

Susquehanna River Basin Commission

a water management agency serving the Susquehanna River Watershed



April 28, 2009

TO ALL CONCERNED:

At the March 12, 2009, Commission meeting, the draft minutes of the December 4, 2008, Commission meeting were approved as written. Please attach this notice to your copy of the December 4, 2008, minutes.

- DRAFT -

SUSQUEHANNA RIVER BASIN COMMISSION
1721 N. FRONT ST.
HARRISBURG, PA 17102

**MINUTES OF THE
SUSQUEHANNA RIVER BASIN COMMISSION
March 12, 2009
#2009-01**

The meeting was held at the Hilton Scranton & Conference Center, 100 Adams Ave., Scranton, Pennsylvania. Chairman Summers called the meeting to order at 1:00 p.m.

ROLL CALL

Commissioners Present

Dr. Robert M. Summers, Deputy Secretary, Water Management Administration, Maryland Dept. of the Environment (MDE)

Brig. Gen. Todd T. Semonite, Commander, U.S. Army Corps of Engineers (USACE), North Atlantic Division

Mr. Kenneth P. Lynch, Director, Region 7, N.Y. Dept. of Environmental Conservation (NYSDEC)

Mr. John Hines, Executive Director, Water Planning Office, Pennsylvania Dept. of Environmental Protection (PADEP)

**Alternate Commissioners
and Advisors Present**

Staff Present

Mr. Paul O. Swartz, Executive Director

Mr. Thomas W. Beauduy, Deputy Director

Mr. Michael G. Brownell, Chief, Water Resources Management Division

Ms. Susan S. Obleski, Director of Communications

Mr. Richard A. Cairo, General Counsel

Mr. David W. Heicher, Chief, Watershed Assessment & Protection Division

Mr. Duane A. Friends, Chief Administrative Officer

Ms. Stephanie L. Richardson, Secretary to the Commission

Also Attending

Ms. Pamela Bishop, PADEP Regulatory Counsel

Mr. John Booser, Associate Director for River Basin Cooperation, PADEP

Mr. Robert S. Pace, Chief, Planning Division, USACE, Baltimore District

WELCOME & INTRODUCTORY REMARKS

Rep. Todd Eachus, Majority Leader, Pennsylvania House of Representatives, made welcoming remarks to the Commission in which he emphasized the importance of putting stimulus package funding to work in the effort to restore water resources infrastructure. He stated that there may be a need for implementing legislation to make this happen and that legislation is being swiftly crafted. The primary focus would be on projects that will meet the most public need. He also called for local cooperation and coordination in carrying out these projects.

The Chairman and other commissioners then each commented briefly on relevant activities in their jurisdictions.

Commissioner Lynch noted that snow melt and rain produced some flooding in the New York portion of the Susquehanna basin, though not as severe as first expected. He mentioned that the State of New York is moving ahead to deal with the Marcellus Shale gas rush. An environmental review process is underway to scope out environmental issues and produce an environmental impact statement. He further reported that two people who worked at the Binghamton water treatment plant have been indicted for alleged illegal discharges of sludge from that facility to the Susquehanna River. Finally, he stated that New York is also preparing to use the federal stimulus package funding.

Commissioner Hines introduced himself as the Pennsylvania alternate member to the Commission who is now overseeing all river basin commission activities for Pennsylvania. He also commented briefly on the use of the stimulus package funding in Pennsylvania in cooperation with the Commission.

Commissioner Semonite mentioned the partnering venture of the USACE, SRBC and The Nature Conservancy on a low flow management study designed to give water managers important information on flow needs. He further noted the signing of the federal omnibus appropriations bill containing monies that can be funneled to the Commission through the USACE. This appropriation demonstrates the interest of Congress in paying a fair share of the Commission's budget. Meanwhile, stimulus funds are in the pipeline and will be eventually coming to projects in this basin and others comprising the North Atlantic Division (NAD) area. Stimulus monies will be targeted to projects that will create jobs, meet critical environmental needs and restore important infrastructure.

Commissioner Semonite also mentioned that there would be a change in command at NAD in the next five weeks that will end his tenure as NAD commander. He greatly enjoyed working with both the Susquehanna and Delaware River Basin Commissions, useful mechanisms that are not available to other division commanders. He noted that these commissions stay ahead of water problems and solve them before they become the objects of litigation.

Chairman Summers expressed Maryland's thanks to the Commission and the other member jurisdictions for all of their efforts to protect the waters that eventually reach Maryland and Chesapeake Bay.

PRESENTATIONS

1. Recognition of Commissioner Semonite

Executive Director Swartz recounted the outstanding work that Brig. Gen. Todd Semonite accomplished while serving as the United States Member of the Commission. The Director pointed out the extensive responsibilities Gen. Semonite holds as commander of a Corps Division that includes the area from Maine to Virginia. Yet, Gen. Semonite still found the time to attend Commission meetings and retreats and to make tremendous contributions by involving the entire family of federal agencies in Commission issues. Mr. Swartz stated that the General provided the insight, inspiration, and energy that the Commission needed to accomplish such tasks as the revision of the SRBC Comprehensive Plan and the organizing of a federal coordination summit. The Executive Director pointed out that the General was recently recognized by the USACE Commander for his outstanding work with the river basin commissions.

Chairman Summers endorsed the Director's remarks. Commissioner Lynch thanked Commissioner Semonite for his service to the country and his constant interest in the member jurisdictions' projects and activities; he identified the coordination with federal agencies as the General's top accomplishment. Thanks to the General, these agencies are more involved and interested in the work of the Commission than they have ever been. Commissioner Hines also thanked the General for his service to the country and agreed with Commissioner Lynch that federal coordination was the General's most important contribution.

2. USGS Velocity Demonstration Project

Mr. Bob Hainley, Assistant Director of the U.S. Geological Survey Pennsylvania Water Science Center, presented information about testing and use of a radar-based stream velocity measurement method that can serve as an alternate means of obtaining real-time stream flow data during extreme hydrologic conditions when stream gages may be inoperative. This method could be particularly useful for gathering real-time stream flow information for flood forecasting and warning.

3. Hydrologic Conditions Report

Mr. Andrew Dehoff, Director of Planning and Operations, reviewed current hydrologic conditions in the Susquehanna basin. After an extended period of cold weather in January, ice formed on the surface of the Susquehanna River and several of its large tributaries, raising concerns about the potential for ice jam flooding. Fortunately, a gradual warming of temperatures and light rains allowed the ice to break up and move out without creating any major problems.

With respect to precipitation over the basin, shortfalls through last fall seemed well on their way to being eliminated by above normal precipitation in December. January and February proved to be much dryer than normal, however, leaving a very light snow pack and renewing concerns about developing drought conditions in the spring season, particularly in counties in the

south and southeastern parts of the basin where a drought watch was already instituted. A secondary concern is the stress that low flows are likely to place on the basin's fishery. It was during prior low flow years that problems arose with smallmouth bass mortality. Lower temperatures this year are helping, but if low flow trends continue, the system will need to be closely monitored.

4. William Jeanes Award

Chairman Summers presented the William Jeanes Award to Robert Hughes, Director of the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR). This award was established by the Commission in 1999 in the memory of William Jeanes who, as President of the Upper Chesapeake Watershed Association, led efforts to protect the Chesapeake Bay and restore runs of migratory fish to the Susquehanna River.

Mr. Hughes exemplifies this same dedication to environmental protection in his unwavering commitment since 1997 to restoration of abandoned mine lands in Pennsylvania's anthracite region and cleanup of abandoned mine drainage (AMD) polluted streams. This has included looking for ways to involve communities and individuals in cleanup projects. The Commission has worked closely with Mr. Hughes since the late 90's on such projects as streamside cleanup.

In accepting the award, Mr. Hughes noted that he was a native of the anthracite region and that it was his desire from childhood to improve the environment of the region for future generations. He supported the Commission and looked forward to working with the Commission to implement the revised SRBC Comprehensive Plan.

ACTION ITEMS

5. Adjustments to Agenda; Tabled Items

Deputy Director Beauduy explained the need to table several items that were slated for action on the meeting agenda.

The staff was working on two policies – an “Application Fee Policy for Mine Drainage Withdrawals” and an “Access to Records Policy.” The former would establish procedures for the sponsors of projects that use abandoned mine drainage to seek an application fee waiver. The latter would establish procedures for requesting access to Commission records and for requesting that information submitted to the Commission be kept confidential. There was a need to table both of these proposed policies to allow additional coordination with the member jurisdictions and further refinement of policy provisions.

Mr. Mark Givler filed an administrative appeal under 18 CFR Section 808.2 requesting a hearing on a Chief Oil & Gas project approved at the December 4, 2008, meeting, requesting a stay of the Commission's approval and, in the alternative, requesting that the Commission reopen the docket approval under 18 CFR Section 806.32. The Executive Director, in consultation with the Chairman and the Pennsylvania member of the Commission, already

denied the request for stay. Mr. Givler was now requesting that his appeal be tabled until the June 2009 meeting of the Commission because he was unable to attend today's public hearing.

Finally, because of fiscal uncertainties among the Commission's member jurisdictions relating to current economic conditions, the staff requested that revision of the FY 2010 budget be tabled until the June 2009 meeting.

Commissioner Lynch offered the following five-part motion:

1. That the "Application Fee Policy for Mine Drainage Withdrawals," identified as Item 8 on today's agenda, be tabled;
2. That the "Access to Records Policy," identified as Item 9 on today's agenda, be tabled;
3. That consideration of the request for administrative hearing of Mark A. Givler identified as Item 10(c) on today's agenda, be tabled;
4. That consideration of the revision of the Commission's FY 2010 Budget, identified as Item 16 on today's agenda, be tabled; and
5. That today's business meeting agenda be modified accordingly.

This motion was seconded by Commissioner Semontie, and unanimously adopted by the Commission.

6. Minutes of the December 4, 2008, Meeting

On a motion by Commissioner Lynch, seconded by Commissioner Semonite, the minutes of the regular business meeting of December 4, 2008, meeting were unanimously adopted as written.

7. 2009 Water Resources Program

The Executive Director presented the proposed 2009 Water Resources Program. The Susquehanna River Basin Compact requires that the Commission adopt an annual Water Resources Program based on the SRBC Comprehensive Plan. It covers the projects and programs proposed by the Commission, other agencies and non-governmental entities over the ensuing six-year period or other reasonably foreseeable time period as determined by the Commission. In this case, the recommendation is for a 2- to 3-year time period.

This Water Resources Program covers 64 of the 74 needed actions listed in the "Priority Management Areas" (PMA) section of the recently revised SRBC Comprehensive Plan. The remaining 10 were judged not yet ready for implementation. The management areas include Water Supply; Water Quality; Flooding; Ecosystems; Chesapeake Bay; and Coordination, Cooperation and Public Information.

For this presentation, the Director highlighted some of the projects and programs in the 2009 Water Resources Program, addressing the 15 actions listed in the Water Quality PMA of the SRBC Comprehensive Plan. These include development of remediation plans for areas

affected by AMD; expansion of the early warning system; drinking water-wastewater treatment; storm water facility maintenance and upgrades; development of regional source water protection plans; and integration of federal and state data systems.

After completing his overview, the Director thanked the many federal and state agencies that provided input for this year's program. He also thanked members of the SRBC staff who helped to produce this year's program, particularly Director of Communications Susan Obleski, and stated his belief that the 2009 Water Resources Program was the best that the Commission has produced to date. He then requested that the Commission approve a resolution (Exhibit B) adopting the 2009 Water Resources Program.

On a motion by Commissioner Semonite, seconded by Commissioner Hines, the resolution was unanimously adopted by the Commission.

8. Grant Approvals

Watershed Assessment and Protection Chief David Heicher presented the following grants for approval/ratification by the Commission:

a. Community Based Source Water Protection Grant

This is a grant for the Commission to assist PADEP by developing and implementing regional source water protection plans for the majority of large public water supply systems within the Lower Susquehanna River Basin, as well as continuing to operate, maintain, and expand the Early Warning System that the Commission established for public water suppliers in 2003. PADEP would be contributing \$125,000 to the grant.

b. Section 106 Grant

This is one of the Commission's mainstay water quality grants from U.S. Environmental Protection Agency (USEPA) under which the Commission performs subbasin surveys, large river assessments, total maximum daily load (TMDL) coordination, interstate stream monitoring, geographic information system and data management, water quality coordination, public participation and outreach, integrated reporting of monitoring results, and migratory fish restoration and aquatic nuisance species control activities. Under this grant, USEPA will contribute \$495,540 and the Commission will contribute \$35,017.

c. Water Conservation Grant Amendment

Under this grant, the Commission will assist PADEP in implementing Section 3120(A) of Act 220 of 2002, which calls on PADEP to establish and maintain a Statewide Water Resources Technical Assistance Center. The project will also assist PADEP in the selection of an entity to lead the Center. Under the grant, PADEP will contribute \$300,000 and the Commission will contribute \$45,000.

Commissioner Semonite moved approval and ratification of all three grants presented by Mr. Heicher. This motion was seconded by Commissioner Hines and unanimously adopted by the Commission.

9. Adoption of By-laws

The General Counsel presented a set of “By-laws” governing the operation of the Commission, the duties of its officers, and the administration of its budget and finances. The Commission is authorized under Section 15.1(b) of the compact to provide for its own internal organization and administration.

Until the present, these provisions have been housed in the Commission’s Organization Manual, along with personnel policies for Commission employees. They were not referred to as “by-laws,” although they really were a form of by-laws. This format is a departure from the practice of most other interstate commissions, which generally maintain a separate set of by-laws much the way corporations and unincorporated associations do.

The Commission occasionally receives requests from persons wanting to see the “by-laws.” On such occasions, they would be given the whole Organization Manual, including the unwanted compilation of personnel policies. These personnel policies have since been recast into a separate document known as the “SRBC Administrative Manual,” giving all the more reason to separate the by-laws provisions from personnel matters.

Staff, therefore, proposed that the Commission designate a separate set of by-laws. The by-laws would be housed in a binder-type compilation of important Commission documents to be known as the SRBC Reference Manual; but the documents so housed would not be bound together as one document and could be separately removed.

On the content of the new by-laws, the former provisions are largely preserved with the addition of several new clauses, including:

- Setting forth the new federal statutory provision that the federal member is ex officio the North Atlantic Division Commander, U.S. Corps of Engineers (Sec. 2-1)
- Indicating that the Commission may permit non-voting observers representing any of the member jurisdictions to participate in discussions, deliberations and other activities of the Commission (Sec. 2-4)
- Setting forth the public notice requirements for regular meetings and for a post meeting report (Sec. 2-5)
- Formally providing for the rotation of the Chair of the Commission among the members and giving the chair the authority to control the course and conduct of all meetings and public hearings (Sec. 2-6)
- Providing that, in accordance with the compact, only officers of the Commission need subscribe to an oath of office (Sec. 3-1)
- Making it clear that the Deputy Director shall act as the Executive Director in the event of the absence or disability of the Executive Director (Sec. 3-3)

On a motion by Commissioner Lynch, seconded by Commissioner Semonite, the Commission unanimously approved a resolution (Exhibit D) adopting the set of by-laws presented by counsel.

COUNSEL'S REPORT

Deputy Director Beauduy presented a brief counsel's report to the Commission. East Hanover Township, Dauphin County, Pa. filed a federal court appeal of the Commission's 2008 approvals of a consumptive use and a withdrawal by Mountainview Thoroughbred Racing Association, Inc. (MTRA). Administrative appeals and requests to reopen the docket were also denied by the Commission. Both MTRA and the Commission were named as defendants in the court appeal, but the main controversy was between MTRA and East Hanover Township. At the request of the parties, and to facilitate good faith negotiations, the court issued an order on October 7, 2008, to stay the proceedings for 60 days and issued orders on November 21, 2008, and January 21, 2009, continuing the stay until March 24, 2009.

On March 2, 2009, the parties agreed to a settlement of the court action under which MTRA will: 1) copy the Township on filings with the Commission; 2) pay the Township \$10,000 per year for three years to cover the cost of having a consultant review the monitoring data; 3) provide the Township with copies of correspondence with the Commission; and 4) allow the Township to sit in on any required meetings or consultations with the Commission. The Commission staff believes that the settlement is an effective way to resolve this matter without compromising in any way the Commission's authority, and therefore recommended that the Commission authorize the Executive Director to execute the settlement agreement. On a motion by Commissioner Lynch, seconded by Commissioner Hines, the Commission unanimously authorized the Director to execute the proposed settlement agreement with East Hanover Township, Dauphin County, Pa. and MTRA to terminate a federal court appeal filed by the Township regarding the Commission's approval of a consumptive use and withdrawal by MTRA.

In other legal matters, Yalick Farms developers filed an administrative appeal with the Commission, which it then asked to be suspended during upcoming discussions with the Commission and another water user about a possible resolution. This is a case where the Executive Director issued a determination requiring review of a proposed withdrawal in an aquifer that may be oversubscribed and where a reallocation may be necessary. On August 20, 2008, the project sponsor filed a notice of appeal challenging the Director's determination, but simultaneously requested that the matter be delayed to afford an opportunity for all the parties to meet and attempt to resolve the issues without resorting to adversarial proceedings. To date, settlement discussions have been positive and efforts are being made to reach a global settlement among the parties, which include the project sponsor, its water system operator, Aqua America, and United Water, along with PADEP. Counsel for one of the parties now reports that there appears to be an agreement in principle and has, therefore, requested that the matter be further continued to complete a final settlement.

Regarding the transition of area wide consumptive use approvals for gas well projects to "Approvals by Rule" on a drilling pad basis, modifications are being proposed in these dockets

during the public hearing portion of today's meeting that are consistent with the transition procedure approved at the December 4, 2008, meeting of the Commission. Under standard docket conditions and Commission regulations, the Commission retains authority to reopen and modify docket approvals. Notice of these recommended modifications was given to each of the affected project sponsors in advance of today's meeting.

PUBLIC COMMENTS

The Commission heard the following public comments:

Bernie McGurl, Executive Director of the Lackawanna River Corridor Association, welcomed the Commission to Scranton, Pa. His organization was looking forward to working with EPCAMR and the Commission on water quality projects in the Lackawanna River Watershed. There was particular interest in trying to address the pollution from the Old Forge Bore Hole, which is a major source of AMD pollution. He extended his congratulations to Robert Hughes on the William Jeanes Award.

Michael Hewitt also offered congratulations to Robert Hughes on the William Jeanes Award.

Michael Helfrich commented on the smallmouth bass mortality problem mentioned earlier by Mr. Dehoff, noting that, in addition to low flows and higher temperatures, the possibility of endocrine disruption needed to be explored. Also, this problem has not manifested itself in the Delaware and Allegheny Rivers and therefore the involvement of agriculture in causing the problem also needed to be considered.

R. Timothy Weston, an attorney representing a gas drilling company consortium, commented briefly on the development of a public information policy by the Commission. In any policy, it would be important to protect confidential business information of a proprietary nature including certain geologic information. Also, any policy will need a procedure for adjudicating disputes over the disclosure of information.

PUBLIC HEARING¹

10. Regulatory Program Actions

The Commission convened a public hearing covering three topics: a) action on new project review applications and modification to existing gas well drilling docket approvals for consumptive use of water; b) action on the rescission of certain previous docket approvals; and c) adoption of a proposed records processing fee schedule.

¹ The account of this public hearing contained in these minutes should only be considered an unofficial summary. A stenographic transcript was made containing the official record of the hearing.

a. Docket Actions

Chairman Summers called on Water Resources Management Chief Brownell to review the list of project applications. Mr. Brownell first provided some background information on the Commission's review authority, review procedures, and its consumptive use and water withdrawal regulations.

The main purpose of the regulations is to avoid adverse environmental impacts and conflicts among users, particularly during periods of drought and low flow. Cumulative impacts are also considered both upstream and downstream of the proposed project. Overall, the Commission conducts a very thorough environmental review, looking at things like water use classifications, 303(d) listings, and special protection designations.

Staff also looks for adjacent wetlands that could be affected by withdrawals and considers things like "wild and scenic" designations and national diversity inventory searches. The aquatic resource survey and protocol used by staff looks for macroinvertebrates and uses triple pass electric shocking to survey fish. Entrainment and impingement hazards are also considered for intakes. These environmental background data allow the Commission to have a baseline for future assessment of a project's operational impacts on local resources.

He further explained the methods available for compliance with the consumptive use regulation, including discontinuance of use, provision of storage water, and payment into the Commission's Water Management Fund to enable purchase of water storage for release during low flow periods.

Mr. Brownell listed the standard requirements for each project sponsor, including: 1) notice of application; 2) coordination with member jurisdictions; 3) aquifer tests for groundwater withdrawals; 4) metering, monitoring, and reporting of water use; 5) mitigation or other special conditions where there is a potential for adverse impacts; 6) a right of inspection to ensure compliance; 7) water conservation standards; 8) passby standards to protect flows on perennial and intermittent streams; and 9) docket reopening authority.

Because many of the projects being presented today have passby requirements included in the terms of their proposed docket approvals, he spent some extra time explaining how the passby standards work. The passby requirements aim to protect streams with special values like cold water fisheries. No matter what the value level of a stream is found to be, however, a minimum flow of at least the average 7 day, 10 year low flow (Q7-10) will always be required. Cumulative effects of multiple withdrawals must also be considered in setting passby requirements for a project.

Before describing the projects that staff recommended for approval, Mr. Brownell first presented a list of projects that, for a variety of reasons, are not ready for Commission action and are therefore recommended for tabling. These included: 1) ALTA Operating Company, LLC – Dubois Creek; 2) Anadarko E&P Company LP – West Branch Susquehanna River-4; 3) Chesapeake Appalachia, LLC – Susquehanna

River; 4) EOG Resources, Inc. – Bennett Branch-3, Sinnemahoning Creek; 5) EOG Resources, Inc. – Chemung River-1; and 6) Schuylkill County Municipal Authority – Pottsville Public Water Supply System, Mount Laurel Subsystem. Also, EOG Resources, Inc. – Kersey Run withdrew its application.

