



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Erik Rourke
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19007

Dear ^{Erik} Mr. Rourke:

Thank you for the opportunity to provide comments on two proposed Stone Energy Corporation permits relating to water withdrawal and natural gas exploration and development activities within the Delaware River Basin (Dockets D-2009-13-1 and D-2009-18-1). The U.S. Environmental Protection Agency (EPA) maintains a strong interest in the environmental impacts and implications of natural resource extraction activities, both nationally and within the Mid-Atlantic region, including the relatively recent proliferation of activity surrounding the exploration and development of natural gas reserves from within the Marcellus Shale geologic formation.

EPA has authority to provide comments under Section 401(b) of the Clean Water Act, particularly when requested by the lead Federal agency on the Delaware River Basin Commission (DRBC), i.e., the U.S. Army Corps of Engineers (Corps). In the enclosed document, EPA is responding to the Philadelphia District of the Corps' request for comments. Our comments are based on a review of the two dockets cited above, perspectives gained through attendance at the February 24, 2010 public hearing held in Matamoras, PA, and discussions among EPA offices within EPA Region 3 and EPA Headquarters.

Natural gas plays a key role in our nation's clean energy future and the process of hydraulic fracturing is one way of accessing that vital energy source. However, concerns have been raised that hydraulic fracturing may impact ground water and surface water quality in ways that threaten human health and the environment. To partially address these concerns, EPA announced on March 18, 2010 that it will conduct a comprehensive research study to investigate the potential adverse impacts that hydraulic fracturing may have on water quality and public health. EPA's office of Research and Development (ORD) will lead this nationwide study, which we hope will provide answers to some of the questions raised during the review of the two pending Stone Energy permits.

It is my understanding that DRBC is considering a more comprehensive approach to administering a permitting program for natural gas drilling operations. To the extent that the program addresses point source discharges, underground injection of wastes, or other activities for which federal statutes authorize regulation, evaluation, or response, I encourage DRBC to coordinate program development with EPA's Region 2 and Region 3 offices.

While DRBC is soliciting comments on the environmental impacts from the proposals at hand, we are concerned about the broader consideration of impacts from numerous future activities and offer that further information describing the nature of the waste, the disposal of the waste, human and wildlife exposure to the waste, and the fate of aquatic and drinking water resources is necessary before large scale development proceeds. EPA recommends that DRBC further assess the possible health and environmental impacts from this and future drilling into the Marcellus Shale within the Delaware River Basin. EPA offers its assistance in the scoping and development of such an assessment.

I hope that EPA's comments are helpful. If you should have any questions or wish to discuss any of our comments further, please contact Angela McFadden at 215-814-2750.

Sincerely,



Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: Paula Schmitt, DRBC
Bruce Kiselica, EPA Region 2

ATTACHMENT

Detailed Comments from the Mid-Atlantic Office of the Environmental Protection Agency (EPA Region 3) pertaining to proposed DRBC Dockets D-2009-13-1 and D-2009-18-1

Potential for Increased Pollutant Discharges

In addition to land disturbing activities directly associated with site development, various activities needed to support subsequent natural gas extraction may contribute to stormwater discharges to receiving streams. Docket D-2009-18-1 acknowledges under Section A.5.h., Supporting Ancillary Facilities, that additional facilities will be required to convey and process the natural gas from the M1 Well Site. Construction of pipelines, compressor stations, roadways, etc. could involve not only land disturbance but also increases in impervious surface. EPA administers and authorizes programs that address discharges of pollutants, and encourages DRBC to evaluate the potential impacts of development throughout the natural gas extraction supply, production, and distribution chain on stormwater runoff and whether such development could cause or contribute to stormwater-related impairment of receiving waters.

Potential for Direct Discharges

Section A.5 in Docket D-2009-18-1 discusses nearby waters. What is the distance from the well pad to Johnson Creek and to the unnamed tributary to WBLR?

The administrative record for the docket should address potential for direct discharge from the site. For example, the record should state whether the site is located within a floodplain and, if any type of open storage is used, at what storm recurrence and intensity the storage device will have capacity to contain pollutants without overflow. If this capacity determination is also based on a certain amount of freeboard, the Docket should require maintenance of that freeboard level.

Presentation

EPA suggests that a figure or graphic be provided for the public depicting the entire development process from water withdrawal to ultimate waste disposal, including water transport, the use of onsite storage tanks, well pad site development, on site water and wastewater storage, actual drilling and resource extraction, distribution, waste water recovery, and waste disposal. This graphic should show in simple terms the steps involved in the overall process.

Operations Plan

Many of the specific details of the proposals are deferred to an Operation Plan to be developed by the applicant and submitted to DRBC for approval prior to commencement of operations. Will this Plan also be made available for agency and public review and comment?

Water Withdrawal

The proposal to withdraw up to 0.7 mgd of water from the West Branch of the Lackawaxen River brings to mind several questions. How would this withdrawal, in combination with other existing or pending withdrawals on this segment of stream, affect the current PA DEP classification of this segment of stream as a high quality (HQ)-Cold Water Fishery (CWF) stream? Would this classification be maintained even during periods of maximum withdrawal and/or low flow? Could cumulative withdrawals alter low flow levels (i.e. 7Q10 flow) upon which CWA NPDES permit writers rely when developing discharge effluent limits that are protective of water quality criteria? The administrative record for the docket should address these questions.

Waste Disposal

There are no currently approved facilities within the Delaware River Basin which are equipped to accept the type of wastewater generated by natural gas hydraulic fracturing operations. Docket No. D-2009-18-1 does not specify how non-domestic wastewater will be managed, though Stone Energy has indicated it will be conveyed to treatment and disposal facilities located outside of the DRB. The Docket defers this decision to the M1 Well Site Operation Plan. Details of the wastewater management plan should be made available for public and agency review, prior to Docket issuance, including disclosure of constituents in the wastewater to be treated, methods of conveyance and routes of travel of any conveyance vehicles or facilities, and the applicable surface water quality standards which govern any discharges. The Docket indicates that sampling of the non-domestic waste water will be required prior to removal. Are all waste water constituents consolidated for disposal, or will some, like oil, be segregated for separate treatment and disposal? The Docket should require that all activities at the drill pad and all disposal activities will be conducted in accordance with applicable state, federal, and local requirements. Finally, approximately 6,200 barrels of non-domestic wastewater and top-hole water was generated during the unauthorized drilling of the initial M1 well. The Docket indicates this wastewater was removed via vacuum truck and transported to a disposal facility. Was this material sampled prior to removal? Where was the disposal facility located, and what treatment, if any, was provided prior to disposal?

Wetlands Designation

Because Docket No. D-2009-18-1 indicates that the proposed drilling site lies within ¼ mile of an area shown as wetlands on the National Wetlands Inventory (NWI), and such NWI depictions represent only rough estimates of the location of possible wetlands, EPA strongly suggests that a delineation and formal Jurisdictional Determination be prepared and submitted to the U.S. Army Corps of Engineers for verification to ensure that CWA 404 requirements do not apply.

Wastewater Monitoring

Docket No. D-2009-18-1 requires monitoring for some but not all chemicals for which the applicant has provided Material Safety Data Sheets (MSDS). Wastewater monitoring required by this Docket could inform third parties accepting the wastewater for treatment pursuant to a CWA NPDES permit or disposal pursuant to a SDWA UIC permit. Such information could also be needed for EPA authorized emergency response actions. The Docket should ensure monitoring will be adequate for these purposes and the administrative record supporting the Docket should provide explanations, with respect to chemicals omitted from the monitoring requirements, of why such monitoring is omitted.