

Susquehanna River Basin Commission

a water management agency serving the Susquehanna River Watershed



February 20, 2009

TO ALL CONCERNED:

At the December 4, 2008, Commission meeting, the draft minutes of the September 11, 2008, Commission meeting were approved as written. Please attach this notice to your copy of the September 11, 2008, minutes.

- DRAFT -

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

**MINUTES OF THE
SUSQUEHANNA RIVER BASIN COMMISSION
December 4, 2008
#2008-04**

The meeting was held at the Harford Community College, Chesapeake Center, Bel Air, Maryland. Chairman Summers called the meeting to order at 8:30 a.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)

Ms. Cathleen C. Myers, Dep. Sec. for Water Management, Pennsylvania Dept. of Environmental Protection (PADEP)

**Alternate Commissioners
and Advisors Present**

Herbert Sachs, Special Projects Coordinator, Office of the Secretary, MDE

Colonel Peter W. Mueller, District Engineer, USACE, Baltimore District

Staff Present

Mr. Thomas W. Beauduy, Deputy Director, Counsel

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

Ms. Susan S. Obleski, Director of Communications

Mr. Richard A. Cairo, General Counsel

Mr. David Ladd, SRBC Independent Contractor

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

Mr. Duane A. Friends, Chief Administrative Officer

Ms. Stephanie L. Richardson, Secretary to the Commission

WELCOME & INTRODUCTORY REMARKS

Harford County Executive David Craig welcomed the Commission to Harford County, Maryland.

The Chairman and other commissioners then each commented briefly on relevant activities in their jurisdictions. Commissioner Lynch emphasized the value of the information exchange that takes place among the members of the Commission on a broad range of water resources management topics.

Commissioner Myers reviewed the efforts being made in Pennsylvania to create sustainable infrastructure in every community.

Commissioner Semonite mentioned the Federal Coordinated Summit that was held on November 18 and 19 where federal agencies involved in the management of the basin's water resources had resolved to support the Commission's goals as articulated in the SRBC Comprehensive Plan and its implementing tool, the Annual Water Resources Program. He also mentioned the Feasibility Cost Sharing Agreement, a two-year cooperative effort by SRBC, the USACE and The Nature Conservancy to determine environmental flows. Finally, he expressed his appreciation of the forum provided by SRBC for the resolution of water problems and conflicts.

Chairman Summers indicated that Executive Director Paul Swartz was absent from the meeting due to a case of the flu, the first time he has been absent from a meeting in his 16 years of service. He then took note of the great variety of water resources issues on the meeting agenda.

PRESENTATIONS

1. Water for Maryland's Future: What We Must Do Today

Chairman Summers provided an overview on the recently released final report of the advisory committee on the management and protection of Maryland's water resources titled "Water for Maryland's Future: What We Must Do Today." He stated that the committee was charged with assessing the condition of the state's water resources management program, recommending steps to assure that the program will provide for the long term use and protection of Maryland's water resources, and recommending a strategy and appropriate funding for sustainable management of these resources.

He noted that the committee's investigation had been initiated after the severe water shortage that Maryland experienced in 2002 and stated that the report examines water problems affecting the fractured rock and coastal plain areas of Maryland, dividing the state in two along the I-95 corridor. Two of the key findings of the report are: 1) There is a need for a more robust Water Resources Program in Maryland based on good science; and 2) There is a need to fill in large data gaps. Other subjects emphasized by the report include the need to support local government water planning and management; restricting the use of individual wells in high

contamination risk areas; financing for water management programs; and the need for public education. The report can be viewed on the Maryland Department of the Environment's web site at http://www.mde.maryland.gov/assets/document/WolmanReport_Voll1.pdf.

2. Hydrologic Conditions Report

Mr. Andrew Dehoff, Director of Planning and Operations, presented information on the current hydrologic conditions in the Susquehanna basin. Several counties in the western part of the Susquehanna River Basin were reporting deficits in precipitation and stream flow, particularly during the last 90 days. The Commonwealth of Pennsylvania had issued a drought warning for about half of the counties in the state, 13 of which are wholly or partially within the Susquehanna basin. As a result, the SRBC Drought Coordination Committee convened a meeting to assess the situation. Rainfall over the next several months could be above or below normal, and the committee will maintain a close watch.

ACTION ITEMS

3. Minutes of the September 11, 2008, Meeting

On a motion by Commissioner Myers, seconded by Commissioner Semonite, the minutes of the regular business meeting of September 11, 2008, meeting were unanimously adopted as written.

4. Comprehensive Plan

Chairman Summers introduced SRBC Independent Contractor David Ladd, commenting that the Commission was very appreciative of the effort he had made to coordinate the production of a revised SRBC Comprehensive Plan. Mr. Ladd reported that a nearly two year effort to revise the plan was now complete. Under the Susquehanna River Basin Compact, the Commission is authorized and directed to adopt a comprehensive plan for the management of the basin's water resources. It serves as a guide to development and a resource for water managers. The plan had not been completely overhauled since 1987 and was overdue for revision.

The public review process, which included two public hearings, had been completed and public comments were received, considered and, as appropriate, incorporated into the plan. Mr. Ladd then briefly reviewed the contents of the plan, including the "Priority Management Areas" Section that establishes 30 key goals and 74 actions to achieve those goals. A 15-year time horizon will be used for implementing the plan and the main implementing device will be the Commission's Annual Water Resources Program.

He concluded by thanking the Commission, the executive director and staff for all of their input. The final plan will be posted on the Commission's web site at <http://www.srbc.net/planning/compplanfiles.asp>.

Commissioner Myers said that she was pleased and delighted with the results of the revision effort and amazed that it had been completed in about half the time that was originally

projected. She liked the fact that the plan is linked to long-term goals and short-term actions that can be easily compared to Commission accomplishments.

On a motion by Commissioner Semonite, seconded by Commissioner Myers, the Commission unanimously adopted a resolution (Exhibit B) to adopt the revised comprehensive plan as presented by Mr. Ladd.

5. Final Rulemaking – Gas Well Development

Deputy Director Beauduy presented a resolution (Exhibit C) to approve a final rulemaking action pertaining to gas well development in the Marcellus and Utica shale formations located in the Susquehanna Basin. The new regulations would require approvals for withdrawals of any quantity and would establish an approval by rule (ABR) process for gas well consumptive uses drawing from any source of water.

Notice of proposed rulemaking had been published in the Federal Register on October 2, 2008, and the official state notice publications for Pennsylvania (Oct. 4), Maryland (Oct. 10) and New York (Oct. 1). Public hearings were held on October 21, 2008, in Williamsport, Pa., and on October 22, 2008, in Binghamton, N.Y. Comments were received from industry representatives, environmental interests and citizens, and several changes were made to the proposed rule as a result including:

- The “initiation of construction” for drilling operations is defined as the commencement of drilling or “spudding” of a well.
- The scope of the regulation is limited to drilling in the Marcellus or Utica shale formations, unless other shale formations are added by determination of the Executive Director.
- It is made clear that ABRs can be issued administratively by the Executive Director.
- A 60-day notice of intent (NOI) requirement prior to the start of a project is removed in favor of a simple requirement for an NOI prior to the start of a project.
- The prohibition on transfers of approvals for gas wells is removed so that approvals will be able to be transferred like any other SRBC approvals.
- A provision is added to expedite the addition of water sources to existing approvals.

In response to the concerns of environmental groups who thought that the ABR process for consumptive uses would supersede the review process that the Commission goes through for surface and groundwater withdrawals, language is added to Section 806.22(f)(9) of the final rule stating that the issuance of an approval by rule for a consumptive use shall not be construed to waive or exempt the project sponsor from obtaining Commission approval for any water withdrawals or diversions subject to review pursuant to Section 806.4(a).

With the inclusion of an amendment to the language contained in Section 806.4 of the final rule making presented by Mr. Beauduy, Commissioner Myers moved adoption of the resolution providing for the approval of the final rulemaking action. This motion was seconded by Commissioner Semonite and the resolution was unanimously adopted.

Mr. Beauduy then turned to a discussion of the transition from the previously approved consumptive uses for gas well projects to the just adopted rules for ABRs covering gas well consumptive use. Up to this point, consumptive uses for gas well projects have been approved in two forms – 1) regular dockets that approved consumptive uses by gas well developers on a regional or county wide basis and included any well pads within those regions, and 2) ABRs under the Commission’s existing Section 806.22(e) that approved gas well project consumptive uses that draw on a public water supply source of water. It was necessary to follow these procedures as a stop gap measure to get a handle on the mass of gas well project applications that flooded the Commission in 2008.

Under a transition plan presented by Mr. Beauduy, all Section 806.22(e) ABRs would be reissued administratively as Section 806.22(f) ABRs, the just approved rule for gas well development consumptive use. This new ABR covers consumptive use projects on a per well pad basis drawing water from any source, not just a public water supply source.

