparency of reporting, and proactive protection of the environment and public health by the project sponsor on flowback fluid and/or brine production, treatment, and management in 806.22 (5) and (7). The Commission proposes to require accounting for flowback fluids or brines separate from daily consumptive use while excluding flowback fluid and brine production from mitigation requirements. Additionally, the Commission proposes to require project sponsor to “demonstrate to the satisfaction of the Commission that all flowback and produced fluids, including brines, have been treated and disposed in accordance with applicable state and federal law.” Requiring project sponsors to demonstrate compliance is a critical component and CCE understands that success will be dependent upon a clearly articulated and reviewed management plan to ensure liquids are treated and managed properly to protect the resource and its communities. **To that end, CCE recommends the Commission require project sponsors to develop and execute a flowback fluid and brine use, production and treatment management plan, subject to public review and Commission approval.**
- f. **Water quantity extraction public disclosure.** Water is a public resource and the public has the right to know a reasonable estimation of quantity of water used for extraction purposes and a reasonable estimation returned to the basin through this process prior to permit issuance. **CCE recommends water report analysis on the quality and quantity of water returned to the basin be made publicly available prior to Commission approval of permits associated with natural gas drilling.**
- g. **Well decommissioning plan.** The oil and gas industry plan for the end of production and our communities should have a well decommission plan. It is critical that the project applicant demonstrate plans, and financial resources to effectively decommission the well at its end of life. **CCE recommends the Commission require a well decommissioning plan to be developed, subject to public review, and Commission approval, as a condition of permit.**
- h. **Establish Public Water Protection Fund.** Establishing a dedicated fund to mitigate unforeseen water impairments resulting from modern natural gas drilling techniques in the Marcellus or other shale formations is a critical public health and public resource protection measure. **CCE recommends the Commission require project applicants, upon approval, to pay into a dedicated, interest bearing account, to be used to mitigate unforeseen water impairments and ensure utmost protection of the public resource.**

In closing, CCE appreciates the Commission's efforts to protect the Susquehanna River Basin and its residents. CCE applauds the Commission for proposing the rule making to ensure all aspects of natural gas drilling in the watershed, especially the interest in extracting natural gas using resource-intensive hydraulic fracture technologies from the unstable Marcellus shale. CCE urges the Commission take proactive measures to ensure transparency and rigorous environmental review of proposed projects to ensure the protection of the Susquehanna River and the public health of all residents in and out of the basin.

Thank you for the thoughtful review of our comments.

Respectfully submitted,

Dereth Glance
Executive Program Director

Sarah Eckel
Program Coordinator

cc:

Kenneth Lynch, Director, NYS DEC Region 7
Ray Yacuzzo, Special Assistance, NYS DEC Region 8
Cathy Curran Myers, Deputy Secretary for Water Management, PA DEP
John T. Hines, Executive Director, Water Planning Office, PA DEP
Dr. Robert M. Summers, Deputy Secretary, MD Dept of the Environment
Herbert M. Sachs, Special Projects Coordinator, Office of the Secretary, MD Dept. of the Environment
BG Todd T. Semonite, Commander, North Atlantic Division, U.S. ACoE
Colonel Peter W. Mueller, Commander & District Engineer, U.S. ACoE, Baltimore District
Colonel Christopher J. Larsen, Deputy Commander, U.S. ACoE, North Atlantic Division
Lloyd C. Caldwell, P.E., Director of Programs, North Atlantic Division, U.S. ACoE
Commissioner Pete Grannis, NYS DEC
Commissioner Emily Lloyd, NYC DEP
Honorable David Paterson, Governor of New York
Honorable Charles Schumer, United States Senate
Honorable Hillary Clinton, United States Senate
Honorable Maurice Hinchey, United States Congress
Honorable Michael Arcuri, United States Congress

Honorable Louise Slaughter, United States Congress
Honorable Kirsten Gillibrand, United States Congress
Honorable Dean Skelos, New York State Senate
Honorable Carl Marcellino, New York State Senate
Honorable John Bonacic, New York State Senate
Honorable James Seward, New York State Senate
Honorable Hugh Farley, New York State Senate
Honorable Thomas Libous, New York State Senate
Honorable David Valesky, New York State Senate
Honorable George Winner, New York State Senate
Honorable John DeFrancisco, New York State Senate
Honorable Michael Nozzolio, New York State Senate
Honorable Catharine Young, New York State Senate
Honorable Dale Volker, New York State Senate
Honorable Sheldon Silver, New York State Assembly
Honorable Robert Sweeney, New York State Assembly
Honorable Donna Lupardo, New York State Assembly
Hon. Clifford Crouch, New York State Assembly
Honorable Gary Finch, New York State Assembly
Honorable Barbara Lifton, New York State Assembly
Honorable Peter Lopez, New York State Assembly
Hon. Thomas O'Mara, New York State Assembly
Adrienne Esposito, Executive Director,
Citizens Campaign for the Environment