The standard docket applications recommended for action, as presented by Mr. Brownell, include the following projects²:

- ALTA Operating Company, LLC (Snake Creek) (Exhibit A1)
- ALTA Operating Company, LLC (Susquehanna River) (Exhibit A2)
- Anadarko E&P Company LP (Pine Creek) (Exhibit A3)
- Anadarko E&P Company LP (West Branch Susquehanna River-1) (Exhibit A4)
- Anadarko E&P Company LP (West Branch Susquehanna River-2) (Exhibit A5)
- Anadarko E&P Company LP (West Branch Susquehanna River-3) (Exhibit A6)
- CAN DO, Inc. (Exhibit A7)
- Cherokee Pharmaceuticals, LLC (Riverside Borough-CU) (Exhibit A8)
- Cherokee Pharmaceuticals, LLC (Riverside Borough-SW) (Exhibit A9)
- Cherokee Pharmaceuticals, LLC (Riverside Borough-GW) (Exhibit A10)
- Chief Oil & Gas LLC (Sugar Creek) (Exhibit A11)
- Delta Borough (Exhibit A12)
- EOG Resources, Inc. (Bennett Branch-1, Sinnemahoning Creek) (Exhibit A13)
- EOG Resources, Inc. (Bennett Branch-2, Sinnemahoning Creek) (Exhibit A14)
- EOG Resources, Inc. (Chemung River-2) (Exhibit A15)
- EOG Resources, Inc. (Sugar Creek-1) (Exhibit A16)
- EOG Resources, Inc. (Sugar Creek-2) (Exhibit A17)
- EOG Resources, Inc. (Susquehanna River-1) (Exhibit A18)
- EOG Resources, Inc. (Susquehanna River-2) (Exhibit A19)
- EOG Resources, Inc. (West Creek) (Exhibit A20)
- Fortuna Energy Inc. (Sugar Creek) (Exhibit A21)
- Global Tungsten & Powders Corp. (Exhibit A22)
- IBM Corp. (Exhibit A23)
- J-W Operating Company (Sterling Run) (Exhibit A24)
- New Enterprise Stone & Lime Co., Inc. (Exhibit A25)
- Ultra Resources (Pine Creek) (Exhibit A26)
- Water Treatment Solutions, LLC (West Branch Susquehanna River) (Exhibit A27)

Mr. Brownell then presented a list of previous gas well drilling project approvals that were recommended for modification in order to transition them to the Commission’s new “Approval by Rule” procedures, as explained at the December 4, 2008, meeting of the Commission. These include the following:

- Cabot Oil & Gas Corporation (for operations in Susquehanna and Wyoming Counties, Pa.) (Exhibit A28)
- Chesapeake Appalachia, LLC (for operations in Chemung and Tioga Counties, N.Y., and Bradford, Susquehanna, and Wyoming Counties, Pa.) (Exhibit A29)
- Chief Oil & Gas LLC (for operations in Bradford County, Pa.) (Exhibit A30)
- Chief Oil & Gas LLC (for operations in Lycoming County, Pa.) (Exhibit A31)
- Chief Oil & Gas LLC (for operations in Clearfield County, Pa.) (Exhibit A32)
- Citrus Energy (for operations in Wyoming County, Pa.) (Exhibit A33)
- East Resources, Inc. (for operations in Elmira, N.Y., Area) (Exhibit A34)
- East Resources, Inc. (for operations in Mansfield, Pa., Area) (Exhibit A35)
- Fortuna Energy Inc. (for operations in Southern Tier of N.Y., and Tioga and Bradford Counties, Pa.) (Exhibit A36)
- J-W Operating Company (for operations in Cameron, Clearfield, and Elk Counties, Pa.) (Exhibit A37)
- Pennsylvania General Energy Company, LLC (for operations in Potter and McKean Counties, Pa.) (Exhibit A38)
- Range Resources – Appalachia, LLC (for operations in Bradford, Centre, Clinton, Lycoming, Sullivan, and Tioga Counties, Pa.) (Exhibit A39)
- Rex Energy Corporation (for operations in Centre and Clearfield Counties, Pa.) (Exhibit A40)
- Turm Oil, Inc. (for operations in Susquehanna County, Pa.) (Exhibit A41)
- Ultra Resources (for operations in Tioga and Potter Counties, Pa.) (Exhibit A42)

² Docket decisions are not included with the hard copy of the minutes. However, they are available upon request and at www.srbc.net.

Mr. Brownell further mentioned the new signage requirement that the Commission is instituting, which mandates that project sponsors post information on their SRBC docket approval at the site of their water withdrawal.

Ms. Rachelle King, speaking on behalf of Chesapeake Appalachia, LLC, offered a comment on the recommended requirement for a passby flow that was included in the docket approval proposed by staff for Chesapeake's withdrawal from the Susquehanna River in Terry Township, Bradford County, Pa. This passby requirement could result in the suspension of withdrawals for this project as much as 50 percent of the time or more in the summer and early fall. This represents a potentially significant constraint on Chesapeake's operations. Chesapeake, therefore, requested that the Commission: 1) recognize that the terms of the proposed docket may be amended as more information regarding actual net withdrawals becomes available; 2) convene a stakeholder process to obtain accurate net withdrawal data from all sources and devise a resource management regime based on this information that is equitable to all users; and 3) work with the USACE to expand the use of storage in Corps' reservoirs to maintain flow in the river sufficient to avoid passby flow conditions.

Commissioner Lynch moved that the Commission approve the above project dockets and docket modifications in accordance with the recommendations of Mr. Brownell. This motion was seconded by Commissioner Semonite and unanimously adopted by the Commission.

b. Docket Rescissions

Mr. Brownell explained that approvals were no longer needed for the following projects that have either discontinued their use (Millennium Pipeline) or will maintain a consumptive use below the 20,000 gpd threshold (Harristown): 1) Millennium Pipeline Company, LLC, Broome, Tioga and Chemung Counties, N.Y.; 2) Millennium Pipeline Company, LLC, Town of Windsor, Broome County, & Town of Horseheads, Chemung County, N.Y.; and 3) Harristown Development Corporation, Strawberry Square, City of Harrisburg, Dauphin County, Pa.

On a motion by Commissioner Lynch, seconded by Commissioner Hines, the Commission unanimously rescinded the above listed approvals in accordance with the recommendations of Mr. Brownell.

c. Records Processing Fee Schedule

The General Counsel presented a proposed fee schedule covering reimbursement to the Commission for the cost of processing an information request, along with a resolution (Exhibit C). Twenty-day legal notices for this part of the public hearing relating to the records processing fee schedule were published as follows:

- The Harrisburg Patriot News on February 13, 2009
- The Altoona Mirror on February 13, 2009

- The Aegis Newspapers, Harford County, Maryland, on February 18, 2009
- The Williamsport Sun Gazette on February 12, 2009
- The York Newspapers on February 12, 2009
- The Binghamton Press and the Elmira Star Gazette on February 14, 2009
- The Scranton Times on February 13, 2009
- The Lancaster Newspapers on February 14, 2009

In addition, notice of this public hearing was published in the Federal Register on February 25, 2009; the New York Register on February 25, 2009; and the Pennsylvania Bulletin on February 28, 2009. It also appeared in the Commission regular meeting notice that was sent out on February 12, 2009, and on the Commission's web site.

The General Counsel went on to explain that Commission staff frequently responds to information requests that involve the inspection or reproduction of records. There are costs associated with responding to such requests and so it is appropriate in staff's view that the Commission maintain a fee schedule to address those costs.

The fee schedule proposed by staff calculates fees based on two types of costs:

1. The cost to reproduce records; and
2. The cost to search and prepare records for release.

The objective of this fee schedule is to recover actual costs only. It also allows the Executive Director to waive or partially waive fees when doing so is considered to be in the public interest and does not place an undue financial burden upon the Commission. The fee schedule further exempts member jurisdiction agencies from the fees, unless their request creates an undue financial burden. Finally, the proposed schedule does not charge for the first hour of staff time to meet a request.

On a motion by Commissioner Semonite, seconded by Commissioner Lynch, the Commission unanimously adopted the resolution providing a records processing fee schedule.

END OF PUBLIC HEARING

ADJOURNMENT

There being no further business before the Commission, the Chairman adjourned the meeting at 3:54 p.m. The next regular meeting of the Commission is tentatively scheduled for June 18, 2009, in Binghamton, N.Y.

Date Adopted

Stephanie L. Richardson
Secretary to the Commission



SUSQUEHANNA RIVER BASIN COMMISSION

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Web <http://www.srbc.net>

Docket No. 20090302

Approval Date: March 12, 2009

ALTA OPERATING COMPANY, LLC

Surface Water Withdrawal (Peak Day) of up to 0.099 mgd,
When Available, from Snake Creek,
for Development and Completion of Natural Gas Wells,
Liberty Township, Susquehanna County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on September 30, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Upper Susquehanna Subbasin, HUC 02050101, Snake Creek Watershed, Liberty Township, Susquehanna County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.099 million gallons per day (mgd) (peak day) from Snake Creek in Liberty Township at a maximum instantaneous rate of withdrawal of 68 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Snake Creek through an intake at a rate of 68 gpm to fill two tanks, each with a 21,000-gallon capacity, for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.099 mgd so that water could be withdrawn from Snake Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.099 mgd (peak day) from Snake Creek in Liberty Township, at a maximum instantaneous withdrawal rate of 68 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Snake Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Snake Creek, at the point of taking, is classified as a Cold Water Fishery (CWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Snake Creek at the point of taking to be 1.59 cubic feet per second (cfs) (712 gpm), and the average daily flow to be 112 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 68 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. Although the requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, based on an evaluation of cumulative impacts from existing upstream uses, Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 22.4 cfs or 10,055 gpm. The project sponsor must cease all withdrawals when streamflow in Snake Creek immediately downstream of the intake location is at or below 22.4 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01534000, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Snake Creek when the streamflow measured at stream gage 01534000, located on the Tunkhannock Creek near Tunkhannock, Pennsylvania, is 3.61 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 3.61 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.099 mgd. Commission staff recommends approval of up to 0.099 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of

water withdrawn from Snake Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Snake Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.099 mgd, when available, from Snake Creek at the location specified in the application in Liberty Township, Susquehanna County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Snake Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 68 gpm.

8. The project sponsor shall cease all withdrawals from Snake Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01534000 on the Tunkhannock Creek near Tunkhannock, Pennsylvania, is less than 3.61 cfs, and shall not reinstate withdrawals until the streamflow has remained above 3.61 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or

discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

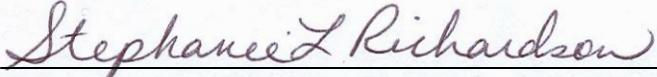
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

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Docket No. 20090303

Approval Date: March 12, 2009

ALTA OPERATING COMPANY, LLC

Surface Water Withdrawal (Peak Day) of up to 3.000 mgd, from Susquehanna River,
for Development and Completion of Natural Gas Wells,
Great Bend Township, Susquehanna County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on September 30, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Upper Susquehanna Subbasin, HUC 02050101, Susquehanna River Watershed, Great Bend Township, Susquehanna County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 3.000 million gallons per day (mgd) (peak day) from the Susquehanna River in Great Bend Township at a maximum instantaneous rate of withdrawal of 2,080 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Susquehanna River through a buried line and dry hydrant at a rate of 2,080 gpm to fill tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 3.000 mgd so that water could be withdrawn from the Susquehanna River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 3.000 mgd (peak day) from the Susquehanna River in Great Bend Township, at a maximum instantaneous withdrawal rate of 2,080 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the Susquehanna River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the Susquehanna River at the point of taking to be 173.43 cubic feet per second (cfs) (77,841 gpm), and the average daily flow to be 3,281.19 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 2,080 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. Based on this finding and its evaluation of cumulative impacts, Commission staff has determined that a protective passby flow requirement is not needed for the proposed withdrawal, provided that the withdrawal rate does not exceed 2,080 gpm.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 3.000 mgd. Commission staff recommends approval of up to 3.000 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 3,000 mgd from the Susquehanna River at the location specified in the application in Great Bend Township, Susquehanna County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of

actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 2,080 gpm.

8. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

9. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

10. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

11. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

12. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

13. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

14. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

15. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

16. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

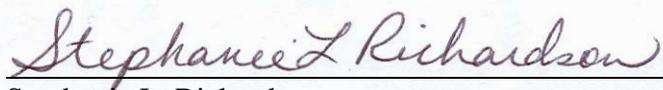
17. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

18. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

19. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090304

Approval Date: March 12, 2009

ANADARKO E&P COMPANY LP

Surface Water Withdrawal (Peak Day) of up to 0.720 mgd, from Pine Creek,
for Development and Completion of Natural Gas Wells,
Cummings Township, Lycoming County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on December 31, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050205, Pine Creek Watershed, Cummings Township, Lycoming County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.720 million gallons per day (mgd) (peak day) from Pine Creek in Cummings Township at a maximum instantaneous rate of withdrawal of 500 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Pine Creek at a rate of 500 gpm to fill tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.720 mgd so that water could be withdrawn from Pine Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.720 mgd (peak day) from Pine Creek in Cummings Township, at a maximum instantaneous withdrawal rate of 500 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Pine Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Pine Creek, at the point of taking, is classified as a High-Quality Trout Stocked Fishery (HQ-TSF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Pine Creek at the point of taking to be 37.20 cubic feet per second (cfs) (16,697 gpm), and the average daily flow to be 1,390 cfs.

The requested rate of withdrawal is less than 10 percent of the low flow rate that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location. Based on this finding and its evaluation of cumulative impacts, Commission staff has determined that a protective passby flow requirement is not needed for the proposed withdrawal, provided that the withdrawal rate does not exceed 500 gpm.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.720 mgd. Commission staff recommends approval of up to 0.720 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Pine Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Pine Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.720 mgd from Pine Creek at the location specified in the application in Cummings Township, Lycoming County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.
2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.
3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.
4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.
5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Pine Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 500 gpm.

8. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

9. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

10. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

11. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

12. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

13. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

14. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

15. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

16. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

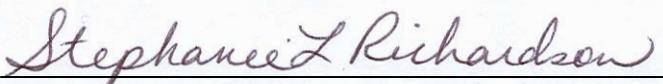
17. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

18. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

19. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

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Docket No. 20090305

Approval Date: March 12, 2009

ANADARKO E&P COMPANY LP

Surface Water Withdrawal (Peak Day) of up to 0.720 mgd,
When Available, from West Branch Susquehanna River-1,
for Development and Completion of Natural Gas Wells,
Chapman Township, Clinton County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on December 31, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050203, West Branch Susquehanna River Watershed, Chapman Township, Clinton County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.720 million gallons per day (mgd) (peak day) from the West Branch Susquehanna River in Chapman Township at a maximum instantaneous rate of withdrawal of 500 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from the West Branch Susquehanna River at a rate of 500 gpm to fill tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.720 mgd so that water could be withdrawn from the West Branch Susquehanna River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.720 mgd (peak day) from the West Branch Susquehanna River in Chapman Township, at a maximum instantaneous withdrawal rate of 500 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the West Branch Susquehanna River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

West Branch Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the West Branch Susquehanna River at the point of taking to be 172.04 cubic feet per second (cfs) (77,217 gpm), and the average daily flow to be 5,087.33 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 500 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. Although the requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, based on an evaluation of cumulative impacts from existing upstream uses, Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 1,017.47 cfs or 456,729 gpm. The project sponsor must cease all withdrawals when streamflow in the West Branch Susquehanna River immediately downstream of the intake location is at or below 1,017.47 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01545500, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from the West Branch Susquehanna River when the streamflow measured at stream gage 01545500, located on the West Branch Susquehanna River at Renovo, Pennsylvania, is 965.11 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 965.11 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.720 mgd. Commission staff recommends approval of up to 0.720 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the West Branch Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the West Branch Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.720 mgd, when available, from the West Branch Susquehanna River at the location specified in the application in Chapman Township, Clinton County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the West Branch Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 500 gpm.

8. The project sponsor shall cease all withdrawals from the West Branch Susquehanna River when streamflow, as measured at the U.S. Geological Survey's stream gage 01545500 on the West Branch Susquehanna River at Renovo, Pennsylvania, is less than 965.11 cfs, and shall not reinstate withdrawals until the streamflow has remained above 965.11 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the

sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

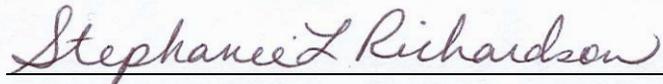
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009

A handwritten signature in cursive script that reads "Stephanie L. Richardson". The signature is written in dark ink on a light-colored background.

Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090306

Approval Date: March 12, 2009

ANADARKO E&P COMPANY LP

Surface Water Withdrawal (Peak Day) of up to 0.720 mgd,
When Available, from West Branch Susquehanna River-2,
for Development and Completion of Natural Gas Wells,
Renovo Borough, Clinton County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on December 31, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050203, West Branch Susquehanna River Watershed, Renovo Borough, Clinton County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.720 million gallons per day (mgd) (peak day) from the West Branch Susquehanna River in Renovo Borough at a maximum instantaneous rate of withdrawal of 500 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from the West Branch Susquehanna River at a rate of 500 gpm to fill tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.720 mgd so that water could be withdrawn from the West Branch Susquehanna River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.720 mgd (peak day) from the West Branch Susquehanna River in Renovo Borough, at a maximum instantaneous withdrawal rate of 500 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the West Branch Susquehanna River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

West Branch Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the West Branch Susquehanna River at the point of taking to be 163.27 cubic feet per second (cfs) (73,282 gpm), and the average daily flow to be 4,828.10 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 500 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. Although the requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, based on an evaluation of cumulative impacts from existing upstream uses, Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 965.62 cfs or 433,456 gpm. The project sponsor must cease all withdrawals when streamflow in the West Branch Susquehanna River immediately downstream of the intake location is at or below 965.62 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01545500, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from the West Branch Susquehanna River when the streamflow measured at stream gage 01545500, located on the West Branch Susquehanna River at Renovo, Pennsylvania, is 964 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 964 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.720 mgd. Commission staff recommends approval of up to 0.720 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the West Branch Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the West Branch Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.720 mgd, when available, from the West Branch Susquehanna River at the location specified in the application in Renovo Borough, Clinton County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the West Branch Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 500 gpm.

8. The project sponsor shall cease all withdrawals from the West Branch Susquehanna River when streamflow, as measured at the U.S. Geological Survey's stream gage 01545500 on the West Branch Susquehanna River at Renovo, Pennsylvania, is less than 964 cfs, and shall not reinstate withdrawals until the streamflow has remained above 964 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

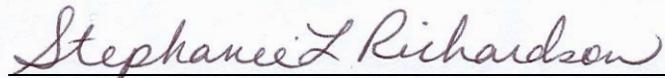
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20090307

Approval Date: March 12, 2009

ANADARKO E&P COMPANY LP

Surface Water Withdrawal (Peak Day) of up to 0.720 mgd,
from West Branch Susquehanna River-3,
for Development and Completion of Natural Gas Wells,
Nippenose Township, Lycoming County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on December 31, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050206, West Branch Susquehanna River Watershed, Nippenose Township, Lycoming County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.720 million gallons per day (mgd) (peak day) from the West Branch Susquehanna River in Nippenose Township at a maximum instantaneous rate of withdrawal of 500 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from the West Branch Susquehanna River at a rate of 500 gpm to fill tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.720 mgd so that water could be withdrawn from the West Branch Susquehanna River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.720 mgd (peak day) from the West Branch Susquehanna River in Nippenose Township, at a maximum instantaneous withdrawal rate of 500 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the West Branch Susquehanna River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

West Branch Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the West Branch Susquehanna River at the point of taking to be 442.73 cubic feet per second (cfs) (198,711 gpm), and the average daily flow to be 8,063.04 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 500 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is less than 10 percent of the low flow rate that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location. Based on this finding and its evaluation of cumulative impacts, Commission staff has determined that a protective passby flow requirement is not needed for the proposed withdrawal, provided that the withdrawal rate does not exceed 500 gpm.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.720 mgd. Commission staff recommends approval of up to 0.720 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the West Branch Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the West Branch Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.720 mgd from the West Branch Susquehanna River at the location specified in the application in Nippenose Township, Lycoming County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the West Branch Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 500 gpm.

8. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

9. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

10. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

11. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

12. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

13. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

14. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

15. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

16. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

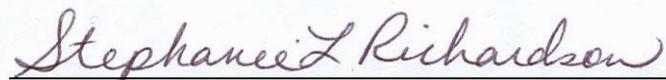
17. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

18. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

19. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20090309

Approval Date: March 12, 2009

CAN DO, INC. CORPORATE CENTER

Groundwater Withdrawal (30-Day Average) of 0.547 mgd from Well 1,
for Industrial and Public Water Supply,
Butler Township, Luzerne County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the application on July 21, 2008.

Description

Purpose. The purpose of the application is to request approval for the withdrawal of groundwater for distribution in a corporate center/business park and a public water supply system.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050107, Nescopeck Creek Watershed, Butler Township, Luzerne County, Pennsylvania.

Project Features. The project sponsor is requesting an approval for the withdrawal (30-day average) of 0.547 million gallons per day (mgd) from Well 1 and a maximum instantaneous production rate of 380 gallons per minute (gpm), the rate at which the well was tested. The Commission previously approved the withdrawal from Well 1 of 0.200 mgd (30-day average) at a maximum instantaneous rate of withdrawal of 300 gpm on January 11, 1996, as Docket No. 19960103. The initial approved quantity was limited based on the needs of the project sponsor. With this approval, Docket No. 19960103 shall be rescinded.

CAN DO, Inc. uses Well 1 as a source for the existing corporate center and the commercial/retail and residential developments that are adjacent to the existing corporate center. The average daily demand in 2007 was approximately 0.018 mgd. The project sponsor plans to expand the corporate center and add connections to commercial/retail and residential developments in the surrounding area. This expanded service area is estimated to require an

additional 0.491 mgd, reportedly increasing the daily needs of the entire service area to 0.509 mgd by 2018.

Well 1 is located within a glacial valley within the Nescopeck Creek Watershed, approximately 2,250 feet updip from Nescopeck Creek. The underlying Mauch Chunk Formation at the well site is reported to strike north 60 degrees east and dip to the southeast. According to the well log, glacial materials ranging from till to boulders were encountered from 2 to 74 feet below ground surface (bgs). The top of weathered bedrock is present from 73 to 85 feet bgs, and competent Mauch Chunk bedrock comprised predominantly of cyclic sequences of red, fine-grained sandstone, siltstone, and shale occurs from 85 to 355 feet bgs. The well is cased with 8-inch steel casing to a depth of 88 feet bgs, and has an open-rock borehole from a depth of 88 feet to the bottom of the well at 355 feet. One major water-bearing zone was identified between 172 to 175 feet bgs in a fractured zone between interbedded shale and sandstone; minor water-bearing zones were noted at 85, 93, 102, 165, 186, and 203 feet bgs.

Wastewater for the CAN DO, Inc. system will be treated at the Butler Township wastewater treatment facility and discharged to Nescopeck Creek, approximately 5 miles to the east-southeast and downgradient from Well 1.

Aquifer Testing. A constant-rate aquifer test of Well 1 was conducted on October 22-29, 2007, with prior Commission approval. Due to several rain events between October 23-27, 2007, with a total accumulation of 1.71 inches, the test was extended to 190.5 hours. In addition to the pumping well, three private water supply wells (PWS-1, PWS-2, and PWS-3), one irrigation well owned by the Sand Springs Golf Community (SS-4), one community water supply well (SS-2), one piezometer (PZ-1), and two weirs (S-1 and S-3) were monitored during the aquifer testing. A third weir (S-2) and a second piezometer (PZ-2) were not monitored, as both proposed monitoring points were dry at the onset of testing.