At the same time, docket approvals for area wide/county consumptive use would be modified in March 2009 to provide for their termination by December 31, 2009, and well pads in existence in the approved areas or constructed in these new areas prior to December 31, 2009, could be converted to Section 806.22(f) ABRs at no cost. Any pad constructed after that time would have to obtain a Section 806.22(f) ABR and pay the normal application fee. It may, however, be desirable for staff to consider an alternative application fee arrangement for post 2009 pads.

Commissioner Myers stated that providing a fair but effective method of transition from area wide to per pad approvals is important. The approvals could not be left on an area wide, individual docket basis because those dockets would have to be modified over and over again to accommodate changes in features like water sources. She stated that it is the desire of the Commission to treat well drillers as much like other water users as possible, while recouping the legitimate costs of review. The transition plan proposed by Mr. Beauduy would do this and she therefore supported the plan.

Commissioner Lynch agreed that the proposed transition plan, though perhaps not perfect in the eyes of the industry, would get the Commission to the point where it had to be on the administration of a regulatory program for gas well projects. He also supported the transition plan.

Several questions were posed by audience members including:

- Will the executive director be issuing the ABRs on his own authority?

Staff replied that, indeed, the executive director would be issuing ABRs on his own authority through an administrative process that does not involve a separate approval action by the Commission; however, staff would still be carefully reviewing the applications for ABRs to ensure that all of the requisite criteria are satisfied.

- Can water in abandoned coal mines be used for gas well development?

Staff replied that, indeed, such water can be used and that, in fact, the Commission is encouraging the use of such low quality water for hydrofracing.

The following motion was offered by Commissioner Myers:

Mr. Chairman, I move:

- (1) That the Commission approve and direct staff to proceed with implementation of its recommended transition strategy, a copy of which is attached hereto (Exhibit D) to convert all existing Approvals by Rule issued pursuant to Section 806.22(e) of the Commission's regulations, and all consumptive use docket approved for natural gas well development activity, to Approvals by Rule in conformance with the new Section 806.22(f) regulation adopted as final here today; and
- (2) That staff present consumptive use docket modifications for consideration at the Commission's March 12, 2009, meeting in conformance with the transition strategy; and
- (3) That staff formulate and present for consideration by the Commission an alternative fee approach, after consultation with the natural gas industry, to adequately fund the Commission's programmatic costs related to implementation of Section 806.22(f), for calendar year 2010 and beyond.

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

6. Susquehanna Flood Forecast and Warning System (SFFWS) Improvements Program

SRBC Planning and Operations Director Andrew Dehoff reported that staff had learned that the U.S. Army Corps of Engineers will not continue to provide FY-2009 funding for the stream gaging network that provides critical data for flood forecast and warning activities and other important water resource management functions. Prospects for full funding in 2010 also appear bleak at this time. He therefore presented a resolution (Exhibit E) urging the incoming administration and the Congress to fund the Susquehanna Flood Forecast and Warning System in the amount of \$2.4 million in the upcoming FY-2010.

On a motion by Commissioner Myers, seconded by Commissioner Lynch, the resolution was adopted by the affirmative votes of Pennsylvania, New York and Maryland. Commissioner Semonite abstained on behalf of the United States.

7. Grant/Contract Approvals

Watershed Assessment and Protection Chief Heicher presented the following grant and contract approval requests to the Commission:

a. Grant Approval – Chesapeake Bay Nutrient Monitoring Program

Under this grant, SRBC will assist PADEP by continuing a long-term sediment monitoring program for the main stem Susquehanna River and selected tributaries. Other services to be performed include relating measured load fluctuations to changes in discharge due to precipitation, supplying nutrient concentration and loading data, and evaluating nutrient loading trends. PADEP will fund this grant in the amount of \$131,200.

b. Grant Approval – FY-2008 Enhanced Monitoring and Comprehensive Analysis of Water Quality of the Chesapeake Bay Program

Under this grant, SRBC will assist USEPA by collecting and analyzing Pennsylvania, New York, and Maryland nontidal monitoring data in the Susquehanna River Basin and by tracking progress toward the Chesapeake Bay restoration effort. EPA will fund this grant in the amount of \$131,174.

c. Administrative Agreement Approval – Work Under Act 220 for FY 08-09, PADEP

Staff requested the Commission to ratify the signing of an administrative agreement with PADEP regarding work to be performed by the Commission in connection with the Water Resources Planning Act, Act No. 220 of 2002 for FY 08-09 at a cost not to exceed \$300,000.

d. Contract Approval – Susquehanna Ecosystem Flows Study, The Nature Conservancy

This was a request by staff for authority to execute an agreement with The Nature Conservancy for the Susquehanna Ecosystem Flows Study at a cost not to exceed \$150,000.

e. Contract Approval – Assessment of Optimizing Use of Commission-Owned Storage at Cowanesque and Curwensville Lakes, USACE

This was a request by staff for Commission approval of an assessment on the optimized use of Commission-owned storage at Cowanesque and Curwensville Lakes in Pennsylvania at a total cost not to exceed \$388,000. This would include authority to execute a contract with the U.S. Army Corps of Engineers in the amount of \$204,550 for assistance on that assessment study.

On a motion by Commissioner Myers, seconded by Commissioner Semonite, the Commission unanimously approved items 7.a., 7.b. and 7.c. above.

On a motion by Commissioner Lynch, seconded by Commissioner Myers, the Commission approved items 7.d. and 7.e. above by the affirmative votes of New York, Pennsylvania and Maryland. Commissioner Semonite abstained on behalf of the United States.

8. FY – 2008 Audit Report

The Chief Administrative Officer presented the independent audit of the Commission's financial records for FY-2008. The report provided an unqualified, clean bill of health regarding the Commission's finances for FY-2008. On a motion by Commissioner Semonite, seconded by Commissioner Myers, the Commission unanimously accepted the audit report.

9. Whitney Point Lake Section 1135 Project Modification

The Chief Administrative Officer explained that the non-federal share of the costs to complete the Whitney Point Lake Section 1135 Project Modification, Broome County, N.Y., will exceed original estimates. Some of this is due to additional costs associated with "Americans With Disabilities" Act (ADA) compliance, storm water drainage, soil and erosion control, and building modifications. To complete this very important project that will make releases during low flow periods to protect downstream users, approval is needed for the payment of these extra costs.

On a motion by Commissioner Myers, seconded by Commissioner Lynch, the Commission approved an additional expenditure of up to \$500,000 from the Commission's Water Management Fund by the affirmative votes of New York, Pennsylvania and Maryland. Commissioner Semonite abstained on behalf of the United States.

10. Replacement of Computer Equipment

The Chief Administrative Officer indicated that there is a need to replace the Commission's three main computer servers to maintain the efficient operation of the SRBC computer network. On a motion by Commissioner Semonite, seconded by Commissioner Lynch, the Commission unanimously approved an expenditure of up to \$65,000 for three new computer network servers.

COUNSEL'S REPORT

Deputy Director Beauduy presented a brief counsel's report to the Commission. As reported at the last meeting, East Hanover Township, Dauphin County, Pa. had filed a federal court appeal of the Commission's denial of its request for administrative review of docket approvals for Mountainview Thoroughbred Racing Association, Inc. The issues in contention are mainly between Mountainview and the Township. The two parties are in negotiations and it appears that a settlement is near that would result in the withdrawal of the federal appeal.

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. A tentative date has been set for the parties to meet.

A large scale request for information on gas well drilling applications filed with the Commission has been made by the Saul Ewing law firm. The industry is opposing the request, claiming that much of the material requested contains trade secret information that should not be released. The Commission is not subject to any of the laws of the member jurisdictions regarding “Freedom of Information” or “Right to Know.” The Commission does maintain a “Freedom of Information Policy” based on the federal Freedom of Information Act. The current controversy highlights the need for counsel to examine this policy in light of member jurisdiction laws and make any necessary changes, which should be considered for approval by the Commission at its March 2009 meeting. Commissioner Myers commented that the law firm making the request should be asked to be more specific about the information that it is requesting in order to make the filling of the request manageable.

PUBLIC HEARING¹

11. Regulatory Program Actions

The Commission convened a public hearing covering three topics: a) action on new project applications; b) an extension of an emergency certificate for CAN DO, Inc.; and c) revision of the Commission’s project fee schedule.

a. Project Applications

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 projects. 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. This environmental background data allow the Commission to have a baseline for future assessment of a project’s operational impacts on local resources.

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.

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.

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) EXCO – North Coast Energy, Inc. (unnamed tributary to Sandy Run); 2) J-W Operating Company (Abandoned Mine Pool); 3) J-W Operating Company (Sterling Run); 4) PPL Holtwood, LLC; 5) Ultra Resources (Elk Run); and 6) Ultra Resources, Inc. (Pine Creek). Another project, EXCO North Coast Energy, Inc. (for operations in Centre County, Pa.), had been withdrawn.

The dockets recommended for action, as described by Mr. Brownell, include the following projects²:

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

- Chesapeake Appalachia, LLC (for operations in Broome, Chenango, Cortland, Delaware, Steuben, and Tomkins Counties, N.Y., and Blair, Cambria, Cameron, Centre, Clearfield, Clinton, Columbia, Elk, Lackawanna, Luzerne, Lycoming, Sullivan, Tioga, and Wayne, Counties, Pa.) (Exhibit A1)
- Chief Oil & Gas LLC (for operations in Clearfield County, Pa.) (Exhibit A2)
- Chief Oil & Gas LLC (Clearfield Creek) (Exhibit A3)
- Chief Oil & Gas LLC (Pine Creek) (Exhibit A4)
- Citrus Energy (for operations in Wyoming County, Pa.) (Exhibit A5)
- Citrus Energy (North Branch Susquehanna River) (Exhibit A6)
- Dillsburg Area Authority – Well 1 (Exhibit A7)
- Dillsburg Area Authority – Well 3 (Exhibit A8)
- EXCO-North Coast Energy, Inc. (unnamed tributary to Sandy Run) (Exhibit A9)
- Fortuna Energy Inc. (Towanda Creek) (Exhibit A10)
- J-W Operating Company (for operations in Cameron, Clearfield, and Elk Counties, Pa.) (Exhibit A11)
- J-W Operating Company (Driftwood Branch – Sinnemahoning Creek) (Exhibit A12)
- KBK-HR Associates LLC (Exhibit A13)
- KBK-HR Associates LLC – from Honey Run (Exhibit A14)
- KBK-HR Associates LLC – from Little Conewago Creek (Exhibit A15)
- New Oxford Foods, LLC (Exhibit A16)
- Rex Energy Corporation (Upper Little Surveyor Run) (Exhibit A17)
- Rex Energy Corporation (Lower Little Surveyor Run) (Exhibit A18)
- Sunbury Generation LP (Exhibit A19)
- Turm Oil, Inc. (for operations in Susquehanna County Pa.) (Exhibit A20)
- Turm Oil, Inc. (Deer Lick Creek) (Exhibit A21)
- Turm Oil, Inc. (E. Branch Wyalusing Creek) (Exhibit A22)
- Turm Oil, Inc. (Elk Lake Stream) (Exhibit A23)
- Turm Oil, Inc. (Main Branch Wyalusing Creek) (ExhibitA24)
- Ultra Resources (for operations in Tioga and Potter Counties, Pa.) (Exhibit A25)
- Ultra Resources (Cowanesque River) (Exhibit A26)

Commissioner Myers thanked Mr. Brownell and his staff for putting together a booklet summarizing all of the pertinent information on the projects before the Commission at today's meeting.

Mr. Michael Helfrich noted that there had been a problem with young deer in the smallmouth bass mortality below the Sunbury Generating Plant. He was pleased that, under the Commission's approval, there would be 1 mgd less hot water entering the river in that area. He also commented briefly on the KBK-Hr Associates projects on Honey Run and Little Conewago Creek.

On a motion by Commissioner Myers, seconded by Commissioner Semonite, the recommendations of staff with respect to the above listed projects were unanimously adopted.

b. CAN-DO, Inc.

CAN-DO, Inc., which operates the Humbolt Industrial Park in Hazle Twp., Luzerne County, Pa., was granted an emergency certificate under 18 CFR Section 806.34 in July 2008 for the temporary withdrawal of 200,000 gallons per day to meet system demand. At its September 11, 2008, meeting, this certificate had been extended by the Commission to December 4, 2008. CAN-DO was now asking for another extension.

Staff recommended that this request be denied. The better solution would be the reactivation of a former connection with the Hazleton Authority, and CAN-DO is presently in negotiations with the Authority to do this.

On a motion by Commissioner Myers, seconded by Commissioner Lynch, the Commission unanimously rejected the request for an extension of the emergency certificate.

c. Project Fee Schedule Revision

Mr. Brownell presented a revised project fee schedule to be effective January 1, 2009, through December 31, 2009, along with a resolution (Exhibit F) to adopt the revised fee schedule. Twenty-day legal notices for this part of the public hearing relating to the project fee schedule were published as follows:

- In Binghamton, N.Y. on November 13, 2008
- In Elmira, N.Y. on November 13, 2008
- In Williamsport, Pa. on November 12, 2008
- In Wilkes Barre, Pa. on November 12, 2008
- In Harrisburg, Pa. on November 12, 2008
- In York, Pa. on November 11, 2008
- In Lancaster, Pa. on November 12, 2008
- In Altoona, Pa. on November 12, 2008
- In Cecil County, Md. on November 12, 2008

In addition, notice of this public hearing was published in the Federal Register on November 18, 2008, the New York Register on November 19, 2008, and the Pennsylvania Bulletin on November 22, 2008. It also appeared in the SRBC regular meeting notice that was sent out on November 21, 2008, and on the SRBC web site. Advance copies were sent out to those most directly affected by these changes – namely hydroelectric licensees who have notified the Commission about upcoming re-licensing proceedings and gas well development companies through their trade organizations.

In March 2005, the Commission adopted revisions to its project fee schedule. It had been since 1991 that any changes had been made to the fee schedule and, as a result, inflation had eroded the percentage of review costs that were recovered by the fees to 23 percent. Therefore, the Commission decided that, in order to keep the fee schedule current, the schedule's categorical fees should be increased by 10 percent each year for five consecutive years and a Consumer Price Index (CPI) adjustment should be made annually. The first of the categorical fee adjustments was implemented on January 1, 2007, so this adjustment would be the third, with two more to follow.

In addition, there are three other important revisions being proposed. The first would increase the project fee for large hydroelectric projects, i.e. those exceeding 10 megawatts in size, to \$200,000 plus a \$10,000 per year monitoring fee. Staff has found that reviewing projects of this size and participating in concurrent Federal Energy Regulatory Commission (FERC)

proceedings, is a costly proposition. The current fee of around \$10,000 for large hydro projects has proven inadequate to cover costs.

The second important change is connected to the final rulemaking just completed by the Commission that establishes an approval by rule process for consumptive use by gas well development projects. The Commission needs to add a provision to the fee schedule covering this new regulation. Staff proposed a base fee of \$10,000, with an extra \$2,000 added for every 1 mgd increment.

Finally, it is sometimes necessary in connection with the approval of a project for staff to perform an aquatic survey. This occurs when there are not enough data available to assess the impacts of a proposed project on the environment or other users. Staff proposed a fee of \$5,000 for the performance of this survey.

Christine Shepard from EXCO-North Coast Energy, Inc.; Steve Rhoades of the Pennsylvania Oil and Gas Association; and Timothy Weston, counsel to the Marcellus Shale Committee, voiced the industry's objections to the ABR application fees to be applied to well pad sites. They pointed out that the ABR process is supposed to be streamlined and straightforward, so that the costs of processing them would be expected to be less. Instead, the proposed ABR fees seemed to be disproportionate to the review work performed by SRBC staff on ABRs. Furthermore, as many as one-half of the well pads would house just one well, and yet would be charged the same fee as well pads housing multiple wells. This did not seem fair and it was therefore suggested that the fee be related to the number of wells on a pad instead of the well pad itself.

Another comment from Jim Lolcama suggested that the Commission should incentivize the use of poor quality water such as AMD by eliminating or reducing the fee for projects that use such sources of water. There is a cost of treatment associated with the use of this water that should be considered in the application fee.

Charles Day of the Deer Creek Watershed Association said that his group was very much aware of the difficulty in financing the Commission. Therefore, continued updating of the Commission's fee schedule was appropriate.

Commissioner Myers pointed out that the fees, even if increased, do not cover all the costs that the Commission incurs in carrying out its functions, like the costs associated with comprehensive planning. The fees must provide a reasonable share of these indirect costs if the Commission is to perform the functions that the public expects it to perform. That being said, however, it may be desirable after some time and experience with these new fees, to explore alternatives such as a yearly assessment in place of per project fees. The Commission would welcome continued input on such innovative approaches to financing the review process and will maintain an open dialogue with the industry.

Meanwhile, Commissioner Myers was willing to have the Commission waive withdrawal application fees for projects withdrawing acid degraded mine water (AMD). It would be necessary for staff to develop appropriate guidance for project sponsors and the commissioners to identify what projects would be eligible for such a waiver. Commissioner Semonite also

indicated that he could support the idea of providing incentives for withdrawal of such degraded water.

Commissioner Myers then offered a motion that the Commission express its intent to waive withdrawal application fees as per the provisions of the existing project fee schedule for projects that withdraw and use AMD in accordance with criteria developed by staff in a guidance document. This motion was seconded by Commissioner Semonite and unanimously adopted by the Commission.