Pumping at a rate of 380 gpm, drawdown in the pumping well (Well 1) was approximately 110 feet at the end of 190.5 hours of pumping. No drawdown was observable in any of the five observation wells. A change in the overall water level trend, coincident with the end of the Well 1 test, was noted in the community water supply well (SS-2). However, it is highly unlikely that this water level change represented recovery because SS-2 is located 5,200 feet across strike, updip and within a different formation (the Pocono Formation) from Well 1. It is more likely that the water level change was due to a shortened operation cycle within the well (SS-2) itself.

Interpretation of potential impacts to the surface water monitoring points was complicated by the dry conditions prior to and the rain events during the testing. Although weir S-2 was installed to monitor flow downgradient of the wetlands that surround Well 1, no monitoring was conducted, as there was no flow at the beginning of testing. Monitoring data from the two weirs (S-1 and S-3) is compromised by two significant precipitation events during the testing period. Therefore, Commission staff concludes that some additional monitoring of the wetlands during well operation is appropriate.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP) Northeast Region Office during review of the project. PADEP staff has reviewed this docket for consistency with its requirements.

Findings

The project is subject to Commission approval and reporting requirements, as per Commission Regulations §806.4, §806.21, §806.23, and §806.30.

Commission staff reviewed the groundwater availability analysis, aquifer test results, and supporting information submitted by the project sponsor. Based on this information, Commission staff concludes that Well 1 likely draws water from an unconfined fractured bedrock aquifer that relies on bedding planes, fractures, and joint sets to transmit water from the thick overlying glacial deposits to the water-bearing fractures encountered within the well bore.

Based on the area of influence observed during the aquifer testing and using a groundwater recharge rate of 0.424 mgd per square mile, the consultant calculated the groundwater availability to be approximately 1.060 mgd during a 1-in-10-year drought. Subtracting 0.050 mgd for existing users located within the delineated recharge area, the reported groundwater availability is 1.010 mgd. Commission staff agrees with this calculation and finds that there is sufficient groundwater available for the requested withdrawal from Well 1.

The project sponsor requested a groundwater withdrawal of up to 0.547 mgd (30-day average) from Well 1. Commission staff recommends approval of a maximum instantaneous pumping rate of 380 gpm, the rate at which the well was tested, and 0.547 mgd, the maximum daily quantity that could be withdrawn at this rate.

The aquifer test results indicate that Well 1 does not impact any existing groundwater users and that it is not likely to impact any of the surrounding environmental features. Commission staff finds that the wetlands are likely a result of a perched system that slowly leaks to the water table through poorly drained, organic-rich silty soils that overlie weathered till. However, to confirm there is no connection to the local water table, Commission staff recommends additional monitoring of the wetlands that surround Well 1.

Wetlands monitoring of the wetlands should include a minimum of 60 days of monitoring during operation of Well 1 at the three weirs (S-1, S-2, and S-3), plus monitoring at one nested piezometer location in wetlands immediately adjacent to Well 1. The project sponsor should submit a monitoring plan to Commission staff for approval prior to operation of Well 1 in excess of the currently approved maximum instantaneous rate of 300 gpm. The plan should propose a schedule for background and operational monitoring, and implementation and presentation of the results in a brief interpretive report. Commission staff recommends that the pumping phase of the monitoring be performed during the months of July through October.

The project is subject to Commission monitoring and reporting requirements, as per Commission Regulation §806.30. The project sponsor should install appropriate metering on

Well 1 to monitor withdrawals daily. The project sponsor should report these data to the Commission quarterly unless otherwise required.

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification as required by Commission Regulation §806.15.

The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

This project is not required for the optimum planning, development, conservation, utilization, management, and control of the water resources of the basin, and will not significantly affect the water resources of the basin.

Decision

1. The project's groundwater withdrawal of 0.547 mgd (30-day average) from Well 1 is hereby approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including groundwater withdrawal monitoring and reporting requirements contained in Commission Regulation §806.30.

4. Commission Docket No. 19960103, as approved January 11, 1996, is hereby rescinded.

5. The project sponsor shall install a meter, accurate to within five (5) percent, on Well 1. The project sponsor shall notify the Commission, in writing, when the meter is installed.

6. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

7. The project sponsor shall keep daily records of the metered withdrawal from Well 1. The required reporting data shall be submitted to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The maximum instantaneous rate of production from Well 1 shall not exceed 380 gpm.

9. Within sixty (60) days of the date of this approval, the project sponsor shall submit a proposed wetland monitoring plan for review and approval by Commission staff prior to implementation of the plan and any construction. This plan should include a schedule for implementation and a description of the proposed monitoring, including the following: locations of monitoring points, frequency of monitoring, instrumentation, length of testing, and well operation. Following approval, the project sponsor shall complete construction and begin the approved monitoring plan according to the approved schedule. At the conclusion of the approved monitoring period, the final results of the monitoring should be documented in an interpretive report and supplied to the Commission. The report shall include the monitoring data in digital and graphical form, along with interpretative text and conclusions, due sixty (60) days after the end of the monitoring period, or otherwise as directed by Commission staff. Should the monitoring prove to be inconclusive, the Commission reserves the right to require additional monitoring, as necessary.

10. If the Commission determines that the operation of the project's groundwater withdrawal adversely affects any existing groundwater or surface water withdrawal, the project sponsor shall be required to provide, at its expense, an alternate water supply or other mitigating measure.

11. The project sponsor shall comply with the water conservation requirements contained in Commission Regulation §806.25(b).

12. Pursuant to Article 12, Section 12.2, of the Compact, this project is hereby included in the Commission's Comprehensive Plan.

13. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

14. This approval shall not become effective until the project sponsor certifies to the Commission that it has received a permit from PADEP authorizing the construction of the water supply facilities related to this application.

15. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

16. The Commission reserves the right to inspect or investigate the project facility, and the project sponsor shall allow authorized employees or agents of the Commission, without advance notice or a search warrant, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained. Such employees or agents shall be authorized to conduct tests or sampling; to take photographs; to perform measurements, surveys, and other

tests; to inspect the methods of construction, operation, or maintenance; to inspect all measurement equipment; to audit, examine, and copy books, papers, and records pertinent to any matter under investigation; and to take any other action necessary to assure that the project is constructed, operated, or maintained in accordance with the terms and conditions of this approval or any other rule, regulation, or order of the Commission.

17. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the Commission may suspend, modify, or revoke its approval of same, and may impose appropriate penalties. Upon written notice by the Commission, the project sponsor shall have thirty (30) days to correct such noncompliance, unless an alternate period is specified in the notice. Nothing herein shall preclude the Commission from exercising its authority to immediately modify, suspend, or revoke this approval where it determines exigent circumstances warrant such action, or from imposing penalties, regardless of the period of noncompliance.

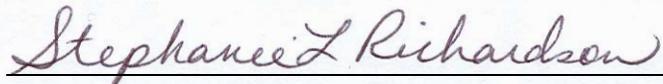
18. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or water resources. The Commission, upon its own motion, may at any time reopen any project approval and make additional corrective modifications that may be necessary.

19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than September 12, 2023, the existing approval shall be deemed extended until such time as the Commission renders a decision on the application.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Web <http://www.srbc.net>

Docket No. 20090310

Approval Date: March 12, 2009

CHEROKEE PHARMACEUTICALS, LLC

Consumptive Water Use of up to 0.999 mgd (Peak Day),
for Pharmaceutical and Chemical Production,
Riverside Borough, Northumberland County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, §806.6(d) relating to transfer provisions, and §806.22 relating to consumptive use. The application was received on March 31, 2008.

Description

Purpose. The purpose of the application is to request approval for an increase in consumptive use for pharmaceutical and chemical production.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050107, Susquehanna River Watershed, Riverside Borough, Northumberland County, Pennsylvania.

Project Features. The project sponsor has requested approval for a maximum daily consumptive use of up to 0.999 million gallons per day (mgd).

A previous Commission approval for consumptive use at this facility was issued to the previous owner, Merck & Co., Inc., on July 12, 1995 as Docket No. 19950701, and modified on June 12, 2003.

The project's sole source of potable and production water is the Susquehanna River. Water is drawn directly from the river and is used in either a treated or untreated condition for one or more of the following purposes: fire protection, cooling water, production water, and potable water for on-site and off-site use. The facility was constructed in the 1950s and has been in continuous operation since that time; although in January 2008, it was purchased by the project sponsor.

Water is consumptively used at the facility by evaporative cooling units, in steam losses throughout the plant, incorporated into products, in solvent recovery, for belt filter press wash

water, and within various other manufacturing processes. According to the project sponsor, the current consumptive water use is up to 0.464 mgd.

Process wastewater from the facility is treated at an on-site treatment plant, with some wastewaters pretreated within a detoxification system. Outflow from the treatment plant is discharged to the Susquehanna River. The discharge to the river is covered under National Pollutant Discharge Elimination System (NPDES) permit No. PA0008419, issued by the Pennsylvania Department of Environmental Protection (PADEP). Sanitary wastes generated at the facility are sent to the Danville publicly owned treatment works (POTW).

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, and §806.30.

All water used at the facility by evaporative cooling units, in steam losses throughout the plant, incorporated into products, in solvent recovery, for belt filter press wash water, and within various other manufacturing processes is considered to be consumptively used.

The project sponsor currently meters water withdrawal rates from the river (at the point of taking from the river), influent flow rates to the on-site wastewater treatment plant, withdrawal rates from each of the on-site groundwater recovery wells, and discharges at the combined outfall to the river (Outfall 001). Previously, the project sponsor calculated the consumptive use for the entire facility based on an approved metering plan summarizing the various consumptive uses.

Commission staff recommends that the project sponsor submit its proposed metering plan that accounts for all consumptive water use for review and approval by Commission staff.

The project sponsor should provide written confirmation that all of the flow meters used at the facility and relied upon for compliance purposes are achieving measurement accuracies to within 5 percent.

Commission staff recommends approval of the requested quantity of consumptive water use of up to 0.999 mgd (peak day) to allow consideration of new pharmaceutical and chemical business opportunities. The project sponsor should report the daily consumptive water use data on-line to the Commission on a quarterly basis.

Should the proposed metering and accounting procedure fail to accurately measure the consumptive use of water, the Commission reserves the right to modify the measuring, monitoring, and accounting procedures. Commission staff will provide the project sponsor with prior written notice of any required change in the measuring, monitoring, and accounting

procedures. Any alternative measuring, monitoring, or accounting procedure requested by the project sponsor must be reviewed and approved by Commission staff.

The project is subject to water conservation requirements, as per Commission Regulation §806.25.

The project sponsor has paid the appropriate application fee in accordance with Commission Regulation §806.13 and in accordance with Commission Resolution 2008-10. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to other area surface water withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's consumptive use of water up to 0.999 mgd (peak day) is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including monitoring and reporting requirements, as per Commission Regulation §806.30.

4. Commission Docket No. 19950701, issued July 12, 1995, and modified June 12, 2003, is hereby rescinded.

5. Within sixty (60) days from the date of this approval, the project sponsor shall submit a metering plan to the Commission for review and approval by Commission staff for consumptive water uses. Following approval of the metering plan, the project sponsor shall execute the plan and complete any installation of meters or other means of measuring consumptive use in accordance with the approved schedule. The project sponsor shall notify the Commission, in writing, when the meter(s) are installed. The project sponsor shall notify the Commission when the monitoring plan has been implemented.

6. The project sponsor shall keep daily records of the project's consumptive water use and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be water evaporated in cooling units, steam losses, belt filter press wash water, and water lost in manufacturing processes.

7. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the current rate of \$0.21 per 1,000 gallons of water consumptively used by the project. Payment amounts shall be calculated by applying this rate to the daily amount of water consumptively used by the project. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

8. Within sixty (60) days of the date of this approval, the project sponsor shall certify to the Commission, in writing, that all meters used for compliance monitoring are accurate to within five (5) percent. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

9. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

10. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

11. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

12. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

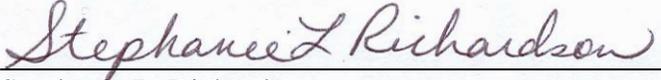
13. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

14. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than September 12, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

15. If the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20090311

Approval Date: March 12, 2009

CHEROKEE PHARMACEUTICALS, LLC

Surface Water Withdrawal of up to 34.392 mgd,
from the North Branch Susquehanna River,
for Pharmaceutical and Chemical Production,
Riverside Borough, Northumberland County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, §806.6(d) relating to transfer provisions, and §806.23 relating to water withdrawals. The Commission received the application on March 31, 2008.

Description

Purpose. The purpose of the application is to request approval for a withdrawal of surface water for pharmaceutical and chemical production.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050107, Susquehanna River Watershed, Riverside Borough, Northumberland County, Pennsylvania.

Project Features. The project sponsor has requested approval for a maximum daily withdrawal of up to 34.392 million gallons per day (mgd) from the North Branch Susquehanna River at a maximum instantaneous withdrawal rate of 23,883 gallons per minute (gpm). The facility was constructed in the 1950s and has been in continuous operation since that time.

The original Commission approval for surface water withdrawal at this facility was issued to the previous owner, Merck & Co., Inc., on July 12, 1995 as Docket No. 19950701, and modified on June 12, 2003.

The project's sole source of potable and production water is the Susquehanna River. Water is pumped directly from the river in two parallel lines, each line equipped with two pumps. The water is used either treated or untreated for one or more of the following purposes: fire protection, cooling water, production water, and potable water for on-site and off-site use.

Process wastewater from the facility is treated at an on-site treatment plant and discharged to the Susquehanna River. Sanitary wastes generated at the facility are sent to the Danville publicly owned treatment works (POTW).

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor currently estimates its water withdrawal from the river based on its discharge. Commission staff recommends that the project sponsor meter at its point of withdrawal and provide written confirmation that the flow meters used at the intake and relied upon for compliance purposes are achieving measurement accuracies to within five percent.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The requested maximum daily withdrawal of 34.392 mgd is less than 10 percent of the 7-day, 10-year low flow (Q7-10 flow) of 657.400 mgd for the Susquehanna River at the point of taking. Therefore, no passby flow is required to protect aquatic resources and downstream users.

The project is subject to water conservation requirements, as per Commission Regulation §806.25.

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution 2008-10. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

Commission staff recommends that Commission Docket No. 19950701 issued July 12, 1995, and modified on June 12, 2003, be rescinded.

The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface withdrawal of up to 34.392 mgd from the Susquehanna River at the location specified in the application is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. Commission Docket No. 19950701, issued July 12, 1995, and modified June 12, 2003, is hereby rescinded.

5. The project sponsor shall keep daily records of the project's surface water withdrawal and shall provide the data to the Commission quarterly and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

6. The maximum instantaneous rate of withdrawal shall not exceed 23,883 gpm.

7. Within sixty (60) days of the date of this approval, the project sponsor shall certify to the Commission, in writing, that all meters used for compliance monitoring are accurate to within five (5) percent. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

8. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25.

9. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

10. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

11. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

12. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

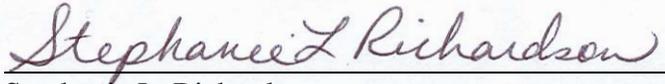
13. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

14. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31, the project sponsor shall submit a renewal application by September 12, 2023, and obtain Commission approval prior to continuing operation beyond March 12, 2024.

15. If the project is discontinued for such a period of time and under such circumstances that an abandonment of the project may reasonably be inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Web <http://www.srbc.net>

Docket No. 20090312

Approval Date: March 12, 2009

CHEROKEE PHARMACEUTICALS, LLC

Groundwater Withdrawal (30-Day Average) of 0.600 mgd
from Recovery Wells RW-1D, RW-2, RW-4, RW-9, OBS-6, and HSR-1,
for Treatment of Groundwater Contamination,
Riverside Borough, Northumberland County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval and §806.6(d) relating to transfer provisions. The Commission received the application on March 31, 2008, and a request to waive the aquifer test requirements on November 19, 2008.

Description

Purpose. The purpose of the application is to request approval for the withdrawal of groundwater for the continued operation of a groundwater recovery and treatment system.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050107, Susquehanna River Watershed, Riverside Borough, Northumberland County, Pennsylvania.

Project Features. Cherokee Pharmaceuticals, LLC has requested approval for the withdrawal (30-day average) of a total of 0.600 million gallons per day (mgd) from wells that comprise an existing groundwater recovery system. The project sponsor is extracting groundwater from six recovery wells (RW-1D, RW-2, RW-4, RW-9, OBS-6, and HSR-1) and although individual withdrawal rates may vary on a daily basis, the maximum rate of withdrawal is not expected to exceed 0.100 mgd in any one well. Sixteen additional on-site recovery wells are reported to be currently inactive.

The purpose of the recovery well network is to create overlapping cones of depression within the on-site groundwater system to facilitate the recovery of fugitive solvents in groundwater and to prevent the off-site migration of the impacted groundwater. The water withdrawn from the wells is treated at the on-site wastewater treatment plant and the effluent is discharged to the Susquehanna River at Outfall 001 in accordance with the project sponsor's National Pollutant Discharge Elimination System (NPDES) permit requirements (NPDES No. PA0008419). The groundwater recovery system also is permitted under the U.S. Environmental Protection Agency's (USEPA's) Hazardous and Solid Waste Amendment of

1984 to the Resource Conservation and Recovery Act (RCRA) as permit No. HSWA-PAD003043353.

The previous facility owner, Merck & Co., implemented the Groundwater Recovery and Groundwater Quality Improvement Program in May 1983 under a Consent Order and Agreement with the Pennsylvania Department of Environmental Resources (PADER), now the Department of Environmental Protection (PADEP). Under that program, eight recovery wells and eight monitoring wells were installed on the project site. The current project sponsor and site owner, Cherokee Pharmaceuticals, LLC, has assumed responsibility from Merck & Co. for the groundwater program and has submitted this application under the Commission's transfer provisions.

The Commission previously approved the withdrawal of up to 0.208 mgd from a network of eight recovery wells (Docket No. 19910306, issued March 14, 1991). That docket included the use of Recovery Wells RW-1, RW-2, RW-3, RW-4, RW-7, RW-8, RW-9, and RW-1D. On November 14, 1991, the Commission modified its approval to include a withdrawal of 0.055 mgd from three additional wells (Recovery Wells PW-1, PW-2, and PW-3) as part of the ongoing system.

The current average daily withdrawal of the system is reported to be up to 0.263 mgd. Construction details and current operational information for the 6 active recovery wells and 16 inactive recovery wells addressed in the docket are summarized in the following table.

Well Construction Details and Operating Information, Groundwater Recovery Wells

Well Identification	Well Depth (feet)	Cased Depth (feet)	Screened Interval (feet to feet)	Existing Pump Capacity (mgd)	Average Daily Withdrawal (mgd)	Well Metered (Yes/No)
Currently Active						
RW-2 ⁽¹⁾	95	0	2 to 28	0.022	Not to exceed 0.600 mgd total from all active wells	Yes
RW-4 ⁽²⁾	100	0	1 to 20	0.009		Yes
RW-9 ⁽³⁾	100	0	0 to 21	0.007		Yes
RW-1D ⁽⁴⁾	85	40	None	0.006		Yes
OBS-6 ⁽⁵⁾	100	25	None	0.036		Yes
HRS-01 ⁽⁶⁾	24	~150 feet on either end	~500	0.036		Yes
Currently Inactive						
RW-1 ⁽⁷⁾	100	0	2 to 23	No Pump	0, Inactive	No
RW-5 ⁽⁸⁾	100	0	2 to 18	No Pump	0, Inactive	No
RW-7 ⁽⁹⁾	100	0	2 to 20	No Pump	0, Inactive	No
RW-8 ⁽¹⁰⁾	100	0	0 to 22	No Pump	0, Inactive	No
PW-1 ⁽¹¹⁾	151	0	0 to 15	No Pump	0, Inactive	No
PW-2 ⁽¹²⁾	155	0	0 to 9	No Pump	0, Inactive	No
PW-3 ⁽¹³⁾	138	0	0 to 26	No Pump	0, Inactive	No

Well Identification	Well Depth (feet)	Cased Depth (feet)	Screened Interval (feet to feet)	Existing Pump Capacity (mgd)	Average Daily Withdrawal (mgd)	Well Metered (Yes/No)
Currently Inactive (continued)						
SR-1	27	12	12 to 27	No Pump	0, Inactive	No
SR-2	27	12	12 to 27	No Pump	0, Inactive	No
SR-3	28	13	13 to 28	No Pump	0, Inactive	No
SR-4	27	12	12 to 27	No Pump	0, inactive	No
SR-5	27	12	12 to 27	No Pump	0, Inactive	No
SR-6	28	13	13 to 28	No Pump	0, Inactive	No
SR-7	25	10	10 to 25	No Pump	0, Inactive	No
SR-8	25	10	10 to 25	No Pump	0, Inactive	No
SR-9	24	9	9 to 24	No Pump	0, Inactive	No
(1) Open Borehole, 28 feet to 95 feet				(7) Open Borehole, 23 feet to 100 feet		
(2) Open Borehole, 20 feet to 100 feet				(8) Open Borehole, 18 feet to 100 feet		
(3) Open Borehole, 21 feet to 100 feet				(9) Open Borehole, 20 feet to 100 feet		
(4) Open Borehole, 40 feet to 85 feet				(10) Open Borehole, 22 feet to 100 feet		
(5) Open Borehole, 25 feet to 100 feet				(11) Open Borehole, 15 feet to 138 feet		
(6) Horizontal Well, ~800 feet Total Length, Middle ~500 feet Screened				(12) Open Borehole, 9 feet to 155 feet		
				(13) Open Borehole, 26 feet to 155 feet		

The 300-acre Cherokee Pharmaceuticals, LLC facility is located immediately adjacent to and along the south side of the Susquehanna River. The site is underlain by relatively flat-lying river terrace deposits and located along a meander of the river. The unconsolidated fluvio-glacial sediments (alluvium) are approximately 50 feet thick and reportedly have relatively high hydraulic conductivity. A shallow unconfined aquifer exists within the alluvium. Groundwater levels range from 5 to 26 feet below ground surface (bgs). The alluvium is believed to be recharged by local precipitation.

The alluvium is underlain by sedimentary rocks of the Rose Hill Formation (shale), Keefer Formation (sandstone), Mifflintown Formation (shale with interbedded limestone), Bloomsburg Formation (shale and siltstone), and Wills Creek Formation (shale containing local limestone and sandstone). The local bedrock structure is oriented in a northeast-southwest direction, striking at approximately north 75 degrees east, and dipping at 45 degrees to the southeast. According to the project sponsor, a second aquifer system is located within the bedrock, and the hydraulic conductivity of the bedrock system is significantly less than that of the overlying alluvium. Reportedly, there exists a sharp decline in hydraulic conductivity at the interface between the alluvium and the underlying bedrock across much of the site.