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

END OF PUBLIC HEARING

ADJOURNMENT

There being no further business before the Commission, the Chairman adjourned the meeting at 12:07 p.m. The next regular meeting of the Commission is tentatively scheduled for March 12, 2009, in Bloomsburg, Pa.

Date Adopted

Stephanie L. Richardson
Secretary to the Commission



SUSQUEHANNA RIVER BASIN COMMISSION

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

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

Docket No. 20080902-1

Approval Date: September 11, 2008

Modification Date: December 4, 2008

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) Regulation §806.4, relating to projects requiring review and approval. The Commission received an application for an increase in consumptive use of water for use in additional counties on September 25, 2008. The original Commission approval for consumptive use of that water was issued on September 11, 2008, as Commission Docket No. 20080902 (Docket).

Description

Purpose. The purpose of this modification is to request approval to increase consumptive use of water from 2.075 million gallons per day (mgd) to 20.000 mgd for the development of natural gas wells. This docket modification approves an expansion of operations into three additional counties in Pennsylvania and increases maximum day consumptive water use up to 7.500 mgd, revises certain project features, and rescinds certain provisions.

Location. The project has requested approval for operations located in the Upper Susquehanna, Chemung, Middle Susquehanna, West Branch Susquehanna, and Juniata Subbasins; in Broome, Chenango, Cortland, Delaware, Steuben, and Tompkins Counties, New York, and Blair, Cambria, Cameron, Centre, Clearfield, Clinton, Columbia, Elk, Lackawanna, Luzerne, Lycoming, Sullivan, Tioga, and Wayne Counties, Pennsylvania. Project operations were previously approved in Chemung and Tioga Counties, New York, and Bradford, Susquehanna, and Wyoming Counties, Pennsylvania.

Project Features. The project sponsor has requested approval for the consumptive use of water of up to 20.000 mgd for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances in all counties in New York and Pennsylvania where the Marcellus

Shale occurs. The project has an existing approval for a maximum daily consumptive water use of up to 2.075 mgd of water for well drilling, fracture stimulation, and completion of natural gas wells and appurtenances at operations in five counties. Commission staff recommends approval of a reduced quantity of consumptive water use in three additional counties (Sullivan, Tioga, and Wayne) in Pennsylvania, as described below.

Water will be purchased from public water suppliers and withdrawn from streams and other approved sources for transport to the drilling pads or storage locations. The project sponsor received approval to utilize the sources, when available, listed in the table below to support the consumptive water use.

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
Towanda Municipal Authority	0.150*
Aqua Pennsylvania, Inc. – Susquehanna Division	0.300*
Canton Borough Authority	0.100*
Borough of Troy	0.100*
*Quantity the public water supplier has agreed to provide.	

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Water from public water suppliers, streams, and other approved sources will be separately metered at each source, and pumped to tanker trucks for transport to drilling pads or piped directly to drilling pads. Once on-site, water will be stored in large tanks (called “frac tanks” and having a capacity of approximately 22,000 gallons each) or impoundments, or both, and distributed for operations at the drilling pad. Typically, multiple wells are completed from one drilling pad.

Water may be used in well drilling to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), for dust control, or for hydrostatic testing of pipelines. Most of the water is used during hydrofracing, when highly pressurized fresh water mixed with various chemicals and sand is injected into isolated sections of the boreholes to shatter the shale and maintain open, interconnected fractures to promote gas movement.

Although hydrofracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. The total volume of water must be available on-site prior to hydrofracing.

Some percentage of the water injected into the natural gas production wells is retained in the formation. The fracturing fluid that flows back to the surface is either stored on-site for reuse in the hydrofracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water or other lawful disposal.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), the 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, §806.22, and §806.30.

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.

Total consumptive water use for the project should continue to be calculated as the sum of the daily metered water used at all drilling pad sites authorized under this approval, and should be accounted for by the same methodology in the approved plan. Commission staff recommends that the project sponsor submit any changes in its plan for review and approval by Commission staff.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project continue to be separately accounted for, but not be included in the daily consumptive use amount calculated for the project, 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.

The project's requested consumptive use of water for construction and completion of natural gas wells and appurtenances is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. To satisfy these requirements, the project sponsor proposes to continue to make quarterly payments to the Commission to mitigate its consumptive water use.

The project sponsor has requested a consumptive water use approval of up to 20,000 mgd for use in 19 counties in New York and Pennsylvania to meet its long-term plans for development of natural gas facilities. Commission staff is recommending approval of a peak day

consumptive water use of up to 7.500 mgd, which according to the project sponsor will be sufficient for its near-term operations. The project sponsor will submit requests for additional consumptive use on a pad-by-pad basis, provided that the proposed rulemaking is adopted by the Commission or by separate applications if the proposed rulemaking is not adopted.

The project sponsor will transport or pipe to the drilling pads all water used for its process operations. The water may be delivered or piped to a drilling pad or storage location each day, from various approved sources, including public water suppliers and several streams. Approval, monitoring, and reporting requirements for the requested stream withdrawals are presented in other dockets. 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.

Commission staff finds that the listed public water suppliers (Towanda Municipal Authority, Aqua Pennsylvania, Inc. – Susquehanna Division, Canton Borough Authority, and Borough of Troy) have sufficient capacity to be acceptable sources for the requested quantities of water. The project sponsor should report the total daily quantities of water obtained from each public water supplier.

To document the source of all water used at each drilling pad, Commission staff recommends that the project sponsor continue to record the daily quantity of water delivered to each drilling pad identified by name or other unique identifier, according to its approved metering plan. The project sponsor should submit any changes to the metering plan to the Commission for review and approval prior to consumptively using any water.

The project sponsor should continue to submit copies of well completion reports for each of the wells covered by this approval to the Commission.

The project sponsor is required to continue to electronically report all monitoring data to the Commission quarterly, or as otherwise requested, as specified in Commission Regulation §806.30(b)(1).

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. Commission staff recommends the project sponsor demonstrate to the satisfaction of 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 length of the approval be consistent with the previously approved Docket.

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 consumptive use of water of up to 7.500 mgd in Chemung and Tioga Counties, New York, and Bradford, Sullivan, Susquehanna, Tioga, Wayne, and Wyoming Counties, Pennsylvania, from listed public water suppliers and other approved sources 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. Condition "1" of Docket No. 20080902 is hereby rescinded and replaced by new condition "1."

5. 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 quantity 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. Total consumptive water use for the project shall be calculated as the sum of the daily quantity of water consumptively used at all drilling pad sites.

6. The project sponsor shall continue to use an approved metering plan to account for its consumptively used water. The project sponsor may propose alternative metering for Commission staff review and approval.

7. The quantity of water utilized from Towanda Municipal Authority, Aqua Pennsylvania, Inc. – Susquehanna Division, Canton Borough Authority, and Borough of Troy shall not exceed the daily quantity each public water supplier has agreed to provide, as demonstrated by means of an updated commitment letter or other documentation acceptable to the Commission.

8. The project sponsor shall keep daily records of metered water obtained from each public water supplier as it is delivered to each drilling pad, and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted via hard copy or electronically, as required by the Commission, within thirty (30) days after the close of the preceding quarter.

9. 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).

10. The project sponsor shall demonstrate to the satisfaction of 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.

11. 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.

12. 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 \$0.14 per 1,000 gallons (\$0.21 per 1,000 gallons effective January 1, 2009) of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity 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.

13. Within thirty (30) days of well completion, the project sponsor shall submit to the Commission well completion reports for each well within the area of consumptive use authorized by this approval.

14. 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 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.

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 demonstrate to the Commission annually, by means of an updated commitment letter or other documentation acceptable to the Commission, that an approved public water supplier intends to continue to supply water to the project sponsor. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination.

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

18. 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).

19. The project sponsor shall obtain all necessary permits 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 any approval if the project sponsor fails to obtain or maintain such approvals.

20. 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.

21. 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.

22. 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.

23. 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.

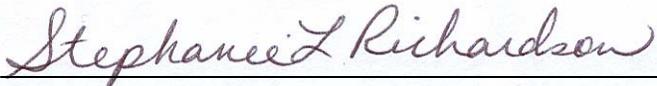
24. All other conditions in Commission Docket No. 20080902 not inconsistent herewith shall remain effective.

25. This approval is effective until September 11, 2012. The term of this docket modification is 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 March 11, 2012, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

26. 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 December 4, 2008.

Dated: December 5, 2008



Stephanie L. Richardson
Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20081201

Approval Date: December 4, 2008

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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on August 8, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development of natural gas wells.

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 has requested 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.

Water will be purchased from public water suppliers and withdrawn from a stream for transport to the drilling pads or storage locations. The project sponsor has requested approval to utilize the source, when available, listed in the table below to support the consumptive water use. Listed public water suppliers were previously approved under Commission Regulation §806.22(e) and the associated stream withdrawal is addressed in a separate approval, Commission Docket No. 20081202.

Source ID	Approved Quantity (mgd)
Clearfield Creek (Boggs Township)	2.000
BCI Municipal Authority	0.050*
Jersey Shore Joint Water Authority	0.099*
*Quantity the public water supplier has agreed to provide.	

Specific location information concerning discrete water-related project features has been withheld for security reasons.

The project sponsor has indicated that other sources to support the consumptive water use may be proposed in the future.

Water from public water suppliers, streams, and other approved sources will be separately metered at each source, and pumped to tanker trucks for transport to drilling pads or piped directly to drilling pads. Once on-site, water will be stored in large tanks (called “frac tanks” and having a capacity of approximately 22,000 gallons each) or impoundments, or both, and distributed for operations at the drilling pad. Typically, multiple wells are completed from one drilling pad.

Water may be used in well drilling to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), for dust control, or for hydrostatic testing of pipelines. Most of the water is used during hydrofracing, when highly pressurized fresh water mixed with various chemicals and sand is injected into isolated sections of the boreholes to shatter the shale and maintain open, interconnected fractures to promote gas movement.

Although hydrofracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. The total volume of water must be available on-site prior to hydrofracing.

Some percentage of the water injected into the natural gas production wells is retained in the formation. The fracing fluid that flows back to the surface is either stored on-site for reuse in the hydrofracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water or other lawful disposal.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), the 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, §806.22, and §806.30.

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.

Total consumptive water use for the project should be calculated as the sum of the daily metered water used at all drilling pad sites authorized under this approval. Commission staff recommends that the project sponsor submit a plan to account for the daily uses for review and approval by Commission staff.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project be separately accounted for, but not be included in the daily consumptive use amount calculated for the project, 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.

The project's requested consumptive use of water for construction and completion of natural gas wells and appurtenances is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. 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 of up to 5.000 mgd. Based on the descriptions for construction and completion of natural gas wells and appurtenances supplied 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 5.000 mgd, the project sponsor must apply for a modification to this docket.

Commission staff finds that the listed public water suppliers (BCI Municipal Authority and Jersey Shore Joint Water Authority) have sufficient capacity to be acceptable sources for the requested quantities of water. The project sponsor should report the total daily quantities of water obtained from each public water supplier.

The project sponsor will transport or pipe to the drilling pads all water used for its process operations. The water may be delivered or piped to a drilling pad or storage location each day, from approved sources. Approval, monitoring, and reporting requirements for the requested stream withdrawal is presented in another docket. 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.

The project sponsor should report the total daily quantities of water obtained from each approved source, if others are added during the term of this approval.

To document the source of all water used at each drilling pad, Commission staff recommends that the project sponsor record the daily quantity of water delivered to each drilling pad identified by name or other unique identifier. The project sponsor should submit a metering plan to account for this use to the Commission for review and approval prior to consumptively using any water.

The project sponsor should submit copies of well completion reports for each of the wells covered by this approval to the Commission.

The project sponsor is required to electronically report all monitoring data to the Commission quarterly, or as otherwise requested, as specified in Commission Regulation §806.30(b)(1).

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. Commission staff recommends the project sponsor demonstrate to the satisfaction of 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.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years.

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 consumptive use of water of up to 5.000 mgd from the listed public water suppliers and other approved sources 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 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 quantity 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. Total consumptive water use for the project shall be calculated as the sum of the daily quantity of water consumptively used at all drilling pad sites.

5. The project sponsor shall submit a metering plan to account for its consumptively used water for review and approval by Commission staff prior to any use of water consumptively. The project sponsor may propose alternative metering for Commission staff review and approval.

6. The quantity of water utilized from BCI Municipal Authority and Jersey Shore Joint Water Authority shall not exceed the daily quantity each public water supplier has agreed to provide, as demonstrated by means of an updated commitment letter or other documentation acceptable to the Commission.

7. The project sponsor shall keep daily records of metered water obtained from each public water supplier as it is delivered to each drilling pad, and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted via hard copy or electronically, as required by the Commission, within thirty (30) days after the close of the preceding quarter.

8. 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).

9. The project sponsor shall demonstrate to the satisfaction of 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.

10. 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.

11. 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 \$0.14 per 1,000 gallons (\$0.21 per 1,000 gallons effective January 1, 2009) of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity 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.

12. Within thirty (30) days of well completion, the project sponsor shall submit to the Commission well completion reports for each well within the area of consumptive use authorized by this approval.

13. 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 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 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.

15. The project sponsor shall demonstrate to the Commission annually, by means of an updated commitment letter or other documentation acceptable to the Commission, that an approved public water supplier intends to continue to supply water to the project sponsor. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination.

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

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 project sponsor shall obtain all necessary permits 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 any approval if the project sponsor fails to obtain or maintain such approvals.

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

20. 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.

21. 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.

22. 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.

23. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

24. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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

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Docket No. 20081202

Approval Date: December 4, 2008

CHIEF OIL & GAS LLC

Surface Water Withdrawal (Peak Day) of up to 2.000 mgd,
When Available, from Clearfield Creek,
for Development and Completion of Natural Gas Wells,
Boggs Township, 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) 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 September 18, 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. 20081201.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050201040, Clearfield Creek Watershed, Boggs Township, Clearfield County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 2.000 million gallons per day (mgd) (peak day) from Clearfield Creek in Boggs Township at a maximum instantaneous rate of withdrawal of 1,388 gallons per minute (gpm). The withdrawal will support natural gas development in Clearfield County, Pennsylvania.

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 natural gas development project entails withdrawing water from Clearfield Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for

use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 2,000 mgd so that water could be withdrawn from Clearfield 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 2,000 mgd (peak day) from Clearfield Creek in Boggs Township, at a maximum instantaneous withdrawal rate of 1,388 gpm.

Clearfield Creek, at the point of taking, is classified as a warm water fishery (WWF) (Title 25, Chapter 93, Pennsylvania Code) that is impaired by mine drainage. Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Clearfield Creek at the point of taking to be 21.02 cubic feet per second (cfs) (9,436 gpm), and the average daily flow to be 467 cfs.

Although the requested rate of withdrawal is less than 10 percent of the lowest average flow that occurs from 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 15 percent of the average daily flow, which equals a passby flow of 69.99 cfs or 31,410 gpm. The project sponsor must cease all withdrawals when streamflow in Clearfield Creek drops below 69.99 cfs for the protection of aquatic resources and downstream users.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from Clearfield Creek when the streamflow, as measured at the U.S. Geological Survey's stream gage 01541500, Clearfield Creek at Dimeling, Pennsylvania, is less than 86.55 cfs, and should not reinstate withdrawals until the streamflow has remained above 86.55 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 2.000 mgd. Commission staff recommends approval of up to 2.000 mgd, when available, at the requested rate of 1,388 gpm.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Clearfield Creek at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Clearfield Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 2.000 mgd, when available, from Clearfield Creek at the location specified in the application in Boggs Township, Clearfield 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; and meter specifications 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 Clearfield Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 1,388 gpm.

8. The project sponsor shall cease all withdrawals from Clearfield Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01541500 on Clearfield Creek at Dimeling, Pennsylvania, is less than 86.55 cfs, and shall not reinstate withdrawals until the streamflow has remained above 86.55 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from the Clearfield Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

12. The project sponsor shall maintain any meters or 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.

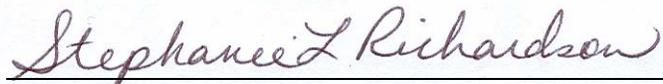
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20081203

Approval Date: December 4, 2008

CHIEF OIL & GAS LLC

Surface Water Withdrawal (Peak Day) of up to 0.099 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 June 20, 2008 and additional information on July 15, 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 Nos. 20081201 and 20080934.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050205060, Pine Creek Watershed, Cummings Township, Lycoming 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 Pine Creek in Cummings Township at a maximum instantaneous rate of withdrawal of 300 gallons per minute (gpm). The withdrawal will support natural gas development in Lycoming and Clearfield Counties, Pennsylvania.

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 natural gas development project entails withdrawing water from Pine Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.099 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 0.099 mgd (peak day) from Pine Creek in Cummings Township, at a maximum instantaneous withdrawal rate of 300 gpm.

Pine Creek, at the point of taking, is classified as a high quality cold water fishery (HQ-CWF) (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 300 gpm.

Based on descriptions of the drilling process, estimates regarding the quantity of water needed per well, and the proposed number of drilling pads, as provided by the project sponsor, Commission staff recommends approval of the proposed peak day withdrawal.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Pine Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 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; and meter specifications 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, when the meter is 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 river intake shall not exceed 300 gpm.
8. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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.
9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from Pine Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.
10. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.
11. The project sponsor shall maintain any meters or 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 December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Web <http://www.srbc.net>**Docket No. 20081204****Approval Date: December 4, 2008**

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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on August 15, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development of natural gas wells.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050301, North Branch Susquehanna Watershed, Wyoming County, Pennsylvania.