Hydraulic communication is believed by the project sponsor to occur between the shallow alluvium aquifer and the bedrock aquifer near the river. The river stage influences the hydraulic head in both the alluvial (shallow) aquifer and in the bedrock aquifer. Natural groundwater flow direction in both the alluvium and bedrock aquifers is toward the river. There are no groundwater users located between the facility and the river.

Aquifer Testing. In 1990, the former site owner was required by the USEPA to assess groundwater contamination at the site. A thorough investigation was conducted and, in 1994, a RCRA Facility Investigation (RFI) final report was submitted to the USEPA summarizing the extent of contamination at the site. In 1994, a Corrective Measures Study was prepared that included a Comprehensive Groundwater Monitoring Program and detailed operations of the on-site recovery well system. The recovery system has been continuously operating since that time. The responses in the local groundwater system and the effectiveness of the recovery system have been documented by Merck & Co. and, more recently, by the project sponsor.

The project sponsor requested a waiver of the aquifer test requirements on November 19, 2008. Since the design and operation of the existing groundwater recovery system was conducted under the direction of the USEPA, and has been continuously operating since its installation, staff recommends that the Commission waive the aquifer testing requirements for the existing remediation wells.

Coordination. Commission staff has coordinated with PADEP Northcentral Region Office during review of the project. The contents of this docket are consistent with PADEP's NPDES permit (PA0008419).

Findings

The project is subject to Commission approval and reporting requirements, as per Commission Regulations §806.4, §806.21, §806.23, and §806.30.

At the currently approved withdrawal rate of 0.263 mgd, the groundwater recovery system reportedly adequately controls the off-site migration of impacted groundwater. Nearby residents whose private wells have been impacted by the groundwater plume were provided with potable water supplies by the project sponsor. The project sponsor has requested the higher withdrawal rate of 0.600 mgd to provide greater flexibility should an additional well or increased pumping rate be needed to insure control of the groundwater plume.

The impacted groundwater will be extracted from six groundwater recovery wells (RW-1D, RW-2, RW-4, RW-9, OBS-6, and HSR-1). Commission staff recommends that the project sponsor be granted approval to reactivate one or more of the existing recovery wells in the future, or add new recovery wells to the system, provided the total withdrawal from all recovery wells does not exceed the 0.600 mgd (30-day average) limit. Any changes in the status of the recovery wells (reactivated or deactivated) or the installation of any new recovery wells should be addressed in a written notice to the Commission within 30 days of the change.

By allowing new recovery wells to be installed, or existing recovery wells to be reactivated upon notice, the Commission is providing the project sponsor with the flexibility needed to respond to changing site conditions, such as natural fluctuations in water table levels, and to achieve better control of the groundwater plume, thereby affording better protection of the

public health and safety. This flexibility also eliminates the potential for the Commission requirements to hinder or duplicate efforts made by member jurisdictions.

If the project sponsor plans to exceed its approved total groundwater withdrawal of 0.600 mgd, the sponsor is required to make an application to the Commission to modify this docket.

Commission staff reviewed the operating data collected by the project sponsor on the groundwater recovery system. The piezometric elevation data collected by the sponsor in the alluvial aquifer and shallow bedrock aquifer indicate that the individual overlapping groundwater cones of depression created by the active recovery wells results in a composite cone of depression aligned approximately east-west and parallel to the river's west bank. The composite cone of depression does not appear to have migrated to the river's edge nor beneath the riverbed. Therefore, it appears that the recovery system is capturing the intended impacted groundwater beneath the site and not capturing non-impacted groundwater beneath the river nor water from the river itself. The piezometric elevation data indicate that the deeper bedrock aquifer is unaffected by the groundwater recovery system.

Commission staff's review indicates that the data collected during the past operation of the groundwater recovery system are sufficient to recommend this project's approval and that further testing prior to issuance of an approval is not warranted. Likewise, Commission staff recommends that aquifer testing requirements be waived for any future wells added to the remediation system.

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.13, and in accordance with Commission Resolution No. 2008-10. The project sponsor has provided all proofs of notification as required by Commission Regulation §806.15.

Since the purpose of the project is to recover and treat contaminated groundwater, Commission Regulation §806.25 regarding water conservation requirements is not applicable.

The project is subject to Commission monitoring and reporting requirements, as per Commission Regulation §806.30. The project sponsor shall install and maintain appropriate metering on all wells actively pumped in the system. The project sponsor should report the total daily groundwater withdrawn to the Commission quarterly unless otherwise required.

Commission staff recommends that Commission Docket No. 19910306, issued March 14, 1991, and subsequently modified on November 14, 1991, be rescinded.

No adverse impacts on other area groundwater withdrawals are anticipated. The project does not conflict with nor adversely affect the Comprehensive Plan, is physically feasible, and

does not adversely influence the present or future use and development of the water resources of the basin.

This project is not required for the optimum planning, development, conservation, utilization, management, and control of the water resources of the basin and will not significantly affect the water resources of the basin.

Decision

1. The project sponsor's withdrawal of 0.600 mgd (30-day average) from Recovery Wells RW-1D, RW-2, RW-4, RW-9, OBS-6, and HSR-1 is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including groundwater withdrawal monitoring and reporting requirements contained in Commission Regulation §806.30.

4. The project sponsor shall install and maintain meters accurate to within five (5) percent in each active recovery well.

5. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

6. The project sponsor shall monitor the total water withdrawal amounts from the recovery well system on a daily basis. The required reporting data shall be submitted to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter. The project sponsor may propose alternative metering for review and approval by Commission staff.

7. The project sponsor shall not use the recovery wells as supply production wells or for any other non-remediation purposes at the site.

8. The project sponsor shall provide a copy of any water quality monitoring summary report provided to a state or federal agency.

9. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

10. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

11. The Commission reserves the right to inspect or investigate the project facility, and the project sponsor shall allow authorized employees or agents of the Commission, without advance notice or a search warrant, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained. Such employees or agents shall be authorized to conduct tests or sampling; to take photographs; to perform measurements, surveys, and other tests; to inspect the methods of construction, operation, or maintenance; to inspect all measurement equipment; to audit, examine, and copy books, papers, and records pertinent to any matter under investigation; and to take any other action necessary to assure that the project is constructed, operated, or maintained in accordance with the terms and conditions of this approval or any other rule, regulation, or order of the Commission.

12. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the Commission may suspend, modify, or revoke its approval of same, and may impose appropriate penalties. Upon written notice by the Commission, the project sponsor shall have thirty (30) days to correct such noncompliance, unless an alternate period is specified in the notice. Nothing herein shall preclude the Commission from exercising its authority to immediately modify, suspend, or revoke this approval where it determines exigent circumstances warrant such action, or from imposing penalties, regardless of the period of noncompliance.

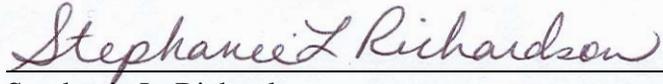
13. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or water resources. The Commission, upon its own motion, may at any time reopen any project approval and make additional corrective modifications that may be necessary.

14. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

15. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than September 12, 2023, the existing approval shall be deemed extended until such time as the Commission renders a decision on the application.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009

A handwritten signature in cursive script that reads "Stephanie L. Richardson". The signature is written in dark ink on a light-colored background.

Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20090314

Approval Date: March 12, 2009

CHIEF OIL & GAS LLC

Surface Water Withdrawal (Peak Day) of up to 0.053 mgd,
When Available, from Sugar Creek,
for Development and Completion of Natural Gas Wells,
West Burlington Township, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on June 20, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20080911, and registered as sources on the project sponsor's Approvals by Rule.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106, Sugar Creek Watershed, West Burlington Township, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.053 million gallons per day (mgd) (peak day) from Sugar Creek in West Burlington Township at a maximum instantaneous rate of withdrawal of 36 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Sugar Creek at a rate of 36 gpm to fill a storage pond for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.053 mgd so that water could be withdrawn from Sugar Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.053 mgd (peak day) from Sugar Creek in West Burlington Township, at a maximum instantaneous withdrawal rate of 36 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Sugar Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Sugar Creek, at the point of taking, is classified as a Trout Stocked Fishery (TSF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year

low flow (Q7-10) for Sugar Creek at the point of taking to be 0.53 cubic feet per second (cfs) (239 gpm), and the average daily flow to be 100.07 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 36 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 20.01 cfs or 8,984 gpm. The project sponsor must cease all withdrawals when streamflow in Sugar Creek immediately downstream of the intake location is at or below 20.01 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01532000, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Sugar Creek when the streamflow measured at stream gage 01532000, located on the Towanda Creek near Monroeton, Pennsylvania, is 57.48 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 57.48 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.053 mgd. Commission staff recommends approval of up to 0.053 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Sugar Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Sugar Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.053 mgd, when available, from Sugar Creek at the location specified in the application in West Burlington Township, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Sugar Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 36 gpm.

8. The project sponsor shall cease all withdrawals from Sugar Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01532000 on the Towanda Creek near Monroeton, Pennsylvania, is less than 57.48 cfs, and shall not reinstate withdrawals until the streamflow has remained above 57.48 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

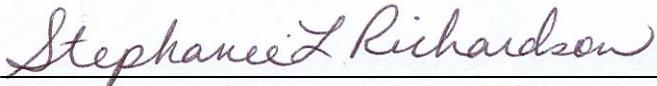
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090315

Approval Date: March 12, 2009

DELTA BOROUGH

Groundwater Withdrawal (30-Day Average) of 0.019 mgd from Well DR-2,
for Public Water Supply,
Peach Bottom Township, York County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the application on January 25, 2008.

Description

Purpose. The purpose of the application is to request approval for the withdrawal of groundwater for distribution in a public water supply system.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Scott Creek Watershed, Peach Bottom Township, York County, Pennsylvania.

Project Features. The project sponsor has requested approval for the withdrawal (30-day average) of 0.032 million gallons per day (mgd) from Well DR-2 and a maximum instantaneous production rate of 22.5 gallons per minute (gpm), the rate at which the well was tested. Commission staff recommends approval of a reduced quantity, as described below.

Delta Borough intends to use Well DR-2 as a source for the public water supply system that currently relies on five wells: Wells 5, 6, 7, 8, and DR-3. According to the project sponsor, Wells 5 and 6 are used as the primary sources and Well 7 is considered to be a backup or emergency well. The Commission previously approved Well 8 for a withdrawal (30-day average) of 0.065 mgd (Docket No. 19930303) on March 11, 1993. That docket approval stipulated that Wells 7 and 8 could not be pumped simultaneously due to their close proximity and substantial well interference. The other wells have not been reviewed and approved by the Commission.

Well DR-2 is located within 300 feet and along strike from Well DR-3, and 2,000 to 4,000 feet and across strike from Wells 5, 6, 7, and 8. The well has 8-inch-diameter steel casing installed to a depth of 60 feet below ground surface (bgs) and is completed as an open borehole

well to a total depth of 300 feet bgs. According to the drilling log, saprolite was encountered from 5 to 32 feet bgs and was underlain by green-gray chloritic schist, with localized milky-quartz veins, identified as the Peter's Creek Formation. Approximately 20 percent of the reported blown yield was encountered at 53 feet, with the remainder of the yield reported to originate from a depth of 172 feet bgs. Both water-bearing zones were reported to be associated with quartz veining. These observations are similar to those made from the nearby Well DR-3, which indicated that 63 percent of the blown yield was obtained in weathered/fractured bedrock at a depth of 34 feet bgs, with the remainder of the yield originating from a depth of 178 feet bgs from a fracture associated with quartz veining.

Information about Delta Borough's existing wells, reported well depths, reported pump capacities, and reported average daily withdrawals are shown in the following table.

Well Identification	Total Depth (feet bgs)	Pump Capacity (gpm)
Well DR-3	260	45
Well 5	109	45
Well 6	281	30
Well 7	212	60
Well 8	300	60

Delta Borough provides water service to the Borough and adjacent parts of Peach Bottom Township. The current average daily demand of the system is reported to be 0.073 mgd.

Wastewater is treated at Delta Borough's wastewater treatment plant and discharged to Scott Creek, approximately 1,000 feet east of and downgradient from Well DR-2. The wastewater treatment plant also treats wastewater from Harford County, Maryland.

Aquifer Testing. A 48-hour, constant-rate aquifer test of Well DR-2 was conducted on August 11-13, 2007, with prior Commission approval. In addition to the pumping well, one observation well (DR-3), three piezometers (P-1, P-2, and P-3), one spring (P-2 Spring), and the intermittent stream that flows between Wells DR-2 and DR-3 were monitored during the aquifer testing.

Pumping at a rate of 22.5 gpm, drawdown in the pumping well (DR-2) was approximately 7.95 feet bgs at the end of the 48-hour test. Drawdown in Well DR-3, located approximately 270 feet west and along strike from Well DR-2, was approximately 3.90 feet. The response in Well DR-3 was nearly identical to the pumping well. The toe-of-slope spring line monitored at the P-2 springhead weir location experienced an immediate reduction of the diffuse flow into terrace alluvial deposits along Scott Creek. Flow at the springhead was 8 gpm at the start of the testing and declined so that there was no flow after approximately 1,700 minutes of pumping.

Water level in piezometer P-2 shows a direct relationship to the operation of Well DR-2 and the capture of P-2 flow. The expanding cone of depression is associated with the reversal of hydraulic gradient observed at piezometer P-2 and the capture of flow from the toe-of-slope spring line (monitored at P-2), resulting in a likely reduction of flow to the areally extensive exceptional value (EV) wetland complex.

Following cessation of pumping and after over 5,000 minutes of recovery monitoring, water levels did not completely recover. Approximately 1.05 feet of residual drawdown remained in the production well, indicating that some water was “mined” from storage during pumping.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP) Southcentral Region Office during review of the project. PADEP staff has reviewed this docket for consistency with its requirements.

Findings

The project is subject to Commission approval and reporting requirements, as per Commission Regulations §806.4, §806.21, §806.23, and §806.30.

Commission staff reviewed the groundwater availability analysis, pumping test results, and supporting information submitted by the project sponsor. Based on this information, Commission staff concludes that Well DR-2 likely draws water from an unconfined shallow aquifer (the Peter’s Creek Formation) and the overlying saprolite. The most productive water-bearing zones in this hydrogeologic setting are commonly encountered directly above the top of the competent bedrock within the overlying, highly transmissive layer of weathered and fractured bedrock. Saprolite lies above this relatively thin layer of weathered and fractured rock, acting as storage for the fractured rock aquifer.

Based on the area of influence observed during the aquifer testing and using a 1-in-10-year groundwater recharge rate of 0.276 mgd per square mile, Commission staff calculates the groundwater availability to be approximately 0.019 mgd during a 1-in-10-year drought. The recharge area defined for Well DR-2 is entirely coincident with the recharge area for Well DR-3. The available water must be shared by the two wells.

Further, considering proposed development within the recharge area of the well, Commission staff is concerned that recharge may be reduced in the future. A significant part of the saprolite is excavated (removed), compressed, or “capped” by paving and construction of buildings as development occurs. These changes will irreversibly alter the natural abilities of the saprolite to store and transmit water to the thin water-bearing layer at the top of fractured bedrock. At the same time, storm water management systems commonly remove precipitation from the developed areas.

The project sponsor requested a groundwater withdrawal of up to 0.032 mgd (30-day average) from Well DR-2. Commission staff recommends approval of a maximum instantaneous pumping rate of 22.5 gpm, the rate at which the well was tested, and 0.019 mgd.

The recommended approval quantity is consistent with quantity of water available during a 1-in-10-year drought.

The aquifer test results indicate that Well DR-2 has a direct hydraulic connection with Well DR-3. There is no evidence of connection between Well DR-2 and Delta Borough's Wells 5, 6, 7 and 8 that are located across strike and are drilled in different geologic formation.

PADEP's draft permit for Well DR-2 includes a restriction that prohibits the simultaneous use of Wells DR-2 and DR-3. Based on Commission staff's findings that the recharge area for Well DR-2 lies wholly within the recharge area for Well DR-3, Commission staff concurs with this recommendation.

The steepening drawdown trend during testing and lack of a recharge boundary indicates there is no direct hydraulic connection between Well DR-2 and Scott Creek and no induced recharge. The elevation of the maximum drawdown within the production well (approximately 387.27 feet above mean sea level [amsl]) remained several feet above the surface elevation of Scott Creek (approximately 380 feet amsl) during testing, providing additional support.

Although Well DR-2 will not draw water directly from Scott Creek, the well intercepts flow from the shallow aquifer that discharges to the creek as shown by the immediate impact to the P-2 springhead. Commission staff concludes, and the consultant concurs, that Well DR-2 will impact the flow to Scott Creek on a one-to-one basis during long-term pumping. Based on this finding, Commission staff recommends a passby requirement for Scott Creek for the protection of aquatic resources and downstream uses.

Scott Creek is classified as Class A trout stream (Title 25, Chapter 93, Pennsylvania Code). Based on the stream's classification, its geographic location in the watershed, and the anticipated associated fishery of trout and combined species of fish, Commission staff recommends that the project sponsor allow for a passby flow of not less than 25 percent of the annual average daily flow on Scott Creek, which equals a passby flow of 228 gpm. The project sponsor must cease all withdrawals when streamflow in Scott Creek is less than 228 gpm to prevent loss of aquatic habitat and adverse impact to downstream water users. Commission staff recommends that the project sponsor utilize the existing weir installed for the operation of Well DR-3 as the control point and instrument Well DR-2 with a telemetry system tied to the weir.

The aquifer test results indicate a complete loss of flow from the P-2 springhead after approximately 1,740 minutes of pumping at a constant rate of 22.5 gpm. Flow at the springhead at the beginning of the test was 8 gpm, and by 1,740 minutes of elapsed time, the flow had ceased. Once the flow in the spring was interrupted, the rate of drawdown in piezometer P-2 increased as the alluvial deposits drained to the creek. During recovery monitoring, even when flow returned at the springhead, water levels within the P-2 piezometer continued to drawdown and did not begin to recover through the extent of monitoring data provided in the report.

Based on these observations, Commission staff concludes that Well DR-2 will capture groundwater that currently emerges at the toe-of-slope spring line and flows into EV wetlands to

Scott Creek. Commission staff recommends that the project sponsor allow a passby flow of 3.5 gpm to pass at all times when Well DR-2 is in operation to protect the wetland complex. A passive weir system should be installed at the P-2 springhead.

The project sponsor should submit its design and proposed construction schedule for passive passby flow devices within 60 days following Commission action for review and approval by Commission staff prior to any construction.

The project is subject to Commission monitoring and reporting requirements, as per Commission Regulation §806.30. The project sponsor should install appropriate metering on Well DR-2 to monitor withdrawals daily. The project sponsor should report these data to the Commission quarterly unless otherwise required.

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.13, and in accordance with Commission Resolution No. 2008-10. The project sponsor has provided all proofs of notification as required by Commission Regulation §806.15.

In accordance with the Memorandum of Understanding with PADEP, Commission staff recommends that this approval not become effective until such time as the project sponsor can certify to the Commission that it has received an approval from PADEP for the construction of the water supply facilities related to this application.

The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

This project is not required for the optimum planning, development, conservation, utilization, management, and control of the water resources of the basin and will not significantly affect the water resources of the basin.

Decision

1. The project's groundwater withdrawal of 0.019 mgd (30-day average) from Well DR-2 is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including groundwater withdrawal monitoring and reporting requirements contained in Commission Regulation §806.30.

4. The project sponsor shall install a meter, accurate to within five (5) percent, on Well DR-2. The project sponsor shall notify the Commission, in writing, when the meter is installed.

5. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the metered withdrawal from Well DR-2. The required reporting data shall be submitted to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of production from Well DR-2 shall not exceed 22.5 gpm.

8. The project sponsor shall not operate Wells DR-2 and DR-3 simultaneously.

9. The project sponsor shall allow a flow to pass in Scott Creek directly below the point of impact from Well DR-2 of not less than 0.508 cubic feet per second (cfs) (228 gpm). When the streamflow below the point of withdrawal is less than this amount, the withdrawal shall be reduced to maintain 0.508 cfs (228 gpm) in the stream channel below the well. When the natural flow is equal to or less than 0.508 cfs (228 gpm), no water may be withdrawn and the entire natural flow shall be allowed to pass the point of withdrawal to maintain such natural flow in the channel below the point of withdrawal as may prevail above. The project sponsor may propose alternative monitoring to the Commission for staff review and approval.

10. The project sponsor shall allow a flow to pass at the P-2 springhead of not less than 3.5 gpm at all times during the operation of Well DR-2. A weir shall be installed at the P-2 springhead to insure that the passby flow requirement is satisfied at all times during the operation of Well DR-2. The project sponsor may propose alternative monitoring to the Commission for staff review and approval.

11. The project sponsor shall submit its designs and a proposed construction schedule for the passby flow measurement devices for Scott Creek and the P-2 springhead within sixty (60) days of the date of this approval for review and approval by Commission staff prior to any construction. Following approval, the project sponsor shall complete construction in accordance with the approved schedule, and shall certify to the Commission that construction has been completed in accordance with the approved design. The passby systems shall be kept fully functional and free of debris.

12. If the Commission determines that the operation of the project's groundwater withdrawal adversely affects any existing groundwater or surface water withdrawal, the project sponsor shall be required to provide, at its expense, an alternate water supply or other mitigating measure.

13. The project sponsor shall comply with the water conservation requirements contained in Commission Regulation §806.25(b).

14. Pursuant to Article 12, Section 12.2, of the Compact, this project is hereby included in the Commission's Comprehensive Plan.

15. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

16. This approval shall not become effective until the project sponsor certifies to the Commission that it has received a permit from PADEP authorizing the construction of the water supply facilities related to this application.

17. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

18. The Commission reserves the right to inspect or investigate the project facility, and the project sponsor shall allow authorized employees or agents of the Commission, without advance notice or a search warrant, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained. Such employees or agents shall be authorized to conduct tests or sampling; to take photographs; to perform measurements, surveys, and other tests; to inspect the methods of construction, operation, or maintenance; to inspect all measurement equipment; to audit, examine, and copy books, papers, and records pertinent to any matter under investigation; and to take any other action necessary to assure that the project is constructed, operated, or maintained in accordance with the terms and conditions of this approval or any other rule, regulation, or order of the Commission.

19. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the Commission may suspend, modify, or revoke its approval of same, and may impose appropriate penalties. Upon written notice by the Commission, the project sponsor shall have thirty (30) days to correct such noncompliance, unless an alternate period is specified in the notice. Nothing herein shall preclude the Commission from exercising its authority to immediately modify, suspend, or revoke this approval where it determines exigent circumstances warrant such action, or from imposing penalties, regardless of the period of noncompliance.

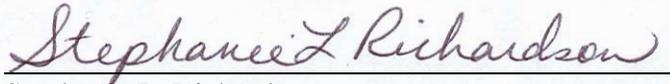
20. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or water resources. The Commission, upon its own motion, may at any time reopen any project approval and make additional corrective modifications that may be necessary.

21. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

22. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than September 12, 2023, the existing approval shall be deemed extended until such time as the Commission renders a decision on the application.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20090316

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.171 mgd,
When Available, from Bennett Branch-1 of Sinnemahoning Creek,
for Development and Completion of Natural Gas Wells,
Jay Township, Elk County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050202, Bennett Branch of Sinnemahoning Creek Watershed, Jay Township, Elk County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.171 million gallons per day (mgd) (peak day) from Bennett Branch of Sinnemahoning Creek in Jay Township at a maximum instantaneous rate of withdrawal of 118 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Bennett Branch of Sinnemahoning Creek through an in-stream pump at a rate of 118 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.171 mgd so that water could be withdrawn from Bennett Branch of Sinnemahoning Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.171 mgd (peak day) from Bennett Branch of Sinnemahoning Creek in Jay Township, at a maximum instantaneous withdrawal rate of 118 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Bennett Branch of Sinnemahoning Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Bennett Branch of Sinnemahoning Creek, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Bennett Branch of Sinnemahoning Creek at

the point of taking to be 1.95 cubic feet per second (cfs) (874 gpm), and the average daily flow to be 103.31 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 118 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow rate that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 15 percent of the average daily flow, which equals a passby flow of 15.50 cfs or 6,956 gpm. The project sponsor must cease all withdrawals when streamflow in Bennett Branch of Sinnemahoning Creek immediately downstream of the intake location is at or below 15.50 cfs for the protection of aquatic resources and downstream users.

Additionally, PADEP's Bureau of Abandoned Mine Reclamation (BAMR) plans to conduct a mine pool drawdown as part of a remediation project at the Hollywood Mine. BAMR intends to withdraw and discharge up to 1,000 gpm of mine drainage impaired water upstream of the project sponsor's proposed withdrawal, and has commented on this application because of water quality concerns. The mine drainage discharges are predicated on dilution in waters of Bennett Branch to meet water quality standards before the confluence with Sinnemahoning Creek. Commission staff recommends approval of the project sponsor's withdrawal with the required passby flow so that the withdrawal is interrupted during low flow conditions. However, should the Hollywood Mine plant commence construction during the duration of this approval, Commission staff may wish to reevaluate the passby flow so that acceptable water quality is maintained in Sinnemahoning Creek.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01543700, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Bennett Branch of Sinnemahoning Creek when the streamflow measured at stream gage 01543700, located on the First Fork Sinnemahoning Creek at Wharton, Pennsylvania, is 44.81 cfs or less (15 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 44.81 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.171 mgd. Commission staff recommends approval of up to 0.171 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Bennett Branch of Sinnemahoning Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Bennett Branch of Sinnemahoning Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07.

The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.171 mgd, when available, from Bennett Branch of Sinnemahoning Creek at the location specified in the application in Jay Township, Elk County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The Commission reserves the right to reopen this approval and reevaluate the passby flow requirement if the Hollywood Mine remediation project commences construction during the duration of this approval.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

6. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Bennett Branch of Sinnemahoning Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

7. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required.

Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 118 gpm.

9. The project sponsor shall cease all withdrawals from Bennett Branch of Sinnemahoning Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01543700 on the First Fork Sinnemahoning Creek at Wharton, Pennsylvania, is less than 44.81 cfs, and shall not reinstate withdrawals until the streamflow has remained above 44.81 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

10. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

11. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

12. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

13. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

14. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

15. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

16. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

17. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

18. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

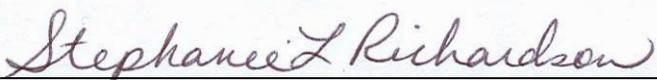
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

21. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

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Docket No. 20090317

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.152 mgd,
When Available, from Bennett Branch-2 of Sinnemahoning Creek,
for Development and Completion of Natural Gas Wells,
Jay Township, Elk County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050202, Bennett Branch of Sinnemahoning Creek Watershed, Jay Township, Elk County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.152 million gallons per day (mgd) (peak day) from Bennett Branch of Sinnemahoning Creek in Jay Township at a maximum instantaneous rate of withdrawal of 105 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Bennett Branch of Sinnemahoning Creek through an in-stream pump at a rate of 105 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.152 mgd so that water could be withdrawn from Bennett Branch of Sinnemahoning Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.152 mgd (peak day) from Bennett Branch of Sinnemahoning Creek in Jay Township, at a maximum instantaneous withdrawal rate of 105 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Bennett Branch of Sinnemahoning Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Bennett Branch of Sinnemahoning Creek, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Bennett Branch of Sinnemahoning Creek at

the point of taking to be 1.77 cubic feet per second (cfs) (793 gpm), and the average daily flow to be 93.73 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 105 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow rate that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 15 percent of the average daily flow, which equals a passby flow of 14.06 cfs or 6,311 gpm. The project sponsor must cease all withdrawals when streamflow in Bennett Branch of Sinnemahoning Creek immediately downstream of the intake location is at or below 14.06 cfs for the protection of aquatic resources and downstream users.

Additionally, PADEP's Bureau of Abandoned Mine Reclamation (BAMR) plans to conduct a mine pool drawdown as part of a remediation project at the Hollywood Mine. BAMR intends to withdraw and discharge up to 1,000 gpm of mine drainage impaired water upstream of the project sponsor's proposed withdrawal, and has commented on this application because of water quality concerns. The mine drainage discharges are predicated on dilution in waters of Bennett Branch to meet water quality standards before the confluence with Sinnemahoning Creek. Commission staff recommends approval of the project sponsor's withdrawal with the required passby flow so that the withdrawal is interrupted during low flow conditions. However, should the Hollywood Mine plant commence construction during the duration of this approval, Commission staff may wish to reevaluate the passby flow so that acceptable water quality is maintained in Sinnemahoning Creek.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01543700, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Bennett Branch of Sinnemahoning Creek when the streamflow measured at stream gage 01543700, located on the First Fork Sinnemahoning Creek at Wharton, Pennsylvania, is 44.78 cfs or less (15 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 44.78 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.152 mgd. Commission staff recommends approval of up to 0.152 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Bennett Branch of Sinnemahoning Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Bennett Branch of Sinnemahoning Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07.

The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.152 mgd, when available, from Bennett Branch of Sinnemahoning Creek at the location specified in the application in Jay Township, Elk County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The Commission reserves the right to reopen this approval and reevaluate the passby flow requirement if the Hollywood Mine remediation project commences construction during the duration of this approval.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

6. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Bennett Branch of Sinnemahoning Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

7. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required.

Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 105 gpm.

9. The project sponsor shall cease all withdrawals from Bennett Branch of Sinnemahoning Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01543700 on the First Fork Sinnemahoning Creek at Wharton, Pennsylvania, is less than 44.78 cfs, and shall not reinstate withdrawals until the streamflow has remained above 44.78 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

10. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

11. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

12. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

13. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

14. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

15. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

16. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

17. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

18. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

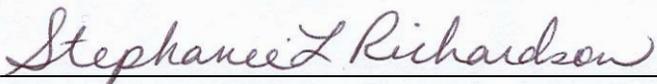
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

21. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20090320

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.322 mgd, from Chemung River-2,
for Development and Completion of Natural Gas Wells,
Athens Township, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Chemung Subbasin, HUC 02050105, Chemung River Watershed, Athens Township, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.322 million gallons per day (mgd) (peak day) from the Chemung River in Athens Township at a maximum instantaneous rate of withdrawal of 223 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Chemung River through an in-stream pump at a rate of 223 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.322 mgd so that water could be withdrawn from the Chemung River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.322 mgd (peak day) from the Chemung River in Athens Township, at a maximum instantaneous withdrawal rate of 223 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the Chemung River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Chemung River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the Chemung River at the point of taking to be 105.72 cubic feet per second (cfs) (47,451 gpm), and the average daily flow to be 2,657.50 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 223 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location. Based on this finding and its evaluation of cumulative impacts, Commission staff has determined that a protective passby flow requirement is not needed for the proposed withdrawal, provided that the withdrawal rate does not exceed 223 gpm.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.322 mgd. Commission staff recommends approval of up to 0.322 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the Chemung River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the Chemung River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.322 mgd from the Chemung River at the location specified in the application in Athens Township, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the

Chemung River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 223 gpm.

8. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

9. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

10. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

11. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

12. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

13. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

14. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

15. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

16. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

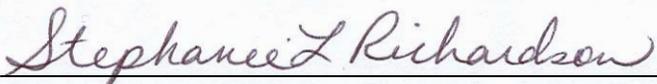
17. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

18. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

19. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Web <http://www.srbc.net>**Docket No. 20090322****Approval Date: March 12, 2009****EOG RESOURCES, INC.**

Surface Water Withdrawal (Peak Day) of up to 0.099 mgd,
When Available, from Sugar Creek-1,
for Development and Completion of Natural Gas Wells,
Burlington Borough, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106, Sugar Creek Watershed, Burlington Borough, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.099 million gallons per day (mgd) (peak day) from Sugar Creek in Burlington Borough at a maximum instantaneous rate of withdrawal of 68 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Sugar Creek through an in-stream pump at a rate of 68 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.099 mgd so that water could be withdrawn from Sugar Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.099 mgd (peak day) from Sugar Creek in Burlington Borough, at a maximum instantaneous withdrawal rate of 68 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Sugar Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Sugar Creek, at the point of taking, is classified as a Trout Stocked Fishery (TSF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Sugar Creek at the point of taking to be 0.66 cubic feet per second (cfs) (297 gpm), and the average daily flow to be 124.02 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 68 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 24.8 cfs or 11,134 gpm. The project sponsor must cease all withdrawals when streamflow in Sugar Creek immediately downstream of the intake location is at or below 24.8 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01532000, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Sugar Creek when the streamflow measured at stream gage 01532000, located on the Towanda Creek near Monroeton, Pennsylvania, is 57.55 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 57.55 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.099 mgd. Commission staff recommends approval of up to 0.099 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of

water withdrawn from Sugar Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Sugar Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.099 mgd, when available, from Sugar Creek at the location specified in the application in Burlington Borough, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Sugar Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 68 gpm.

8. The project sponsor shall cease all withdrawals from Sugar Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01532000 on the Towanda Creek near Monroeton, Pennsylvania, is less than 57.55 cfs, and shall not reinstate withdrawals until the streamflow has remained above 57.55 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

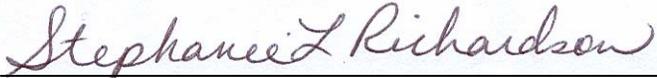
19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be

reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Web <http://www.srbc.net>

Docket No. 20090323

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.099 mgd,
When Available, from Sugar Creek-2,
for Development and Completion of Natural Gas Wells,
North Towanda Township, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106, Sugar Creek Watershed, North Towanda Township, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.099 million gallons per day (mgd) (peak day) from Sugar Creek in North Towanda Township at a maximum instantaneous rate of withdrawal of 68 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Sugar Creek through an in-stream pump at a rate of 68 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.099 mgd so that water could be withdrawn from Sugar Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.099 mgd (peak day) from Sugar Creek in North Towanda Township, at a maximum instantaneous withdrawal rate of 68 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Sugar Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Sugar Creek, at the point of taking, is classified as a Trout Stocked Fishery (TSF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Sugar Creek at the point of taking to be 1.03 cubic feet per second (cfs) (463 gpm), and the average daily flow to be 194.16 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 68 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 38.83 cfs or 17,431 gpm. The project sponsor must cease all withdrawals when streamflow in Sugar Creek immediately downstream of the intake location is at or below 38.83 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01532000, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Sugar Creek when the streamflow measured at stream gage 01532000, located on the Towanda Creek near Monroeton, Pennsylvania, is 57.55 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 57.55 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.099 mgd. Commission staff recommends approval of up to 0.099 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of

water withdrawn from Sugar Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Sugar Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.099 mgd, when available, from Sugar Creek at the location specified in the application in North Towanda Township, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Sugar Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 68 gpm.

8. The project sponsor shall cease all withdrawals from Sugar Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01532000 on the Towanda Creek near Monroeton, Pennsylvania, is less than 57.55 cfs, and shall not reinstate withdrawals until the streamflow has remained above 57.55 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

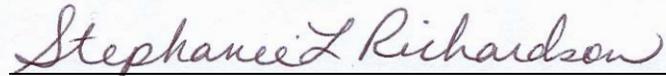
19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be

reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20090324

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.322 mgd, from Susquehanna River-1,
for Development and Completion of Natural Gas Wells,
Athens Borough, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Upper Susquehanna Subbasin, HUC 02050103, Susquehanna River Watershed, Athens Borough, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.322 million gallons per day (mgd) (peak day) from the Susquehanna River in Athens Borough at a maximum instantaneous rate of withdrawal of 223 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from the Susquehanna River through an in-stream pump at a rate of 223 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.322 mgd so that water could be withdrawn from the Susquehanna River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.322 mgd (peak day) from the Susquehanna River in Athens Borough, at a maximum instantaneous withdrawal rate of 223 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the Susquehanna River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Rare or protected freshwater mussel species are known to occur in the vicinity of the proposed project site. According to information submitted by the project sponsor, the water intake will be a shallow, nonpermanent structure. Provided that the intake design uses a 2.5-mesh (0.1-inch) grate, the intake velocity during operation of the withdrawal is 0.5 feet per second or less, and the intake adheres to Canada's Department of Fisheries and Oceans Freshwater Intake End-of-Pipe Fish Screen Guideline, Commission staff and PFBC staff concur

that this method of withdrawal is protective of mussel habitat. Additionally, standard best management practices should be employed in upland and riparian areas, and strict erosion and sedimentation controls should be used to mitigate for the potential for adverse impacts related to the withdrawal.

Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the Susquehanna River at the point of taking to be 395.21 cubic feet per second (cfs) (177,383 gpm), and the average daily flow to be 7,880.19 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 223 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location. Based on this finding and its evaluation of cumulative impacts, Commission staff has determined that a protective passby flow requirement is not needed for the proposed withdrawal, provided that the withdrawal rate does not exceed 223 gpm.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.322 mgd. Commission staff recommends approval of up to 0.322 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.322 mgd from the Susquehanna River at the location specified in the application in Athens Borough, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall use a shallow, nonpermanent intake structure with a 2.5-mesh (0.1-inch) grate having an intake velocity during operation of the withdrawal of 0.5 feet per second or less, and adhering to Canada's Department of Fisheries and Oceans Freshwater Intake End-of-Pipe Fish Screen Guideline. Standard best management practices shall be employed in upland and riparian areas, and strict erosion and sedimentation controls shall be used. The project sponsor may propose alternate intake structure design parameters and intake design for review and approval by Commission staff.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

6. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

7. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 223 gpm.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

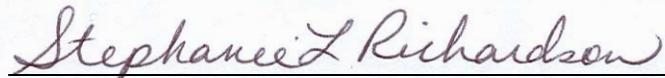
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090325

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.322 mgd, from Susquehanna River-2,
for Development and Completion of Natural Gas Wells,
Ulster Township, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106, Susquehanna River Watershed, Ulster Township, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.322 million gallons per day (mgd) (peak day) from the Susquehanna River in Ulster Township at a maximum instantaneous rate of withdrawal of 223 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from the Susquehanna River through an in-stream pump at a rate of 223 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.322 mgd so that water could be withdrawn from the Susquehanna River and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.322 mgd (peak day) from the Susquehanna River in Ulster Township, at a maximum instantaneous withdrawal rate of 223 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on the Susquehanna River is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Rare or protected freshwater mussel species are known to occur in the vicinity of the proposed project site. According to information submitted by the project sponsor, the water intake will be a shallow, nonpermanent structure. Provided that the intake design uses a 2.5-mesh (0.1-inch) grate, the intake velocity during operation of the withdrawal is 0.5 feet per

second or less, and the intake adheres to Canada's Department of Fisheries and Oceans Freshwater Intake End-of-Pipe Fish Screen Guideline, Commission staff and PFBC staff concur that this method of withdrawal is protective of mussel habitat. Additionally, standard best management practices should be employed in upland and riparian areas, and strict erosion and sedimentation controls should be used to mitigate for the potential for adverse impacts related to the withdrawal.

Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the Susquehanna River at the point of taking to be 564.83 cubic feet per second (cfs) (253,513 gpm), and the average daily flow to be 10,305 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 223 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location. Based on this finding and its evaluation of cumulative impacts, Commission staff has determined that a protective passby flow requirement is not needed for the proposed withdrawal, provided that the withdrawal rate does not exceed 223 gpm.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.322 mgd. Commission staff recommends approval of up to 0.322 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.322 mgd from the Susquehanna River at the location specified in the application in Ulster Township, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall use a shallow, nonpermanent intake structure with a 2.5-mesh (0.1-inch) grate having an intake velocity during operation of the withdrawal of 0.5 feet per second or less, and adhering to Canada's Department of Fisheries and Oceans Freshwater Intake End-of-Pipe Fish Screen Guideline. Standard best management practices shall be employed in upland and riparian areas, and strict erosion and sedimentation controls shall be used. The project sponsor may propose alternate intake structure design parameters and intake design for review and approval by Commission staff.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

6. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

7. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 223 gpm.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

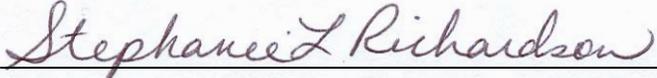
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20090326

Approval Date: March 12, 2009

EOG RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.096 mgd,
When Available, from West Creek,
for Development and Completion of Natural Gas Wells,
City of Saint Marys, Elk County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on October 21, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050202, West Creek Watershed, City of Saint Marys, Elk County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.096 million gallons per day (mgd) (peak day) from West Creek in the City of Saint Marys at a maximum instantaneous rate of withdrawal of 67 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from West Creek through an in-stream pump at a rate of 67 gpm to fill frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.096 mgd so that water could be withdrawn from West Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.096 mgd (peak day) from West Creek in the City of Saint Marys, at a maximum instantaneous withdrawal rate of 67 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on West Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

West Creek, at the point of taking, is classified as a Class D, High-Quality Cold Water Fishery (HQ-CWF) (PFBC; Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for West Creek at the point of taking to be 0.73 cubic feet per second (cfs) (328 gpm), and the average daily flow to be 63.6 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 67 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Based on the Instream Flow Incremental Methodology (IFIM) Study, Commission staff recommends that the project sponsor allow for a passby flow of not less than the 7-day, 10-year low flow (Q7-10), which equals a passby flow of 0.73 cfs or 328 gpm. The project sponsor must cease all withdrawals when streamflow at the intake on West Creek drops below 0.73 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 03026500, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from West Creek when the streamflow measured at stream gage 03026500, located on the Sevenmile Run near Rasselas, Pennsylvania, is 0.35 cfs or less (Q7-10 plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 0.35 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.096 mgd. Commission staff recommends approval of up to 0.096 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from West Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from West Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.096 mgd, when available, from West Creek at the location specified in the application in the City of Saint Marys, Elk County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from West Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 67 gpm.

8. The project sponsor shall cease all withdrawals from West Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 03026500 on the Sevenmile Run near Rasselas, Pennsylvania, is less than 0.35 cfs, and shall not reinstate withdrawals until the streamflow has remained above 0.35 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

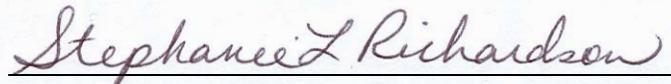
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090327

Approval Date: March 12, 2009

FORTUNA ENERGY INC.

Surface Water Withdrawal (Peak Day) of up to 0.250 mgd,
When Available, from Sugar Creek,
for Development and Completion of Natural Gas Wells,
West Burlington Township, Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on June 9, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20080601, and registered as sources on the project sponsor's Approvals by Rule.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106, Sugar Creek Watershed, West Burlington Township, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.250 million gallons per day (mgd) (peak day) from Sugar Creek in West Burlington Township at a maximum instantaneous rate of withdrawal of 173 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Sugar Creek at a rate of 173 gpm to fill a storage pond for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.250 mgd so that water could be withdrawn from Sugar Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.250 mgd (peak day) from Sugar Creek in West Burlington Township, at a maximum instantaneous withdrawal rate of 173 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Sugar Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Sugar Creek, at the point of taking, is classified as a Trout Stocked Fishery (TSF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year

low flow (Q7-10) for Sugar Creek at the point of taking to be 0.53 cubic feet per second (cfs) (239 gpm), and the average daily flow to be 100.07 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 173 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 20.01 cfs or 8,984 gpm. The project sponsor must cease all withdrawals when streamflow in Sugar Creek immediately downstream of the intake location is at or below 20.01 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01532000, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Sugar Creek when the streamflow measured at stream gage 01532000, located on the Towanda Creek near Monroeton, Pennsylvania, is 57.79 cfs or less (20 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 57.79 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.250 mgd. Commission staff recommends approval of up to 0.250 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Sugar Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Sugar Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.250 mgd, when available, from Sugar Creek at the location specified in the application in West Burlington Township, Bradford County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Sugar Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 173 gpm.

8. The project sponsor shall cease all withdrawals from Sugar Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01532000 on the Towanda Creek near Monroeton, Pennsylvania, is less than 57.79 cfs, and shall not reinstate withdrawals until the streamflow has remained above 57.79 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

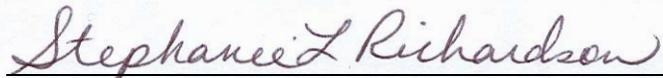
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20090328

Approval Date: March 12, 2009

GLOBAL TUNGSTEN & POWDERS CORP.

Consumptive Water Use of up to 0.170 mgd (Peak Day),
for Industrial Supply and Use,
North Towanda Township and Towanda Borough,
Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, §806.6(d) relating to transfer provisions, and §806.22 relating to consumptive use. The application was received on October 27, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the production of tungsten (W), molybdenum (Mo), other refractory materials, and phosphors produced in the form of ammonium paratungstate (“APT”), powders, rod, wire, and other fabricated products.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050106, Susquehanna River Watershed, North Towanda Township and Towanda Borough, Bradford County, Pennsylvania.

Project Features. The project sponsor has requested approval for a maximum daily consumptive use of up to 0.170 million gallons per day (mgd).

A previous Commission approval for consumptive use at this facility was issued to Osram Sylvania, Inc. on May 15, 1997 as Docket No. 19970502, and modified on November 13, 1997 and March 14, 2007.

The facility is served by public water, primarily for fire suppression, and also uses water from nine on-site production wells. The water withdrawn from the production wells is used primarily for drinking water, non-contact cooling water, tower makeup, plant boilers, and industrial process water. Water obtained from the public water supplier is not consumptively used at the facility.

Wastewater (primarily process wastes, blowdown, and contact cooling water) from the facility is polished and discharged via a National Pollutant Discharge Elimination System (NPDES)-permitted outfall. Sanitary waste is discharged to the Towanda Borough Publicly Owned Treatment Works (POTW), and non-contact cooling water, steam condensate and stormwater runoff is discharged to three stormwater conveyances through metered outfall lines.

Water is consumptively used for cooling purposes and lost as steam from the plant boilers. During its 2006 review of the project facility, Commission staff collected up-to-date information on cooling towers at the facility, which is contained in Table 1.

Table 1. Cooling Tower Information

SRBC Cooling Tower ID	Tower Location by Building Number	Year Installed	Chiller Make	Chiller Model	Chiller Typical Capacity (gpd)
1	Building 20, Roof	1996	Marley	NC 6122	2,667,000*
2	Building 28, East Wall	2005	Thermal Care	FC 740	980,640
3	Building 15A, Roof	1986	Marley	NC 88	1,333,000*
4	Building 22, East Wall	1978	Marley	NC 89	1,901,000*
5	Building 9, West Wall	1996	Marley	NC 51	1,576,000*
6	Building 9, Near North Wall	1990	Marley	NC 1-2077	727,000*
7	Building 10, Roof	2005	Thermal Care	FC 640	648,000
9	Building 26, East Wall	2005	Marley	NC 8306	1,152,000
11	Building 8, Roof	2002	Marley	NC 2201	864,000
12	Building 25, North Wall	1991	Marley	NC Class	485,000*
13	Building 25, Roof	1986	Marley	NC 83	1,333,000*
14	Building 25A, Roof	1993	Marley	NC 4001	1,333,000*
All cooling towers are metered at inflow (makeup) and outflow (blowdown).					
*Chiller typical capacity (gallons per day [gpd]) – estimated value.					

In addition to the 2006 information regarding the cooling towers, the project sponsor also identified the following additional minor consumptive water uses: sludge removal, boiler deaerator vents, ammonia recovery system (flash tanks), and condensate receiver vents.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, and §806.30.

All water evaporated from the facility's cooling towers, and lost through sludge removal, at condensate receiver vents, at boiler deaerator vents, and in the ammonia recovery system (flash tanks) is considered to be used consumptively.

Commission staff recommends the consumptive water use of the facility be the sum of the metered quantity evaporated from the facility's cooling towers, plus the quantity lost through sludge removal, at condensate receiver vents, at boiler deaerator vents, and in the ammonia recovery system (flash tanks).

The project sponsor has installed inflow and outflow meters at its 12 cooling towers to directly measure consumptive uses associated with the towers.

The project sponsor will calculate consumptive use from sludge disposal monthly using actual water content times the weight of sludge for each landfill sludge generated, and pro-rate this to a daily value.

The project sponsor will calculate the consumptive use from the condensate receiver vents using the following equations:

$$\text{Percent Condensate Returned} = \frac{[(\text{Softened H}_2\text{O Makeup TDS} - \text{Boiler Feed Water TDS}) (100)]}{(\text{Softened H}_2\text{O Makeup TDS} - \text{Condensate Return TDS})}$$

$$\text{Gallons Daily Water Loss} = (0.02) (\text{Percent Condensate Returned}) (1/100) (\text{Pounds Steam Produced/Day}) (1/8.3 \text{ pounds/gallon})$$

The project sponsor will calculate consumptive use from the boiler deaerator vent discharge by multiplying the feedwater flow in pounds per hour by the constant 0.15 percent.

The project sponsor will calculate consumptive use from the ammonia recovery system flash tank based on the enthalpy of the saturated condensate steam leaving the ammonia recovery stripping column, the enthalpy of the saturated condensate at the flash tank, and the latent heat of the flash steam at the flash tank. The percent flashed will be used with the flow from the flash tank, which will be measured using a Yokogawa Magnetic Flow Meter, to determine the amount of vented steam.

Should the proposed accounting procedure fail to accurately measure the project's consumptive water use, the Commission reserves the right to modify the metering, monitoring, and accounting procedures. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, and accounting procedures. Any alternative monitoring or accounting procedure requested by the project sponsor will be reviewed and approved by Commission staff.

The project's consumptive use of water is subject to mitigation requirements, as per Commission Regulation §806.22(b). To satisfy these requirements, the project sponsor proposes to make quarterly payments to the Commission to mitigate its consumptive water use.

The project sponsor has requested a consumptive water use approval for up to 0.170 mgd. Based on an analysis of water use by the project sponsor, Commission staff is recommending approval of the requested amount. Should the project's future consumptive water use be expected to exceed 0.170 mgd, the project sponsor must apply for a modification to this docket at that time.

Commission staff recommends that Commission Docket Nos. 19970502, 19970502-1, and 19970502-2, issued on May 15, 1997, and subsequently modified on November 13, 1997, and March 4, 2007, relating to consumptive water use, should be superseded by this docket.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee in accordance with Commission Regulation §806.13 and in accordance with Commission Resolution 2008-10. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's consumptive use of water up to 0.170 mgd (peak day) is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. Conditions of Commission Docket No. 19970502, issued May 15, 1997; Docket No. 19970502-1, modified November 13, 1997; and Docket No. 19970502-2, modified March 14, 2007, that relate to the consumptive use of water at the project facility, are hereby superseded.

4. The project sponsor shall comply with all Commission regulations, including consumptive water use reporting requirements, as per Commission Regulation §806.30.

5. The project sponsor shall keep daily records of the project's consumptive water use, and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the quantity of

cooling tower makeup plus the calculated water loss associated with sludge removal, boiler deaerator vents, ammonia recovery system (flash tanks), and condensate receiver vents.

6. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of cooling tower makeup, the water loss associated with sludge removal, boiler deaerator vents, ammonia recovery system (flash tanks), and condensate receiver vents. Payment amounts shall be calculated by applying this rate to the daily amount of water used consumptively by the project. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

7. The project sponsor shall comply with the water conservation requirements contained in Commission Regulation §806.25(b).

8. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

9. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

10. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

11. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

12. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

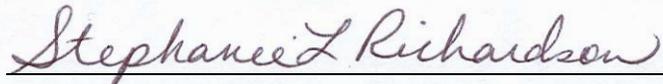
13. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

14. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than September 12, 2023, the existing approval shall be deemed extended until such time as the Commission renders a decision on the application.

15. If the project is discontinued for such a period of time and under such circumstances that an abandonment of the project may reasonably be inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009

A handwritten signature in cursive script that reads "Stephanie L. Richardson". The signature is written in dark ink on a light-colored background.

Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090329

Approval Date: March 12, 2009

INTERNATIONAL BUSINESS MACHINES CORPORATION, FORMER ENDICOTT, NEW YORK, FACILITY

Groundwater Withdrawal (30-Day Average) of 1.010 mgd from 31 Wells,
for Treatment of Groundwater Contamination,
Village of Endicott, Broome County, New York

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the applications on December 4, 2008.

Description

Purpose. The purpose of the application is to request approval for the withdrawal of groundwater for the continued operation of a groundwater recovery and treatment system.

Location. The project is located in the Upper Susquehanna Subbasin, HUC 02050101, Susquehanna River Watershed, Village of Endicott, Broome County, New York.

Project Features. International Business Machines Corporation (IBM) has requested approval for the withdrawal (30-day average) of a total of 1.010 million gallons per day (mgd) from 31 recovery wells at the former Endicott, New York, facility. Although the individual withdrawal rates may vary on a daily basis, the maximum combined daily withdrawal rate for all wells is not expected to exceed 1.010 mgd. The project sponsor also has requested the removal of six decommissioned recovery wells from its current dockets.

The Commission previously approved five groundwater withdrawal dockets over the past 17 years for the groundwater recovery and treatment system. The remediation project was originally approved in July 1991 (Commission Docket No. 19910708) and included 12 recovery wells. The docket also included a grandfathered approval of Well EN-CAF, as its installation and use pre-dated the Commission regulations for groundwater withdrawals. Eight new recovery wells added to the system were approved in 1993 (Docket No. 19930302), 1994 (Docket No. 19941101), 1997 (Docket No. 19970101), 1999 (Docket No. 19990504), 2000 (Docket No. 19990504-1), and most recently, in 2001 (Docket No. 19990504-2).

A summary of the existing recovery wells used in the groundwater remediation system is provided in the table below.

The groundwater remediation at the project sponsor's former Endicott, New York, facility is being conducted under continuing review and approval of the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation, under Order on Consent Index #A7-0502-0104 (Order) for Site #704014, dated August 4, 2004.

The remediation is intended to contain and remove volatile organic compounds (VOCs) detected in groundwater present in two geologic units beneath the Village of Endicott. The shallow geologic unit consists of unconsolidated glacial outwash (sand and gravel) and is underlain by a deeper unit, the Catskill Formation (bedrock). The primary remediation objective is to prevent downgradient migration of contaminants toward water supply wells and the Susquehanna River. The groundwater extraction component of the remediation system is designed to maintain containment of the VOC plume in the deeper bedrock unit and to remove (to the extent possible) the VOC plume in shallow sand and gravel unit.

All groundwater withdrawn from the project's recovery wells is treated for organic contaminant removal, and immediately discharged to the Susquehanna River via the Village of Endicott municipal storm sewers. The discharge is regulated under the NYSDEC Order and previously under New York State administered State Pollutant Discharge Elimination System (SPDES) Permit Nos. NY0109592 and NY0003808.

Construction details and operational information for the 12 currently active recovery wells and the 19 proposed recovery wells addressed in this docket are summarized in the following table.

Well Construction Details and Operating Information, Groundwater Recovery Wells

Well Identification	Well Depth (feet)	Cased Depth (feet)	Screened Interval (feet to feet)	Existing Pump Capacity (mgd)	Average Daily Withdrawal (mgd)	Well Metered (Yes/No)
Currently Active Recovery Wells						
EN-107	19	9	9.0-14.0	0.014	0.000	Yes
EN-120	43.5	18.5	18.5-38.5	0.029	0.011	Yes
EN-133	41	27	27.0-38.0	0.170	0.082	Yes
EN-154	41.5	23.5	23.5-38.5	0.108	0.000	Yes
EN-160	39	28	28.0-36.0	0.029	0.013	Yes
EN-185	33	22.9	22.9-29.9	0.029	0.012	Yes
EN-194	40	29	29.0-37.0	0.029	0.015	Yes
EN-195	36	26	26.0-33.0	0.029	0.015	Yes
EN-218	21.5	12.5	12.5-18.5	0.079	0.015	Yes

Well Identification	Well Depth (feet)	Cased Depth (feet)	Screened Interval (feet to feet)	Existing Pump Capacity (mgd)	Average Daily Withdrawal (mgd)	Well Metered (Yes/No)
Currently Active Recovery Wells (continued)						
EN-222	34	27	27.0-31.0	0.029	0.007	Yes
EN-253	19	10.7	10.7-15.9	0.014	0.006	Yes
EN-276	32.6	25.6	25.6-29.6	0.014	0.010	Yes
Proposed New Recovery Wells						
EN-091T	38	31.5	31.5-33.0	0.014	0.021	Yes
EN-092P	38	32	32.0-33.0	0.014	0.025	Yes
EN-215T	48.5	36	36.0-43.5	0.079	0.060	Yes
EN-284P	60.8	46	46.0-57.8	0.046	0.071	Yes
EN-294TD	58	43.3	43.3-57.0	NA	0.000	Yes
EN-428	16	14.5	14.5-16.0	0.029	0.009	Yes
EN-428P	18.5	12.5	12.5-13.5	0.029	0.000	Yes
EN-447T	52.5	40	40.0-47.5	0.136	0.095	Yes
EN-451P	41	26	26.0-36.0	0.029	0.006	Yes
EN-491T	38.8	32.3	32.3-33.8	0.046	0.031	Yes
EN-492T	37	29.8	29.8-31.8	0.014	0.014	Yes
EN-499T	48.5	41.5	41.5-43.5	0.079	0.088	Yes
EN-623	24.1	17.1	17.1-21.1	0.014	0.001	Yes
EN-624	25.9	17.9	17.9-22.9	0.014	0.005	Yes
EN-D49	25.9	103.5	103.5-181.0	0.108	0.083	Yes
EN-107R	181	10	10.0-14.5	0.014	0.013	Yes
EN-154R	29.2	22	22.0-24.0	0.108	0.086	Yes
EN-89R	18	12	12.0-13.0	0.014	0.001	Yes
EN-219R	28.75	21.75	21.75-23.75	0.046	0.043	Yes
NA – Not Available						

Aquifer Testing. The project sponsor has collected and continues to collect extensive pumping and analytical data for all existing and proposed wells. The project data are used to create chemical distribution maps and groundwater elevation contour maps, which are summarized in a report and annually submitted to NYSDEC and the Commission. Electronic copies of the reports have been submitted to the Commission annually.

The project sponsor requested a waiver of Commission Regulation §806.12, regarding the constant-rate aquifer testing requirement for new groundwater withdrawals. Since the design and operation of the existing groundwater recovery system was conducted under the direction of NYSDEC, and has been continuously operating since its installation, Commission staff recommends waiving the requirement for aquifer testing for these new and all future recovery wells.

Coordination. Commission staff has coordinated with NYSDEC Division of Environmental Remediation during review of the project.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

Commission staff recommends approval of the project sponsor's request to withdraw (30-day average) 1.010 mgd from 31 recovery wells. Commission staff recommends a total system withdrawal cap of 1.010 mgd (30-day average) for treatment of groundwater contamination.

Commission staff recommends that instead of issuing approvals for individual remediation wells that the project be approved only as a total withdrawal. Further, the project sponsor should have the option of reactivating one or more of the existing recovery wells in the future, or of adding new recovery wells to the system, provided the total withdrawal from all recovery wells does not exceed the 1.010 mgd (30-day average) limit. Any changes in the status of the recovery wells (reactivated or deactivated), or the installation of any new recovery wells, should be addressed in a written notice to the Commission within 30 days of the change.

By allowing new recovery wells to be installed, or existing recovery wells to be reactivated without making new application, the Commission is providing the project sponsor with the flexibility needed to respond to changing site conditions, such as natural annual fluctuations in water table levels, and to achieve better control of the groundwater plume, thereby affording better protection of the public health and safety. This flexibility also eliminates the potential for the Commission requirements to hinder or duplicate efforts made by member jurisdictions.

Commission staff recommends approval of the project sponsor's request to suspend Wells EN-25, EN-38, EN-39, EN-118, EN-119, and EN-175 (approved in Docket No. 19941101) and recovery Wells EN-89 and EN-219 (approved in Docket No. 19970101), as these wells have been decommissioned.

If the project sponsor plans to exceed its approved groundwater withdrawal (30-day average) of 1.010 mgd, the sponsor is required to make an application to the Commission to modify this docket.

The project sponsor requested a waiver of Commission Regulation §806.12, regarding the constant-rate aquifer testing requirement for new groundwater withdrawals. Since the design and operation of the existing groundwater recovery system was conducted under the direction of NYSDEC, and has been continuously operating since its installation, Commission staff recommends waiving the requirement for aquifer testing the recovery wells.

Commission Regulation §806.25(a) regarding water conservation requirements does not apply because the purpose of the project is to pump, treat, and immediately return groundwater to the basin.

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07.

Due to extensive public notification regarding the ongoing groundwater remediation project since 2004 in accordance with the terms of the Order between NYSDEC and IBM, the project sponsor has requested that the Commission waive all notification requirements. All remediation activities, including the operation of all recovery wells are overseen by NYSDEC, including public notification and outreach efforts. Public notification consists of public meetings, published work plans, semiannual and annual reports, and other reports to NYSDEC; with copies of all plans and reports sent to the New York State Department of Health, Broome County Health Department, and to public officials in the Village of Endicott and Town of Union. All reports are available to the public at the George F. Johnson Memorial Library in Endicott, New York. Commission staff recommends that the waiver be granted based on the nature of the project and the ongoing extensive public notification required by NYSDEC.

Commission staff recommends rescinding Docket Nos. 19910708, 19930302, 19941101, 19970101, and 19990504 and its modifications dated October 5, 2000 and April 12, 2001.

The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

This project is not required for the optimum planning, development, conservation, utilization, management, and control of the water resources of the basin and will not significantly affect the water resources of the basin.

Decision

1. The project's groundwater withdrawal (30-day average) of 1.010 mgd from 31 recovery wells is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including groundwater withdrawal monitoring and reporting requirements contained in Commission Regulation §806.30.

4. The project total system withdrawal shall not exceed 1.010 mgd (30-day average).

5. The recovery wells shall not be used as supply production wells or for any other non-remediation purposes at the site.

6. Commission Docket Nos. 19910708, 19930302, 19941101, 19970101, and 19990504 and its modifications dated October 5, 2000 and April 12, 2001, are hereby rescinded.

7. The project sponsor shall keep daily records of the total daily withdrawals from all wells. The required reporting data shall be submitted to the Commission quarterly, and as otherwise required. Monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The project sponsor shall install and maintain meters, accurate to within five (5) percent, on each active recovery well. The project sponsor may propose alternative monitoring to the Commission for staff review and approval.

9. The project sponsor shall provide a copy of any groundwater recovery and treatment system summary report provided to a state or federal agency.

10. If the Commission determines that the operation of the project's groundwater withdrawals from their recovery wells adversely affects any existing groundwater or surface water withdrawal, the project sponsor shall be required to provide, at its expense, an alternate water supply or other mitigating measure.

11. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

12. Pursuant to Article 12, Section 12.2, of the Compact, this project is hereby included in the Commission's Comprehensive Plan.

13. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

14. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

15. The Commission reserves the right to inspect or investigate the project facility, and the project sponsor shall allow authorized employees or agents of the Commission, without advance notice or a search warrant, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained. Such employees or agents shall be authorized to conduct tests or sampling; to take photographs; to perform measurements, surveys, and other tests; to inspect the methods of construction, operation, or maintenance; to inspect all measurement equipment; to audit, examine, and copy books, papers, and records pertinent to any matter under investigation; and to take any other action necessary to assure that the project is

constructed, operated, or maintained in accordance with the terms and conditions of this approval or any other rule, regulation, or order of the Commission.

16. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or water resources. The Commission, upon its own motion, may at any time reopen any project approval and make additional corrective modifications that may be necessary.

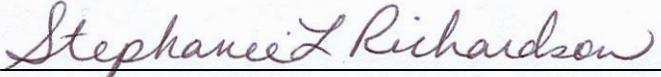
17. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

18. This approval is effective until March 12, 2024. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than September 12, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

19. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

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Docket No. 20090330

Approval Date: March 12, 2009

J-W OPERATING COMPANY

Surface Water Withdrawal (Peak Day) of up to 0.499 mgd,
When Available, from Sterling Run,
for Development and Completion of Natural Gas Wells,
Lumber Township, Cameron County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on August 8, 2008, and additional information on February 13, 2009.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081211, and registered as sources on the project sponsor's Approvals by Rule.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050202, Sterling Run Watershed, Lumber Township, Cameron County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.499 million gallons per day (mgd) (peak day) from Sterling Run in Lumber Township at a maximum instantaneous rate of withdrawal of 800 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Sterling Run at a maximum rate of 800 gpm from two tanker trucks, each with a 400 gpm withdrawal capacity, for truck transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.499 mgd so that water could be withdrawn from Sterling Run and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.499 mgd (peak day) from Sterling Run in Lumber Township, at a maximum instantaneous withdrawal rate of 800 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Sterling Run is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Sterling Run, at the point of taking, is classified as a Class D, Cold Water Fishery (CWF) (PFBC; Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day,

10-year low flow (Q7-10) for Sterling Run at the point of taking to be 0.43 cubic feet per second (cfs) (195 gpm), and the average daily flow to be 37.42 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 800 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. The requested rate of withdrawal is greater than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, thereby requiring a passby flow for the protection of aquatic resources and downstream users. Commission staff recommends that the project sponsor allow for a passby flow of not less than 10 percent of the average daily flow, which equals a passby flow of 3.74 cfs or 1,680 gpm. The project sponsor must cease all withdrawals when streamflow in Sterling Run immediately downstream of the intake location is at or below 3.74 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01542810, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Sterling Run when the streamflow measured at stream gage 01542810, located on Waldy Run near Emporium, Pennsylvania, is 2.68 cfs or less (10 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 2.68 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.499 mgd. Commission staff recommends approval of up to 0.499 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Sterling Run at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Sterling Run. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.499 mgd, when available, from Sterling Run at the location specified in the application in Lumber Township, Cameron County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Sterling Run, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 800 gpm.

8. The project sponsor shall cease all withdrawals from Sterling Run when streamflow, as measured at the U.S. Geological Survey's stream gage 01542810 on Waldy Run near Emporium, Pennsylvania, is less than 2.68 cfs, and shall not reinstate withdrawals until the streamflow has remained above 2.68 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

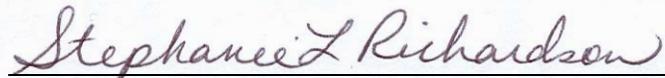
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20031204-2

Approval Date: December 11, 2003

Modification Date: June 13, 2007

Modification Date: March 12, 2009

NEW ENTERPRISE STONE & LIME CO., INC. ASHCOM QUARRY

Consumptive Water Use of up to 0.235 mgd,
Groundwater Withdrawals from Wells 1, 2, and 3 of 0.010 mgd,
0.025 mgd, and 0.065 mgd (30-Day Averages), Respectively, and
Surface Water Withdrawal from Cove Creek of up to 254 gpm (Peak Day),
for Processing of Aggregate and Production of Concrete,
Snake Spring Valley Township, Bedford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval.

Description

Purpose. The Commission originally approved the project on December 11, 2003, as Commission Docket No. 20031204 (Docket) and modified the Docket on June 13, 2007 (Docket No. 20031204-1). Commission staff is requesting this modification of the Docket to increase the approved maximum instantaneous pumping rate from Well 2 to conform with the previously approved 30-day average withdrawal quantity.

Location. The project is located in the Juniata Subbasin, HUC 02050303, Cove Creek Watershed, Snake Spring Valley Township, Bedford County, Pennsylvania.

Findings

Commission staff recommends increasing the instantaneous pumping rate at Well 2 from 13 gallons per minute (gpm) to 20 gpm. The project sponsor had initially provided information regarding the pump capacity, but has revised this based on recent pumping records. The pump is capable of producing 20 gpm. Nearly 20 gpm is occasionally pumped from the well without the withdrawal exceeding the approved 30-day average withdrawal. Commission staff recommends that the 30-day average withdrawal from Well 2 remain at the approved amount of 0.025 mgd.

Commission staff recommends that this approval remain effective until December 11, 2028, the term of the prior Docket approval.

Decision

1. Commission Docket No. 20031204, as approved December 11, 2003, and modified on June 13, 2007, is hereby modified to approve an increased maximum instantaneous pumping rate from Well 2 from 13 gpm to 20 gpm.

2. The 30-average groundwater withdrawal approval for Well 2, specified in Commission Docket No. 20031204-1, will continue at a rate of 0.025 mgd.

3. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

4. All other conditions in Commission Docket Nos. 20031204 and 20031204-1 not inconsistent herewith shall remain effective.

5. Pursuant to Article 12, Section 12.2, of the Compact, this project is hereby included in the Commission's Comprehensive Plan.

6. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

7. The Commission reserves the right to inspect or investigate the project facility, and the project sponsor shall allow authorized employees or agents of the Commission, without advance notice or a search warrant, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained. Such employees or agents shall be authorized to conduct tests or sampling; to take photographs; to perform measurements, surveys, and other tests; to inspect the methods of construction, operation, or maintenance; to inspect all measurement equipment; to audit, examine, and copy books, papers, and records pertinent to any matter under investigation; and to take any other action necessary to assure that the project is constructed, operated, or maintained in accordance with the terms and conditions of this approval or any rule, regulation, or order of the Commission.

8. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the Commission may suspend, modify, or revoke its approval of same, and may impose appropriate penalties. Upon written notice by the Commission, the project sponsor shall have thirty (30) days to correct such noncompliance, unless an alternate period is specified in the notice. Nothing herein shall preclude the Commission from exercising its authority to immediately modify, suspend, or

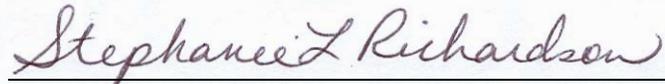
revoke this approval where it determines exigent circumstances warrant such action, or from imposing fines and penalties, regardless of the period of noncompliance.

9. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

10. This approval is effective until December 11, 2028, in accordance with the term of the prior Docket approval. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 11, 2028, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20090332

Approval Date: March 12, 2009

ULTRA RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.430 mgd,
When Available, from Pine Creek,
for Development and Completion of Natural Gas Wells,
Pike Township, Potter County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on August 2, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for the development and completion of natural gas wells targeting the Marcellus Shale Formation. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081228, and registered as sources on the project sponsor's Approvals by Rule.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050205, Pine Creek Watershed, Pike Township, Potter County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.430 million gallons per day (mgd) (peak day) from Pine Creek in Pike Township at a maximum instantaneous rate of withdrawal of 298 gallons per minute (gpm). The withdrawal will be used in well drilling, development, and completion to support natural gas development in the Susquehanna River Basin.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from Pine Creek through a dry hydrant at a rate of 298 gpm to fill a series of frac tanks for temporary storage before pumping the water to tanker trucks for transport to a drilling pad.

Once transported to a drilling pad, the water may be stored on-site for a month or more during the setup period in large tanks (approximately 22,000 gallons each) or in storage pits and impoundments. Most of the water will be used for fracture stimulation (or hydrofracing) of natural gas production wells.

The project sponsor has requested a withdrawal (peak day) of up to 0.430 mgd so that water could be withdrawn from Pine Creek and delivered to several drilling pads during any one day.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.430 mgd (peak day) from Pine Creek in Pike Township, at a maximum instantaneous withdrawal rate of 298 gpm. The proposed withdrawal is one of multiple, interruptible water sources available to the project sponsor. The natural gas development industry routinely stockpiles water on-site at drilling pads and plans to rely on this storage to support its year-round operation.

The withdrawal location on Pine Creek is specified in the application.

The project sponsor should file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

Pine Creek, at the point of taking, is classified as a Class D, Exceptional Value (EV) (PFBC; Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day,

10-year low flow (Q7-10) for Pine Creek at the point of taking to be 7.10 cubic feet per second (cfs) (3,188 gpm), and the average daily flow to be 246.67 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 298 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. Although the requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, based on an evaluation of cumulative impacts from existing upstream uses, Commission staff recommends that the project sponsor allow for a passby flow of not less than 25 percent of the average daily flow, which equals a passby flow of 61.67 cfs or 27,681 gpm. The project sponsor must cease all withdrawals when streamflow in Pine Creek immediately downstream of the intake location is at or below 61.67 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01548500, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from Pine Creek when the streamflow measured at stream gage 01548500, located on Pine Creek at Cedar Run, Pennsylvania, is 209.91 cfs or less (25 percent average daily flow plus the withdrawal quantity), and should not reinstate withdrawals until the streamflow has remained greater than 209.91 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from surface water sources shall be stored, injected into a well, or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, the project sponsor requested a peak day withdrawal of 0.430 mgd. Commission staff recommends approval of up to 0.430 mgd, when available.

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from Pine Creek at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from Pine Creek. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, the destination water storage location, and the destination drilling pad name(s) and well identification number(s) served by the storage facilities (if any), and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.430 mgd, when available, from Pine Creek at the location specified in the application in Pike Township, Potter County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; a process flow schematic showing the configuration of how the water will be withdrawn and routed to the storage impoundment and drilling pads; and performance specifications for the pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from Pine Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

6. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the well sites receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

7. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 298 gpm.

8. The project sponsor shall cease all withdrawals from Pine Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01548500 on the Pine Creek at Cedar Run, Pennsylvania, is less than 209.91 cfs, and shall not reinstate withdrawals until the streamflow has remained above 209.91 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

9. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

10. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, injected into a well, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

12. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

13. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

14. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

15. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

16. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

17. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

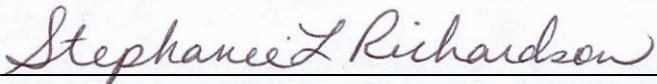
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

20. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Web <http://www.srbc.net>

Docket No. 20090333

Approval Date: March 12, 2009

WATER TREATMENT SOLUTIONS, LLC

Surface Water Withdrawal (Peak Day) of up to 0.100 mgd,
When Available, from West Branch Susquehanna River,
for Bulk Sale to the Natural Gas Industry,
City of Williamsport, Lycoming County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on December 5, 2008.

Description

Purpose. The purpose of the application is to request approval of a surface water withdrawal for bulk sale to the natural gas industry.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050206, West Branch Susquehanna River Watershed, City of Williamsport, Lycoming County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.499 million gallons per day (mgd) (peak day) from the West Branch Susquehanna River in the City of Williamsport at a maximum instantaneous rate of withdrawal of 346 gallons per minute (gpm). The withdrawal will be used for bulk sale to the natural gas industry. Commission staff recommends a reduction in the requested quantity, as described below.

The withdrawal location is specified in the application and has been reviewed for sensitive habitats and threatened and endangered species. Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor proposes to withdraw water from the West Branch Susquehanna River through an intake at a rate of 346 gpm to fill a storage tank for temporary storage before loading into tanker trucks and transportation to an approved drilling pad.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), Department of Conservation and Natural Resources (DCNR), and the Pennsylvania Fish and Boat Commission (PFBC).

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested approval for a surface water withdrawal of up to 0.499 mgd (peak day) from the West Branch Susquehanna River in the City of Williamsport, at a maximum instantaneous withdrawal rate of 346 gpm.

The withdrawal location on the West Branch Susquehanna River is specified in the application.

The project sponsor should certify its ownership of the property or file a copy of its land use agreement and certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location. The project sponsor should maintain the access agreement throughout the duration of this approval.

At each entry to the property from a public right-of-way, the project sponsor should post a sign that meets Commission specifications and displays a project description. The project description should identify the project sponsor, project name, docket approval number, and conditions of the surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The sign should be installed prior to any withdrawal of water and be maintained during the duration of the approval.

West Branch Susquehanna River, at the point of taking, is classified as a Warm Water Fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code). Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the West Branch Susquehanna River at the point of taking to be 455.43 cubic feet per second (cfs) (204,413 gpm), and the average daily flow to be 8,294.40 cfs.

Commission staff recommends approval of the requested maximum instantaneous rate of withdrawal of 346 gpm. The project sponsor should limit the instantaneous pumping rate by a flow-limiting valve, orifice plate, or by pump capacity. Although the requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs for 7 consecutive days during a 10-year period (Q7-10) at the proposed intake location, based on an evaluation of cumulative impacts from existing upstream uses, Commission staff recommends that the project sponsor allow for a passby flow of not less than 20 percent of the average daily flow, which equals a passby flow of 1,658.9 cfs or 744,653 gpm. The project sponsor must cease all withdrawals when streamflow in the West Branch Susquehanna River immediately downstream of the intake location is at or below 1,658.9 cfs for the protection of aquatic resources and downstream users.

Due to the nature of conditions at the proposed intake location, local stream monitoring may not be practicable. Commission staff recommends that the project sponsor use the U.S. Geological Survey's stream gage 01551500, an acceptable reference stream gage, as the control point and monitor flows daily. The project sponsor should cease all withdrawals from the West Branch Susquehanna River when the streamflow measured at stream gage 01551500, located on the West Branch Susquehanna River at Williamsport, Pennsylvania, is 1,752 cfs or less (20 percent average daily flow), and should not reinstate withdrawals until the streamflow has remained greater than 1,752 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

Commission staff recommends that the surface water intake be designed as a tamper-resistant, semi-permanent, or permanent structure. The intake should be dedicated to the approved location. All equipment, such as piping and screens, should be engineered in a fashion that will not allow the physical withdrawal rate to exceed the requested maximum instantaneous withdrawal rate.

The intake structure and withdrawal velocity should be designed to avoid potential aquatic impacts associated with impingement and entrainment. The project sponsor should ensure that the intake structure is regularly maintained free of debris.

The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

To prevent the spread of aquatic nuisance species, water from the surface water source shall be stored or discharged according to applicable statutes and regulations. Additionally, equipment, such as vacuum hoses and pumps, should be disinfected according to state guidelines if the equipment is utilized at multiple surface water sources.

The project sponsor has not provided documentation through contracts or letters of commitment with the gas industry demonstrating a reasonable and foreseeable need for the requested surface water withdrawal amount. Therefore, Commission staff recommends the requested amount be reduced to 0.100 mgd to balance resource demands while avoiding adverse cumulative impacts.

The project sponsor may request to modify this approval in the future based on contracts, letters of commitment, or other documentation acceptable to the Commission.

Prior to withdrawing any water, the project must be identified as a source on an Approval by Rule §806.22(f).

Commission staff recommends that the project sponsor install and then maintain a totalizing meter, accurate to within 5 percent, at the intake to measure the total daily quantity of water withdrawn from the West Branch Susquehanna River at the specified point of taking. The totalizing flow meter should be installed in a fashion whereby it cannot be bypassed, zeroed, or reset.

The project sponsor should provide a process flow schematic showing the configuration of how the water will be withdrawn, stored on-site, and loaded into tankers for distribution. The schematic diagram should show the totalizing meter location. The project sponsor also should submit specifications for the pump and flow meter to the Commission prior to the withdrawal of any water from the West Branch Susquehanna River. The project sponsor may submit an alternate surface water withdrawal metering plan for review and approval by Commission staff.

The project sponsor should record the daily quantity of water withdrawn, by the natural gas company, and electronically submit the required monitoring data to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The project sponsor should submit digital photographs as proof of meter installation prior to the initiation of the withdrawal.

Commission staff recommends that the length of the approval be limited to 4 years.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

No adverse impacts to area surface water or groundwater withdrawals are anticipated. The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

1. The project's surface water withdrawal of up to 0.100 mgd, when available, from the West Branch Susquehanna River at the location specified in the application in the City of Williamsport, Lycoming County, Pennsylvania, is approved pursuant to Article 3, Section 3.10, of the Compact.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall comply with all Commission regulations, including reporting requirements, as per Commission Regulation §806.30.

4. The project sponsor shall submit its intake design/withdrawal device, disinfection plan, a process flow schematic showing the configuration of how the water will be withdrawn and stored on-site and loaded into tankers for distribution, and performance specifications for the

pump and flow meter or metering plan to measure the quantity of water withdrawn for review and approval by Commission staff prior to any withdrawal. The project sponsor may propose alternative metering and monitoring for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design and disinfection plan, if appropriate, from the Commission.

5. Prior to any withdrawal, the project shall be identified as a source on an Approval by Rule §806.22(f) and the project sponsor shall provide contracts, letters of commitment, or otherwise demonstrate the bulk sale of water to the satisfaction of the Commission.

6. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the West Branch Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, and submit digital photographs of the meter when it has been installed and certify the accuracy of the measuring device to within five (5) percent of actual flow.

7. The project sponsor shall keep daily records of the project's surface water withdrawal and shall report the data to the Commission quarterly, and as otherwise required. The project sponsor also shall keep daily records of the natural gas company receiving the water withdrawn under this approval and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.

8. The maximum instantaneous rate of withdrawal at the stream intake shall not exceed 346 gpm.

9. The project sponsor shall cease all withdrawals from the West Branch Susquehanna River when streamflow, as measured at the U.S. Geological Survey's stream gage 01551500 on the West Branch Susquehanna River at Williamsport, Pennsylvania, is less than 1,752 cfs, and shall not reinstate withdrawals until the streamflow has remained above 1,752 cfs for 48 hours. The project sponsor shall keep daily records of the U.S. Geological Survey stream gage and shall report the data to the Commission, as required. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

10. Prior to any withdrawal of water, the project sponsor shall post at each entry to the property from a public right-of-way a sign that meets Commission specifications and displays a project description. The project description shall identify the project sponsor, project name, docket approval number, and conditions of surface water withdrawal approval including quantity, rate and passby flow requirement, docket expiration date, and Commission contact information. The project sponsor may, at its discretion, include its contact information on the sign. The project sponsor shall submit digital photographs as proof of sign installation prior to the initiation of the withdrawal and maintain the sign during the duration of the approval.

11. The project sponsor shall demonstrate to the satisfaction of the Commission that all water withdrawn from surface water sources is transported, stored, or discharged with appropriate controls and treatment to prevent the spread of aquatic nuisance species.

12. The project sponsor shall certify to the Commission that it owns the property or that the property owner has granted access to the proposed withdrawal location and maintain the land use agreement for the duration of the approval. The project sponsor shall notify the Commission within thirty (30) days of termination of the land use agreement.

13. The project sponsor shall maintain the totalizing meter and other measuring devices, accurate to within five (5) percent, so as to provide an accurate record of withdrawals and uses, and certify to the Commission once every two (2) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

14. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

15. To satisfy the Commission's registration requirement, the project sponsor shall register with the PADEP all surface water and groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

16. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation, or order of the Commission, or any term or condition of this docket, the project is subject to enforcement actions pursuant to Commission Regulation §808.

17. Commission approval shall not be construed to exempt the project sponsor from obtaining all necessary permits and/or approvals required for the project from other federal, state, or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend, or revoke this action if the project sponsor fails to obtain or maintain such approvals.

18. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

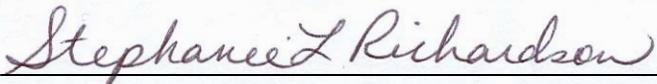
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until March 12, 2013. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by September 12, 2012, and obtain Commission approval prior to continuing operation beyond March 12, 2013.

21. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or this approval will automatically expire, unless an extension is requested by the project sponsor and approved by the Commission. Likewise, if the project is discontinued for such a time and under such circumstances that an abandonment of the project may be reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20080904-1

Approval Date: September 11, 2008

Modification Date: March 12, 2009

CABOT OIL & GAS CORPORATION

Consumptive Water Use of up to 3.575 mgd,
for Development and Completion of Natural Gas Wells,
Susquehanna and Wyoming Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080904 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in portions of the Upper Susquehanna, Middle Susquehanna, and West Branch Susquehanna Subbasins; HUC 02050301; Susquehanna and Wyoming Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 3.575 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Susquehanna and Wyoming Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Bowmans Creek (Eaton Township)	0.290
Martins Creek (Lathrop Township)	0.074
Meshoppen Creek-1 Creek (Lemon Township)	0.054
Meshoppen Creek-2 Creek (Lemon Township)	0.054
Susquehanna River 1 (Tunkhannock Township)	0.720
Susquehanna River 2 (Susquehanna Depot Borough)	0.720
Susquehanna River 3 (Great Bend Borough)	0.720
Tunkhannock Creek (Lenox Township)	0.250
Meshoppen Borough Council	0.090*
Pennsylvania American Water Company – Montrose System	0.075*
Tunkhannock Borough Municipal Authority	0.040*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 3.575 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Susquehanna and Wyoming Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080904, as approved September 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Susquehanna and Wyoming Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 3.575 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

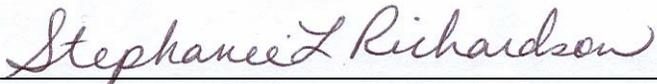
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080904 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20080904, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20080902-2

Approval Date: September 11, 2008

Modification Date: December 4, 2008

Modification Date: March 12, 2009

CHESAPEAKE APPALACHIA, LLC

Consumptive Water Use of up to 7.500 mgd,
for Development and Completion of Natural Gas Wells,
Chemung and Tioga Counties, New York, and Bradford, Sullivan, Susquehanna,
Tioga, Wayne, and Wyoming Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080902 (Docket), and subsequently modified that approval on December 4, 2008. Commission staff is requesting this modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project has approval for operations located in the Upper Susquehanna, Chemung, Middle Susquehanna, West Branch Susquehanna, and Juniata Subbasins; in Chemung and Tioga Counties, New York, and Bradford, Sullivan, Susquehanna, Tioga, Wayne, and Wyoming Counties, Pennsylvania

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 7.500 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Chemung and Tioga Counties, New York, and Bradford, Sullivan, Susquehanna, Tioga, Wayne, and Wyoming Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Susquehanna River (Athens Township)	0.999
Susquehanna River (Mehoopany Township)	0.999
Susquehanna River (Town of Tioga)	0.999
Susquehanna River (Oakland Township)	0.999
Susquehanna River (Wysox Township)	0.999
Aqua Pennsylvania, Inc. – Susquehanna Division	0.300*
Borough of Troy	0.100*
Canton Borough Authority	0.250*
Towanda Municipal Authority	0.300*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 7.500 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Chemung and Tioga Counties, New York, and Bradford, Sullivan, Susquehanna, Tioga, Wayne, and Wyoming Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080902, as approved September 11, 2008, and subsequently modified December 4, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Chemung and Tioga Counties, New York, and Bradford, Sullivan, Susquehanna, Tioga, Wayne, and Wyoming Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 7.500 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket and its modification, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080902, and its subsequent modification issued on December 4, 2008, not inconsistent herewith shall remain effective.

18. Commission Docket Nos. 20080902 and 20080902-1 issued on December 4, 2008, as modified by this approval, are effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20080911-1

Approval Date: September 11, 2008

Modification Date: March 12, 2009

CHIEF OIL & GAS LLC (BRADFORD COUNTY, PENNSYLVANIA)

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Bradford County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080911 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in portions of the Upper Susquehanna, Chemung, and Middle Susquehanna Subbasins; HUC 02050301; Bradford County, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Bradford County, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Larrys Creek (Mifflin Township)	0.086
Loyalsock Creek (Montoursville Borough)	0.099
Muncy Creek-1 (Picture Rocks Borough)	0.099
Muncy Creek-2 (Penn Township)	0.099
Pine Creek (Cummings Township)	0.099
Sugar Creek (West Burlington Township)	0.053
Borough of Montoursville	0.020*
Jersey Shore Joint Water Authority	0.099*
Pennsylvania American Water Company – Montrose System	0.075*
Towanda Municipal Authority	0.100*
Williamsport Municipal Water Authority	0.020*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Bradford County, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080911, as approved September 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Bradford County, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

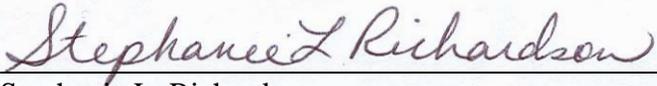
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080911 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20080911, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Web <http://www.srbc.net>

Docket No. 20080934-1

Approval Date: September 11, 2008

Modification Date: March 12, 2009

CHIEF OIL & GAS LLC (LYCOMING COUNTY, PENNSYLVANIA)

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Lycoming County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080934 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the West Branch Susquehanna Subbasin, HUC 02050301, West Branch Susquehanna Watershed, Lycoming County, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Lycoming County, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Larrys Creek (Mifflin Township)	0.086
Loyalsock Creek (Montoursville Borough)	0.099
Muncy Creek-1 (Picture Rocks Borough)	0.099
Muncy Creek-2 (Penn Township)	0.099
Pine Creek (Cummings Township)	0.099
Sugar Creek (West Burlington Township)	0.053
Borough of Montoursville	0.020*
Jersey Shore Joint Water Authority	0.099*
Pennsylvania American Water Company – Montrose System	0.075*
Towanda Municipal Authority	0.100*
Williamsport Municipal Water Authority	0.020*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Lycoming County, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080934, as approved September 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Lycoming County, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

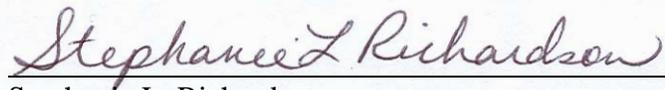
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080934 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20080934, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081201-1

Approval Date: December 4, 2008

Modification Date: March 12, 2009

CHIEF OIL & GAS LLC

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Clearfield County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on December 4, 2008, as Commission Docket No. 20081201 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the West Branch Susquehanna Subbasin, HUC 02050301, West Branch Susquehanna Watershed, Clearfield County, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Clearfield County, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Clearfield Creek (Boggs Township)	0.547
BCI Municipal Authority	0.050*
Jersey Shore Joint Water Authority	0.099*
Williamsport Municipal Authority	0.099*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in

Clearfield County, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20081201, as approved December 4, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Clearfield County, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

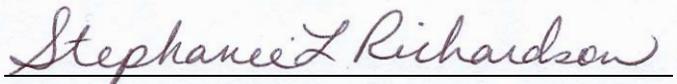
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20081201 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20081201, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20081204-1

Approval Date: December 4, 2008

Modification Date: March 12, 2009

CITRUS ENERGY

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Wyoming County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on December 4, 2008, as Commission Docket No. 20081204 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050301, North Branch Susquehanna Watershed, Wyoming County, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Wyoming County, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
North Branch Susquehanna River (Washington Township)	0.499

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Wyoming County, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20081204, as approved December 4, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Wyoming County, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

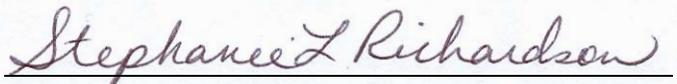
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20081204 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20081204, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Web <http://www.srbc.net>

Docket No. 20080603-1

Approval Date: June 12, 2008

Modification Date: March 12, 2009

EAST RESOURCES, INC. (ELMIRA, NEW YORK, AREA)

Consumptive Water Use of up to 4.000 mgd,
for Development and Completion of Natural Gas Wells,
Chemung and Steuben Counties, New York,
and Tioga County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on June 12, 2008, as Commission Docket No. 20080603 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the Chemung Subbasin, Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 4.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Chemung River (at Big Flats)	0.107
Crooked Creek	0.036
Seeley Creek	0.036
Tioga River (at Tioga Junction)	0.107
Tioga River (at Mansfield)	0.107
Canton Borough Authority	0.250*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 4.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in

Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All water used for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control is considered to be used consumptively.

The water should be metered and monitored as described in an approved metering plan, and reported to the Commission on a quarterly basis.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at a drilling pad be separately accounted for, but not be included in the daily consumptive use amount calculated for the drilling pad, or be subject to the mitigation requirements of Commission Regulation §806.22(b).