Project Features. The project sponsor has requested 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.

Water will be withdrawn from a stream for transport to the drilling pads or storage locations. The project sponsor has requested approval to utilize the source, when available, listed in the table below to support the consumptive water use. The associated stream withdrawal is addressed in a separate approval, Commission Docket No. 20081205.

Source ID	Approved Quantity (mgd)
North Branch Susquehanna River (Washington Township)	0.499

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Water from the stream will be metered at the source, and pumped to tanker trucks for transport to drilling pads or piped directly to drilling pads. Once on-site, water will be stored in large tanks (called “frac tanks” and having a capacity of approximately 22,000 gallons each) or impoundments, or both, and distributed for operations at the drilling pad. Typically, multiple wells are completed from one drilling pad.

Water may be used in well drilling to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), for dust control, or for hydrostatic testing of pipelines. Most of the water is used during hydrofracing, when highly pressurized fresh water mixed with various chemicals and sand is injected into isolated sections of the boreholes to shatter the shale and maintain open, interconnected fractures to promote gas movement.

Although hydrofracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. The total volume of water must be available on-site prior to hydrofracing.

Some percentage of the water injected into the natural gas production wells is retained in the formation. The fracing fluid that flows back to the surface is either stored on-site for reuse in the hydrofracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water or other lawful disposal.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), the 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, §806.22, and §806.30.

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.

Total consumptive water use for the project should be calculated as the sum of the daily metered water used at all drilling pad sites authorized under this approval. Commission staff recommends that the project sponsor submit a plan to account for the daily uses for review and approval by Commission staff.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project be separately accounted

for, but not be included in the daily consumptive use amount calculated for the project, 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.

The project's requested consumptive use of water for construction and completion of natural gas wells and appurtenances is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. 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 of up to 5.000 mgd. Based on the descriptions for construction and completion of natural gas wells and appurtenances supplied 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 5.000 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor will transport or pipe to the drilling pads all water used for its process operations. The water may be delivered or piped to a drilling pad or storage location each day, from various approved sources, including public water suppliers and several streams. Approval, monitoring, and reporting requirements for the requested stream withdrawals are presented in other dockets. 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.

To document the source of all water used at each drilling pad, Commission staff recommends that the project sponsor record the daily quantity of water delivered to each drilling pad identified by name or other unique identifier. The project sponsor should submit a metering plan to account for this use to the Commission for review and approval prior to consumptively using any water.

The project sponsor should submit copies of well completion reports for each of the wells covered by this approval to the Commission.

The project sponsor is required to electronically report all monitoring data to the Commission quarterly, or as otherwise requested, as specified in Commission Regulation §806.30(b)(1).

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. Commission staff recommends the project sponsor demonstrate to the satisfaction of 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.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years.

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 consumptive use of water of up to 5.000 mgd from the approved source 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 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 quantity 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. Total consumptive water use for the project shall be calculated as the sum of the daily quantity of water consumptively used at all drilling pad sites.

5. The project sponsor shall submit a metering plan to account for its consumptively used water for review and approval by Commission staff prior to any use of water consumptively. The project sponsor may propose alternative metering for Commission staff review and approval.

6. 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).

7. The project sponsor shall demonstrate to the satisfaction of 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.

8. 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.

9. 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 \$0.14 per 1,000 gallons (\$0.21 per 1,000 gallons effective January 1, 2009) of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity 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.

10. Within thirty (30) days of well completion, the project sponsor shall submit to the Commission well completion reports for each well within the area of consumptive use authorized by this approval.

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 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 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.

13. The project sponsor shall demonstrate to the Commission annually, by means of an updated commitment letter or other documentation acceptable to the Commission, that an approved public water supplier intends to continue to supply water to the project sponsor. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination.

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. The project sponsor shall obtain all necessary permits 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 any approval if the project sponsor fails to obtain or maintain such approvals.

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

18. 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.

19. 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.

20. 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.

21. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

22. 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 December 4, 2008.

Dated: December 5, 2008



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081205

Approval Date: December 4, 2008

CITRUS ENERGY

Surface Water Withdrawal (Peak Day) of up to 0.499 mgd, When Available,
from North Branch Susquehanna River,
for Development and Completion of Natural Gas Wells,
Washington Township, 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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on August 26, 2008 and additional information on October 3, 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. 20081204.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106, North Branch Susquehanna River Watershed, Washington Township, Wyoming 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 North Branch Susquehanna River in Washington Township at a maximum instantaneous rate of withdrawal of 1,385 gallons per minute (gpm). The withdrawal will support natural gas development in Wyoming County, Pennsylvania.

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 natural gas development project entails withdrawing water from North Branch Susquehanna River; pumping it to a tanker truck for transport to drilling pads; or piping directly

to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.499 mgd so that water could be withdrawn from North 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 0.499 mgd (peak day) from North Branch Susquehanna River in Washington Township, at a maximum instantaneous withdrawal rate of 1,385 gpm.

North 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 North Branch Susquehanna River at the point of taking to be 684 cubic feet per second (cfs) (307,149 gpm), and the average daily flow to be 11,243 cfs.

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 20 percent of the average daily flow, which equals a passby flow of 2,248.51 cfs or 1,009,332 gpm. The project sponsor must cease all withdrawals when streamflow at the intake of North Branch Susquehanna River drops below 2,248.51 cfs.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from North Branch Susquehanna River when the streamflow, as measured at the U.S. Geological Survey's stream gage 01533400, located on the Susquehanna River at Meshoppen, Pennsylvania, is less than 2,208 cfs, and should not reinstate withdrawals until the streamflow has remained above 2,208 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 North Branch Susquehanna River at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from North Branch Susquehanna River. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 North Branch Susquehanna River at the location specified in the application in Washington Township, Wyoming 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; and meter specifications 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 North Branch Susquehanna River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 1,385 gpm.

8. The project sponsor shall cease all withdrawals from North Branch Susquehanna River when streamflow, as measured at the U.S. Geological Survey's stream gage 01533400 on the Susquehanna River at Meshoppen, Pennsylvania, is less than 2,208 cfs, and shall not reinstate withdrawals until the streamflow has remained above 2,208 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from North Branch Susquehanna River intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

12. The project sponsor shall maintain any meters or 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 December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081206

Approval Date: December 4, 2008

DILLSBURG AREA AUTHORITY

Groundwater Withdrawal (30-Day Average) of 0.022 mgd from Well 1,
for Public Water Supply,
Franklin 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 September 30, 2008.

Description

Purpose. The purpose of the application is to request approval for groundwater withdrawal from Well 1 for distribution in a public water supply system. The application was submitted in response to decision item “7” in Commission Docket No. 20070907, requiring review and approval of all of the project’s withdrawals pursuant to Commission Regulation §806.4(a)(2)(iv).

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050305, Dogwood Run Watershed, Franklin Township, York County, Pennsylvania.

Project Features. The project sponsor has requested approval for withdrawal (30-day average) of 0.022 million gallons per day (mgd) from Well 1 for distribution in a public supply system that currently relies on five wells (Wells 1 through 7). Well 2 is currently off-line and Well 6 is abandoned.

The Commission previously approved groundwater withdrawals of 0.216 mgd (30-day average) for Well 4 (Commission Docket No. 19890304, dated March 9, 1989), 0.576 mgd (30-day average) for Well 5A (Commission Docket No. 19980703, dated July 9, 1998), 0.460 mgd (30-day average) for Well 7 (Commission Docket No. 20070907, dated September 12, 2007). The docket for Well 7 also specified a total system withdrawal limit (30-day average) of 1.112 mgd.

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Well 1, drilled in the 1930s, is constructed as an open-rock, 4-inch-diameter borehole to a total depth of 160 feet below ground surface (bgs). The well is cased with 4-inch-diameter steel casing from the ground surface to 29.5 feet bgs. It is completed in sandstone (inferred quartzitic) of the Antietam Formation, on the south slope of a northeasterly plunging anticline known as Stone Head Ridge. Bedding dips to the south-southeast and groundwater flow appears to be toward the southeast.

Dillsburg Area Authority serves Dillsburg Borough, and parts of Carroll and Franklin Townships. The public water supply system has an existing average daily demand of 0.380 mgd, and an existing maximum daily demand of 0.726 mgd. The average and maximum daily demands are projected to grow to 1.112 and 1.890 mgd, respectively, by 2020. Currently, the average water demand from Well 1 is 22,000 gallons per day (gpd), with a maximum use of 25,000 gpd. The capacity of the pump in Well 1 is 67 gallons per minute (gpm).

Aquifer Test. The project sponsor has requested a waiver from the requirements for aquifer testing of Well 1. The Commission received the waiver request on February 22, 2008, as part of the “Dillsburg Area Authority Well 1 Assessment and Modified Aquifer Test Plan.” The request for a waiver was based on historical operation practices of using the well since the 1930s, and the area of groundwater availability and recharge supplying the well. No wetlands or streams are located within 1,000 feet of Well 1, and the area is serviced by public water and sewer.