Should the proposed accounting procedure fail to accurately measure the project's consumptive water use, the Commission reserves the right to modify the metering, monitoring, and accounting procedures. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, and accounting procedures.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

To prevent the spread of aquatic nuisance species, Commission staff recommends that water from surface water sources should be stored, injected into a well, or discharged according to applicable statutes and regulations.

The project sponsor shall submit copies of well completion reports to the Commission for each of the wells under this docket approval.

Fracing fluids that flow back after stimulation have commingled with deep connate water, and the water quality may be degraded. The fluids may be stored on-site in a pit, pond, or frac tanks for reuse or transport for treatment. The project sponsor certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080603, as approved June 12, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania, as described below.
2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.
3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.
4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.
5. Prior to December 31, 2009, the project sponsor may submit an ABR transition request for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.
6. The project's consumptive use of water of up to 4.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.
7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.
8. Conditions 4, 5, and 6 of the Docket are hereby rescinded.
9. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.
10. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.
11. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall

not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

12. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

13. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

14. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

15. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

16. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

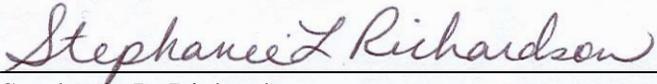
17. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

18. All other conditions in Commission Docket No. 20080603 not inconsistent herewith shall remain effective.

19. Commission Docket No. 20080603, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20080608-1

Approval Date: June 12, 2008

Modification Date: March 12, 2009

EAST RESOURCES, INC. (MANSFIELD, PENNSYLVANIA, AREA)

Consumptive Water Use of up to 4.000 mgd,
for Development and Completion of Natural Gas Wells,
Tioga and Bradford Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on June 12, 2008, as Commission Docket No. 20080608 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the Chemung Subbasin, Tioga and Bradford Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 4.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Tioga and Bradford Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Chemung River (at Big Flats)	0.107
Crooked Creek	0.036
Seeley Creek	0.036
Tioga River (at Tioga Junction)	0.107
Tioga River (at Mansfield)	0.107
Canton Borough Authority	0.250*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 4.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in

Tioga and Bradford Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All water used for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control is considered to be used consumptively.

The water should be metered and monitored as described in an approved metering plan, and reported to the Commission on a quarterly basis.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at a drilling pad be separately accounted for, but not be included in the daily consumptive use amount calculated for the drilling pad, or be subject to the mitigation requirements of Commission Regulation §806.22(b).

Should the proposed accounting procedure fail to accurately measure the project's consumptive water use, the Commission reserves the right to modify the metering, monitoring, and accounting procedures. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, and accounting procedures.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

To prevent the spread of aquatic nuisance species, Commission staff recommends that water from surface water sources should be stored, injected into a well, or discharged according to applicable statutes and regulations.

The project sponsor shall submit copies of well completion reports to the Commission for each of the wells under this docket approval.

Fracing fluids that flow back after stimulation have commingled with deep connate water, and the water quality may be degraded. The fluids may be stored on-site in a pit, pond, or frac tanks for reuse or transport for treatment. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080608, as approved June 12, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Tioga and Bradford Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.
3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.
4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.
5. Prior to December 31, 2009, the project sponsor may submit an ABR transition request for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.
6. The project's consumptive use of water of up to 4.000 mgd from the listed sources shall be authorized for ABR issued pursuant to the transition process identified herein.
7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.
8. Conditions 4, 5, and 6 are hereby rescinded.
9. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.
10. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.
11. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).
12. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.
13. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

14. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

15. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

16. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracturing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

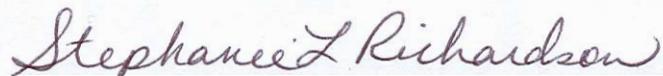
17. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

18. All other conditions in Commission Docket No. 20080608 not inconsistent herewith shall remain effective.

19. Commission Docket No. 20080608, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20080601-1

Approval Date: June 12, 2008

Modification Date: March 12, 2009

FORTUNA ENERGY INC. (SOUTHERN TIER OF NEW YORK, AND TIOGA AND BRADFORD COUNTIES, PENNSYLVANIA)

Consumptive Water Use of up to 3.000 mgd,
for Development and Completion of Natural Gas Wells,
Steuben, Chemung, Schuylers, Tioga, and Broome Counties, New York,
and Tioga and Bradford Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on June 12, 2008, as Commission Docket No. 20080601 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the Chemung and Upper Susquehanna Subbasins, in the Southern Tier counties of New York, and Tioga and Bradford Counties in Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 3.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Steuben, Chemung, Schuylers, Tioga, and Broome Counties, New York, and Tioga and Bradford Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Catatonk Creek	0.101
Chemung River (at Chemung)	0.250
Sugar Creek (West Burlington)	0.250
Susquehanna River	0.250
Towanda Creek	0.250

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 3.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Steuben, Chemung, Schuyler, Tioga, and Broome Counties, New York, and Tioga and Bradford

Counties Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All water used for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control is considered to be used consumptively.

The water should be metered and monitored as described in an approved metering plan, and reported to the Commission on a quarterly basis.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at a drilling pad be separately accounted for, but not be included in the daily consumptive use amount calculated for the drilling pad, or be subject to the mitigation requirements of Commission Regulation §806.22(b).

Should the proposed accounting procedure fail to accurately measure the project's consumptive water use, the Commission reserves the right to modify the metering, monitoring, and accounting procedures. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, and accounting procedures.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

To prevent the spread of aquatic nuisance species, Commission staff recommends that water from surface water sources should be stored, injected into a well, or discharged according to applicable statutes and regulations.

The project sponsor shall submit copies of well completion reports to the Commission for each of the wells under this docket approval.

Fracing fluids that flow back after stimulation have commingled with deep connate water, and the water quality may be degraded. The fluids may be stored on-site in a pit, pond, or frac tanks for reuse or transport for treatment. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080601, as approved June 12, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Steuben, Chemung, Schuyler, Tioga, and Broome Counties, New York, and Tioga and Bradford Counties Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.
3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.
4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.
5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.
6. The project's consumptive use of water of up to 3.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.
7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.
8. Conditions 4, 5, and 6 of the Docket are hereby rescinded.
9. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.
10. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.
11. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).
12. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

13. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

14. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

15. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

16. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

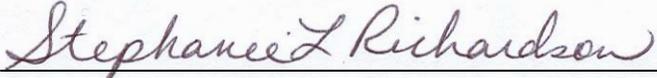
17. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

18. All other conditions in Commission Docket No. 20080601 not inconsistent herewith shall remain effective.

19. Commission Docket No. 20080601, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>**Docket No. 20081211-1****Approval Date: December 4, 2008****Modification Date: March 12, 2009**

J-W OPERATING COMPANY

Consumptive Water Use of up to 4.500 mgd,
for Development and Completion of Natural Gas Wells,
Cameron, Clearfield, and Elk Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on December 4, 2008, as Commission Docket No. 20081211 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the West Branch Susquehanna Subbasin, HUC 02050301, West Branch Susquehanna Watershed, Cameron, Clearfield, and Elk Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 4.500 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Cameron, Clearfield, and Elk Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Driftwood Branch Sinnemahoning Creek (Lumber Township)	0.245
Sterling Run	0.499
Emporium Water Company	0.200*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 4.500 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in

Cameron, Clearfield, and Elk Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20081211, as approved December 4, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Cameron, Clearfield, and Elk Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 4.500 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic,

geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

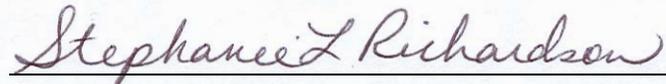
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20081211 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20081211, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009

A handwritten signature in dark ink, reading "Stephanie L. Richardson", written over a light blue horizontal line.

Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20080921-1

Approval Date: September 11, 2008

Modification Date: March 12, 2009

PENNSYLVANIA GENERAL ENERGY COMPANY, L.L.C.

Consumptive Water Use of up to 4.900 mgd,
for Development and Completion of Natural Gas Wells,
Potter and McKean Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080921 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the West Branch Susquehanna Subbasin, HUC 02050301, West Branch Susquehanna Watershed, Potter and McKean Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 4.900 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Potter and McKean Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
First Fork Sinnemahoning Creek (Sylvania Township)	0.107
East Fork Sinnemahoning Creek (East Fork Township)	0.025
East Fork Sinnemahoning Creek (East Fork Township)	0.008
First Fork Sinnemahoning Creek (Wharton Township)	0.231
East Fork Sinnemahoning Creek (Wharton Township)	0.027
Austin Borough Water	0.109*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 4.900 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Potter and McKean Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080921, as approved September 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Potter and McKean Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 4.900 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic,

geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

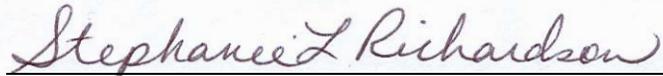
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080921 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20080921, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20080931-1

Approval Date: September 11, 2008

Modification Date: March 12, 2009

RANGE RESOURCES – APPALACHIA, LLC

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Bradford, Centre, Clinton, Lycoming, Sullivan, and Tioga Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080931 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in portions of the Upper Susquehanna, Chemung, Middle, West Branch Susquehanna, Juniata, and Lower Susquehanna Subbasins; HUC 02050301; Bradford, Centre, Clinton, Lycoming, Sullivan, and Tioga Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Bradford, Centre, Clinton, Lycoming, Sullivan, and Tioga Counties Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
West Branch Susquehanna River (Colebrook Township)	0.200
Beech Creek (Snow Shoe Township)	0.200
Lycoming Creek #1 (Hepburn Township)	0.200
Lycoming Creek #2 (Lewis Township)	0.200
Borough of Montoursville	0.200*
Jersey Shore Joint Water Authority	0.200*
Williamsport Municipal Water Authority	0.200*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Bradford, Centre, Clinton, Lycoming, Sullivan, and Tioga Counties Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080931, as approved September 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Bradford, Centre, Clinton, Lycoming, Sullivan, and Tioga Counties Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the

quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080931 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20080931, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20080941-1

Approval Date: September 11, 2008

Modification Date: March 12, 2009

REX ENERGY CORPORATION

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Centre and Clearfield Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on September 11, 2008, as Commission Docket No. 20080941 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in portions of the West Branch Susquehanna, Lower Susquehanna, and Juniata Subbasins; HUC 02050301; Centre and Clearfield Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Centre and Clearfield Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Lower Little Surveyor Run (Girard Township)	0.400
Moshannon Creek-1 (Rush Township)	1.440
Moshannon Creek-2 (Rush Township)	1.584
Moshannon Creek-3 (Snow Shoe Township)	2.000
Upper Little Surveyor Run (Girard Township)	0.400
West Branch Susquehanna River (Goshen Township)	2.160
Clearfield Municipal Authority	0.150*
Pennsylvania American Water – Philipsburg System	0.025*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Centre and Clearfield Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20080941, as approved September 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Centre and Clearfield Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture

stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

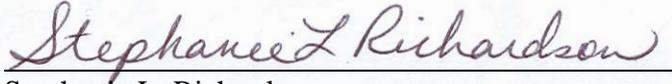
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20080941 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20080941, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20081223-1

Approval Date: December 4, 2008

Modification Date: March 12, 2009

TURM OIL, INC.

Consumptive Water Use of up to 5.000 mgd,
for Development and Completion of Natural Gas Wells,
Susquehanna County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on December 4, 2008, as Commission Docket No. 20081223 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the Upper and Middle Susquehanna Subbasin, HUC 02050301, West Branch Susquehanna Watershed, Susquehanna County, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 5.000 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Susquehanna County, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Deer Lick Creek (Rush Township)	0.216
East Branch Wyalusing Creek (Rush Township)	0.216
Elk Lake Stream (Rush Township)	0.216
Main Branch Wyalusing Creek (Rush Township)	0.216
Dushore Water Authority	0.095*
Towanda Municipal Authority	0.150*
Tunkhannock Borough Municipal Authority	0.010*
*Quantity the public water supplier has agreed to provide.	

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 5.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Susquehanna County, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20081223, as approved December 11, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Susquehanna County, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 5.000 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic,

geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

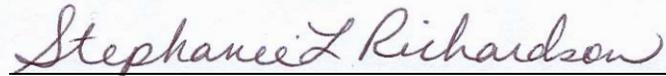
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20081223 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20081223, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

Phone (717) 238-0423 • Fax (717) 238-2436

Web <http://www.srbc.net>

Docket No. 20081228-1

Approval Date: December 4, 2008

Modification Date: March 12, 2009

ULTRA RESOURCES, INC.

Consumptive Water Use of up to 4.990 mgd,
for Development and Completion of Natural Gas Wells,
Tioga and Potter Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulations §806.4 relating to projects requiring review and approval, and §806.22(f) relating to approval by rule for consumptive water use for natural gas well development projects.

Description

Purpose. The Commission originally approved the project on December 4, 2008, as Commission Docket No. 20081228 (Docket). Commission staff is requesting modification of the Docket to conform with amendments to the project review regulations that went into effect on January 15, 2009. This docket modification provides for transition from a regional approval to approval of individual drilling pads, revises certain project features, rescinds certain provisions, and changes the term of the approval to December 31, 2009.

Location. The project is located in the Chemung and West Branch Susquehanna Subbasins, HUC 02050301 and HUC 02050301, Cowanesque and West Branch Susquehanna Watersheds, Tioga and Potter Counties, Pennsylvania.

Project Features. The project sponsor currently has approval for the consumptive use of water of up to 4.990 million gallons per day (mgd) for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Tioga and Potter Counties, Pennsylvania.

The water sources listed in the table below have been previously approved, either in the Docket or by separate Commission docket approval, for use by the project sponsor to support the consumptive water use in the area.

Source ID	Approved Quantity (mgd)
Cowanesque River (Deerfield Township)	0.217
Pine Creek	0.430

The project sponsor transports water from an approved source, when available, to an individual drilling pad for use. Once on-site, water is stored in “frac tanks” or impoundments, or both, and distributed for various operations at the drilling pad, as described in the Docket.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.22(f), and §806.30.

To effect a transition from this docket approval to the specific Approval by Rule (ABR) process for consumptive water use associated with natural gas well development in Commission Regulation §806.22(f), Commission staff recommends the following process:

- The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within 10 days of installation of a well conductor pipe.
- The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within 30 days of any continuing consumptive water use.
- Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

ABR transition requests shall be completed on-line using designated forms, or in another manner acceptable to the Commission. There will be no fees related to the issuance of ABRs for drilling pads subject to this process.

ABRs issued pursuant to this transition process shall be effective upon notification to the project sponsor by the Executive Director, and shall supersede the Docket approval for the subject drilling pad.

The project sponsor currently has an approved consumptive water use of up to 4.990 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in Tioga and Potter Counties, Pennsylvania. Commission staff recommends that this peak day amount be authorized in each drilling pad ABR issued as part of this transition.

All surface water sources previously approved for the project sponsor and, if applicable, the other sources identified in the Docket, at the approved quantities, should be authorized for the ABR.

Commission staff recommends that the Docket, as modified herein, remain effective until December 31, 2009.

Decision

1. Commission Docket No. 20081228, as approved December 4, 2008, is hereby modified to require the project sponsor to submit ABR transition requests for its individual drilling pads in Tioga and Potter Counties, Pennsylvania, as described below.

2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

3. The project sponsor shall submit an ABR transition request for all newly constructed drilling pads within ten (10) days of installation of a well conductor pipe.

4. The project sponsor shall submit an ABR transition request for all drilling pads having a previously installed well conductor pipe where water will be consumptively used between March 12 and December 31, 2009, within thirty (30) days of any continuing consumptive water use.

5. Prior to December 31, 2009, the project sponsor may submit ABR transition requests for its drilling pad sites having a previously installed well conductor pipe and where consumptive water use is authorized under the Docket but such use is not currently occurring.

6. The project's consumptive use of water of up to 4.990 mgd from the listed sources shall be authorized for each ABR issued pursuant to the transition process identified herein.

7. All surface water sources previously approved for the project sponsor and the other sources identified in the Docket, at the approved quantities, shall be approved for each ABR issued pursuant to the transition process identified herein.

8. The project sponsor shall keep daily records of the consumptive water use and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

9. The project sponsor shall keep daily records of metered water obtained from each approved water source as it is delivered to the drilling pad, and shall provide the results to the Commission as required.

10. Any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project shall be separately accounted for, but shall not be included in the daily consumptive use amount calculated for the project, nor be subject to the mitigation requirements of Commission Regulation §806.22(b).

11. The project sponsor shall certify to the Commission that all flow-back and produced fluids, including brines, have been treated and disposed of in accordance with applicable state and federal law.

12. Any unused (surplus) water shall not be discharged back to the waters of the basin without appropriate controls and treatment to prevent the spread of aquatic nuisance species.

13. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.21 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the total of the quantities of water used per drilling pad, per day, for well drilling and construction, fracture stimulation, and various well completion processes and appurtenances; used in hydrostatic, geophysical, and other testing; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

14. Within forty-five (45) days of well completion, the project sponsor shall submit to the Commission a post-hydrofracturing report and certification of fluid disposal for each well developed.

15. The project sponsor shall provide the Commission with the planned schedule for drilling and hydrofracing wells covered by this approval at least four (4) weeks prior to the commencement of these activities, which notice may be provided in the form of a quarterly or monthly schedule.

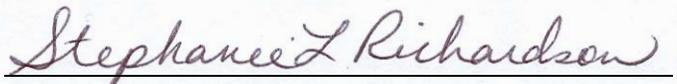
16. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination of an agreement with a public water supplier.

17. All other conditions in Commission Docket No. 20081228 not inconsistent herewith shall remain effective.

18. Commission Docket No. 20081228, as modified by this approval, is effective until December 31, 2009.

CERTIFICATION: I, Stephanie L. Richardson, Secretary to the Susquehanna River Basin Commission, do hereby certify that the foregoing project docket was approved by the Susquehanna River Basin Commission on March 12, 2009.

Dated: March 13, 2009


Stephanie L. Richardson

RESOLUTION NO. 2009-01

A RESOLUTION of the Susquehanna River Basin Commission adopting a Water Resources Program for 2009.

WHEREAS, Section 14.2 of the Susquehanna River Basin Compact, P.L. 91-575, provides: “The Commission shall annually adopt a water resources program, based upon the comprehensive plan, consisting of the projects and facilities which the Commission proposes to be undertaken by the Commission and by other authorized governmental and private agencies, organizations, and persons during the ensuing six years or such other reasonably foreseeable period as the Commission may determine;” and

WHEREAS, in December 2008, the Commission adopted an extensively revised comprehensive plan, directing that the actions therein be implemented through the Water Resources Program; and

WHEREAS, the Commission requested input toward the 2009 Water Resources Program from member jurisdictions and many other governmental and non-government interests; and

WHEREAS, the Commission has formulated an updated Water Resources Program, based on the goals and actions in the new comprehensive plan, which lists the projects and programs proposed to be undertaken by the Commission, member jurisdictions, and other governmental agencies and non-governmental interests during the 2009-2010 timeframe.

NOW THEREFORE BE IT RESOLVED THAT:

1. The accompanying document titled “2009 Water Resources Program, Susquehanna River Basin Commission” is hereby adopted by the Commission in accordance with Section 14.3 of the Compact.

2. The 2009 Water Resources Program may be updated as the need arises; therefore, the Executive Director is hereby authorized to incorporate other programs and projects as may be submitted in calendar year 2009.

3. The staff is instructed to widely distribute its 2009 Water Resources Program to legislators, policy makers, and the public as a clear statement of Susquehanna River Basin needs and priorities, and as a mechanism for coordinating the efforts of water managers at all levels.

4. This Resolution shall be effective immediately.

Dated: March 12, 2009


Dr. Robert M. Summers, Chairman
Maryland

RESOLUTION NO. 2009-02

A RESOLUTION of the Susquehanna River Basin Commission adopting a Records Processing Fee Schedule.

WHEREAS, the Susquehanna River Basin Commission (the "Commission") provides access to and maintains procedures governing information requests;

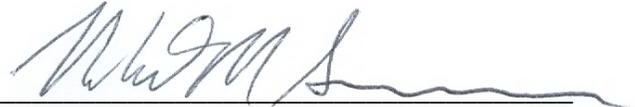
WHEREAS, the Commission desires to adopt a revised fee schedule covering the costs associated with search, production, and reproduction of Commission records that are requested by outside parties; and

WHEREAS, it is the policy of the Commission that such fees should be calculated to reflect the actual costs to the Commission of processing requests.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Commission hereby adopts a "Records Processing Fee Schedule" as set forth in a document dated March 12, 2009, attached hereto and made a part of this resolution.
2. This resolution shall be effective immediately.

Dated: March 12, 2009



Dr. Robert M. Summers, Chairman
Maryland

Susquehanna River Basin Commission

a water management agency serving the Susquehanna River Watershed



RECORDS PROCESSING FEE SCHEDULE

**Adopted by Resolution No. 2009-02
March 12, 2009**

General Terms

The Susquehanna River Basin Commission (the "Commission") shall charge the following fees in connection with the processing of requests for Commission records. These fees cover, but are not limited to, the time and material costs of locating records, reviewing records, redacting confidential information and reproducing records in hard copy or electronic form.

Materials

- Photo Copy (8.5 x 11 to 11 x 17) - \$0.25 per copy
- Large Format Copy (poster size) - \$30.00 per copy/
- Select Data CD-Rom - \$10.00 per copy

Staff Time

- Time in Hours - \$60.00 per hour, the first hour of staff time to be without charge.

All such fees shall also be subject to a 6 percent Pennsylvania Sales Tax.

Waiver/Partial Waiver of Fees

The executive director may waive or partially waive fees established under this schedule when doing so is considered to be in the public interest and not an undue financial burden to the Commission.

Member Jurisdiction Limited Exemption

Member jurisdiction agencies shall be exempt from fees, except to the extent that the executive director determines in writing that any such requests place an undue financial burden upon the Commission.

RESOLUTION NO. 2009-03

A RESOLUTION of the Susquehanna River Basin Commission adopting a set of “By-Laws and Procedures” for the operation and administration of the Commission.

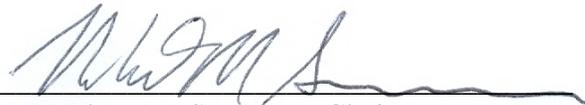
WHEREAS, under Article 15, Section 15.1 (b) (3) of the Susquehanna River Basin Compact, the Susquehanna River Basin Commission (the “Commission”) may provide for the internal organization and administration of the Commission; and

WHEREAS, pursuant to this authority, the Commission has developed a set of By-Laws that, among other things, provide for the Commission’s organization, establish its procedures, define the duties of its officers, set notice requirements for its meetings, and govern its fiscal affairs.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Commission hereby adopts “By-Laws and Procedures” as contained in a document by that title dated March 12, 2009, and attached to and made a part of this resolution.
2. This resolution shall be effective immediately,

Dated: March 12, 2009



Dr. Robert M. Summers, Chairman
Maryland