The project sponsor does not intend to increase its withdrawal or use from Well 1 above its historical maximum 30-day average amount. There are no Commission-approved water withdrawals in the recharge area.

Coordination. The Dillsburg Area Authority is permitted for the use of Well 1 (Pennsylvania Department of Health, November 9, 1932). In addition, Pennsylvania Department of Environmental Protection (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 and supporting information submitted by the project sponsor. Based on this information, Commission staff recommends approval of the requested 30-day average withdrawal of 0.022 mgd from Well 1 and an instantaneous pumping rate of 67 gpm.

Commission staff recommends waiving the requirement for aquifer testing contained in Commission Regulation §806.12 for Well 1. Based on the information submitted by the project sponsor, Commission staff finds that there is little potential for adverse impact related to pumping Well 1 at the requested rate.

A groundwater availability analysis was submitted by the project sponsor as part of the waiver request for aquifer testing. Groundwater recharge to Well 1 is from the Antietam and Tomstown Formations, totaling an area of 0.14 square miles. Using groundwater recharge rates from the United States Geological Survey Report 84-4327, Commission staff has calculated that 0.0396 mgd of recharge would be available in a 1-in-10-year drought in the vicinity of the well. The requested withdrawal is 56 percent of the calculated recharge under drought conditions, indicating there is sufficient quantity to provide for the requested withdrawal.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(a). The water system is 100 percent metered, except for Well 7 which is not operational yet, and the project sponsor reports its system water loss is less than 20 percent, which is in compliance with this regulation.

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 resources 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.

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 0.022 mgd from Well 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 reporting requirements contained in Commission Regulation §806.30.
4. 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. Monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.
5. The maximum instantaneous rate of production from Well 1 shall not exceed 67 gpm.

6. The constant-rate aquifer test requirements specified in Commission Regulation §806.12 are hereby waived for Well 1.

7. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(a). The project sponsor shall report its system loss to the Commission annually.

8. If the Commission determines that the operation of the project's groundwater withdrawal from Well 1 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.

9. 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.

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

11. 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).

12. As specified in Commission Docket No. 20070907, the total water supply system withdrawal shall be limited to 1.112 mgd (30-day average).

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 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.

16. 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

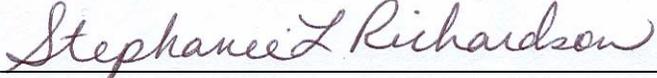
of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

17. This approval is effective until December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

18. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



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Docket No. 20081207

Approval Date: December 4, 2008

DILLSBURG AREA AUTHORITY

Groundwater Withdrawal (30-Day Average) of 0.101 mgd from Well 3,
for Public Water Supply,
Franklin 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 September 30, 2008.

Description

Purpose. The purpose of the application is to request approval for groundwater withdrawal from Well 3 for distribution in a public water supply system. The application was submitted in response to decision item “7” in Commission Docket No. 20070907, requiring review and approval of all of the project’s withdrawals pursuant to Commission Regulation §806.4(a)(2)(iv).

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050305, Dogwood Run Watershed, Franklin Township, York County, Pennsylvania.

Project Features. The project sponsor has requested approval for withdrawal (30-day average) of 0.101 million gallons per day (mgd) from Well 3 for distribution in a public supply system that currently relies on five wells (Wells 1 through 7). Well 2 is currently off-line and Well 6 is abandoned.

The Commission previously approved groundwater withdrawals of 0.216 mgd (30-day average) for Well 4 (Commission Docket No. 19890304, dated March 9, 1989), 0.576 mgd (30-day average) for Well 5A (Commission Docket No. 19980703, dated July 9, 1998), 0.460 mgd (30-day average) for Well 7 (Commission Docket No. 20070907, dated September 12, 2007). The docket for Well 7 also specified a total system withdrawal limit (30-day average) of 1.112 mgd.

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Drilled in the 1950s, Well 3 is constructed as an open-rock, 6-inch-diameter borehole to a total depth of 130 feet below ground surface (bgs). The well is cased with 6-inch-diameter steel casing from above the ground surface to 118 feet bgs. The open interval of the well is completed in sandstone (inferred quartzitic) of the Antietam Formation, with weathered dolomite of the Tomstown Formation inferred above in the portion of the well that contains steel casing.

Well 3 is located southeast of South Mountain on the east slope of a northeasterly plunging anticline known as Stone Head Ridge. In the vicinity of Well 3, bedding dips to the northeast near the axis of the anticline.

Dillsburg Area Authority serves Dillsburg Borough, and parts of Carroll and Franklin Townships. The public water supply system has an existing average daily demand of 0.380 mgd, and an existing maximum daily demand of 0.726 mgd. The average and maximum daily demands are projected to grow to 1.112 and 1.890 mgd, respectively, by 2020. The historic average water demand from Well 3 is 101,000 gallons per day (gpd), with a maximum use of 200,000 gpd. The capacity of the pump in Well 3 is estimated at 175 gallons per minute (gpm).

Aquifer Test. The project sponsor has requested a waiver from the requirements for aquifer testing of Well 3. The Commission received the waiver request on March 6, 2008, as part of the “Dillsburg Area Authority Well 3 Assessment and Modified Aquifer Test Plan.” The request for a waiver was based on historical operation practices of using the well since the 1950s, and the area of groundwater availability and recharge supplying the well. No wetlands or streams are located within 1,000 feet of Well 3; however wetlands occur along Dogwood Run located approximately 1,300 feet north of Well 3. The area is serviced by public water and sewer.

The project sponsor does not intend to increase its withdrawal or use from Well 3 above its historical maximum 30-day average amount. There are no Commission-approved water withdrawals in the recharge area.

Coordination. The Dillsburg Area Authority is permitted for the use of Well 3 (Pennsylvania Department of Health Water Works Permit No. 8669-W, dated January 22, 1958). Pennsylvania Department of Environmental Protection (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 and supporting information for Well 3 submitted by the project sponsor. Based on this information, Commission staff recommends approval of the requested 30-day average withdrawal of 0.101 mgd from Well 3 and an instantaneous pumping rate not to exceed 175 gpm.

Commission staff recommends waiving the requirement for aquifer testing contained in Commission Regulation §806.12 for Well 3. Based on historical groundwater withdrawal at Well 3 and the information explained below, Commission staff finds that there is little potential for adverse environmental impact related to pumping Well 3 at the requested rate.

A groundwater availability analysis was submitted by the project sponsor as part of the waiver request for aquifer testing. Topographic data indicate that groundwater recharge to Well 3 is from the Antietam, Tomstown, and Weverton Formations and from the Montalto Member of the Harpers Formation, totaling a maximum area of 2.518 square miles. Using groundwater recharge rates from the United States Geological Survey Report 84-4327, Commission staff has calculated that 0.717 mgd of recharge would be available in a 1-in-10-year drought in the vicinity of the well. The requested withdrawal is 14 percent of the calculated recharge under drought conditions, indicating there is sufficient quantity to provide for the requested withdrawal.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §806.25(a). The water system is 100 percent metered, except for Well 7 which is not operational yet, and the project sponsor reports its system water loss is less than 20 percent, which is in compliance with this regulation.

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.

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.

Commission staff recommends that Well 2 be capped or properly abandoned to prevent contamination of the aquifer, as this well has not been used by the project sponsor for many years.

Decision

1. The project's groundwater withdrawal (30-day average) of 0.101 mgd from Well 3 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 contained in Commission Regulation §806.30.

4. The project sponsor shall keep daily records of the metered withdrawal from Well 3. 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.

5. The maximum instantaneous rate of production from Well 3 shall not exceed 175 gpm.

6. The constant-rate aquifer test requirements specified in Commission Regulation §806.12 are hereby waived for Well 3.

7. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(a). The project sponsor shall report its system loss to the Commission annually.

8. If the Commission determines that the operation of the project's groundwater withdrawal from Well 3 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.

9. 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.

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

11. 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).

12. As specified in Commission Docket No. 20070907, the total water supply system withdrawal shall be limited to 1.112 mgd (30-day average).

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 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.

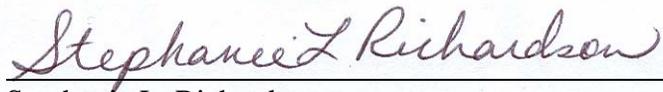
16. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

17. This approval is effective until December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

18. The project sponsor has a period of three (3) years from the date of this approval to initiate the project or such 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 December 4, 2008.

Dated: December 5, 2008



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. 20081209

Approval Date: December 4, 2008

EXCO-NORTH COAST ENERGY, INC.

Surface Water Withdrawal (Peak Day) of up to 0.300 mgd, When Available,
from an Unnamed Tributary to Sandy Run,
for Development and Completion of Natural Gas Wells,
Burnside Township, Centre 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 30, 2008 and additional information on November 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 0205020402, Beech Creek Watershed, Burnside Township, Centre County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.300 million gallons per day (mgd) (peak day) from an unnamed tributary to Sandy Run in Burnside Township at a maximum instantaneous rate of withdrawal of 208 gallons per minute (gpm). The stream at the point of taking is impaired by abandoned mine drainage (AMD), and the project sponsor intends to treat the water withdrawn to determine its suitability to support natural gas development in the general vicinity of Centre County, Pennsylvania.

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 natural gas development project entails withdrawing water from an unnamed tributary to Sandy Run; pumping it to a tanker truck for transport to drilling pads; or piping

directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

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 0.300 mgd (peak day) from an unnamed tributary to Sandy Run in Burnside Township, at a maximum instantaneous withdrawal rate of 208 gpm.

The unnamed tributary to Sandy Run, at the point of taking, is classified as a cold water fishery (CWF) (Title 25, Chapter 93, Pennsylvania Code); however, the target reach is impaired by AMD and does not attain this classification as described below.

Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the unnamed tributary to Sandy Run at the point of taking to be 0.013 cubic feet per second (cfs) (6 gpm), and the average daily flow to be 0.86 cfs.

Commission staff inspected the withdrawal site to assess the quality of the stream and determined the reach to be severely impaired by AMD; this determination is supported by analytical data collected by the project sponsor. Commission staff recommends that the project sponsor allow for a passby flow of not less than Q7-10, which equals a passby flow of 0.013 cfs or 6 gpm. The project sponsor must cease all withdrawals when streamflow at the intake on the unnamed tributary to Sandy Run drops below 0.013 cfs.

Based on descriptions of the drilling process, and estimates regarding the quantity of water needed per well, the project sponsor requested a peak day withdrawal of 0.300 mgd. Commission staff recommends approval of the requested quantity.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 unnamed tributary to Sandy Run at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for

review and approval prior to the withdrawal of any water from the unnamed tributary to Sandy Run. The project sponsor should record the daily quantity of water withdrawn, the destination water treatment/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).

Commission staff recommends that the project sponsor install a weir or flume, or other flow measurement device, to provide for the required passby flow. The project sponsor should submit its design and a proposed construction schedule for review and approval by Commission staff prior to any construction. Commission staff also should review and approve the location of the measuring device. Following approval, the project sponsor should 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 project sponsor must maintain the passby system, keeping it fully functional and free of debris.

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

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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, less than one week before the Commission meeting. However, staff recommends that the Commission waive the notice requirements for the project in light of the impaired nature of the stream and so the proposed testing can go forward as soon as practicable. If it can be demonstrated that AMD can be successfully used for fracture stimulation, its use by the natural gas exploration and development companies could offset some quantity of higher quality waters while minimizing transport because of its proximity to drilling pad locations.

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 0.300 mgd, when available, from an unnamed tributary to Sandy Run at the location specified in the application in Burnside Township, Centre 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; and meter specifications 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 unnamed tributary to Sandy Run, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 208 gpm.

8. The project sponsor shall allow a passby flow on the unnamed tributary to Sandy Run downstream of the project intake of not less than Q7-10, which equals 0.013 cfs or 6 gpm.

9. The project sponsor shall submit its proposed location, design, and a proposed construction schedule for the flow measurement device within ninety (90) 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 system shall be kept fully functional and free of debris.

10. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from the unnamed tributary to Sandy Run intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

12. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

13. The project sponsor shall maintain any meters or 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.

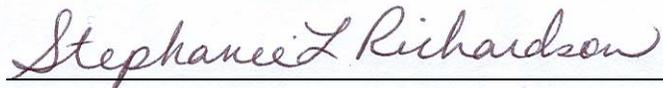
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081210

Approval Date: December 4, 2008

FORTUNA ENERGY INC.

Surface Water Withdrawal (Peak Day) of up to 0.250 mgd,
When Available, from Towanda Creek,
for Development and Completion of Natural Gas Wells,
Franklin 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 May 12, 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.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106030, Towanda Creek Watershed, Franklin 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 Towanda Creek in Franklin Township at a maximum instantaneous rate of withdrawal of 174 gallons per minute (gpm). The withdrawal will support natural gas development in the Southern Tier Counties of New York and the Northern Tier Counties in Pennsylvania.

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 natural gas development project entails withdrawing water from Towanda Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.250 mgd so that water could be withdrawn from Towanda 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 Towanda Creek in Franklin Township, at a maximum instantaneous withdrawal rate of 174 gpm.

Towanda 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 Towanda Creek at the point of taking to be 1.46 cubic feet per second (cfs) (657 gpm), and the average daily flow to be 149.9 cfs.

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 (ADF), which equals a passby flow of 29.98 cfs or 13,460 gpm. The project sponsor must cease all withdrawals when streamflow at the intake on Towanda Creek drops below 29.98 cfs.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from Towanda Creek when the streamflow, as measured at the U.S. Geological Survey's stream gage 01532000, located on Towanda Creek near Monroeton, Pennsylvania, is less than 57.40 cfs, and should not reinstate withdrawals until the streamflow has remained above 57.40 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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, and the requested withdrawal rate of 174 gpm.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Towanda Creek at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Towanda Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 Towanda Creek at the location specified in the application in Franklin 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; and meter specifications 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 Towanda Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 174 gpm.

8. The project sponsor shall cease all withdrawals from Towanda Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01532000 on Towanda Creek, near Monroeton, Pennsylvania, is less than 57.40 cfs, and shall not reinstate withdrawals

until the streamflow has remained above 57.40 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from Towanda Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

12. The project sponsor shall maintain any meters or 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.

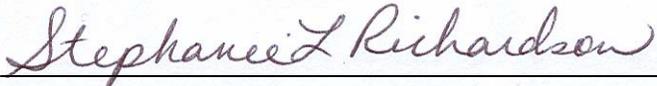
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081211

Approval Date: December 4, 2008

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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on August 8, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development of natural gas wells.

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 has requested 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.

Water will be purchased from a public water supplier and withdrawn from streams and other approved sources for transport to the drilling pads or storage locations. The project sponsor has requested approval to utilize the sources, when available, listed in the table below to support the consumptive water use. The listed public water supplier was previously approved under Commission Regulation §806.22(e) and the associated stream withdrawal is addressed in a separate approval, including Commission Docket No. 20081213.

Source ID	Approved Quantity (mgd)
Driftwood Branch Sinnemahoning Creek (Lumber Township)	0.245
Emporium Water Company	0.200*
*Quantity the public water supplier has agreed to provide.	

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Water from public water suppliers, streams, and other approved sources will be separately metered at each source, and pumped to tanker trucks for transport to drilling pads or piped directly to drilling pads. Once on-site, water will be stored in large tanks (called “frac tanks” and having a capacity of approximately 22,000 gallons each) or impoundments, or both, and distributed for operations at the drilling pad. Typically, multiple wells are completed from one drilling pad.

Water may be used in well drilling to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), for dust control, or for hydrostatic testing of pipelines. Most of the water is used during hydrofracing, when highly pressurized fresh water mixed with various chemicals and sand is injected into isolated sections of the boreholes to shatter the shale and maintain open, interconnected fractures to promote gas movement.

Although hydrofracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. The total volume of water must be available on-site prior to hydrofracing.

Some percentage of the water injected into the natural gas production wells is retained in the formation. The fracing fluid that flows back to the surface is either stored on-site for reuse in the hydrofracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water or other lawful disposal.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), the 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, §806.22, and §806.30.

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.

Total consumptive water use for the project should be calculated as the sum of the daily metered water used at all drilling pad sites authorized under this approval. Commission staff recommends that the project sponsor submit a plan to account for the daily uses for review and approval by Commission staff.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project be separately accounted for, but not be included in the daily consumptive use amount calculated for the project, 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.

The project's requested consumptive use of water for construction and completion of natural gas wells and appurtenances is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. 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 of up to 4,500 mgd. Based on the descriptions for construction and completion of natural gas wells and appurtenances supplied 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 4,500 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor will transport or pipe to the drilling pads all water used for its process operations. The water may be delivered or piped to a drilling pad or storage location each day, from various approved sources, including public water suppliers and several streams. Approval, monitoring, and reporting requirements for the requested stream withdrawals are presented in other dockets. 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.

Commission staff finds that the listed public water supplier (Emporium Water Company) has sufficient capacity to be an acceptable source for the requested quantities of water. The project sponsor should report the total daily quantities of water obtained from each public water supplier.

To document the source of all water used at each drilling pad, Commission staff recommends that the project sponsor record the daily quantity of water delivered to each drilling pad identified by name or other unique identifier. The project sponsor should submit a metering plan to account for this use to the Commission for review and approval prior to consumptively using any water.

The project sponsor should submit copies of well completion reports for each of the wells covered by this approval to the Commission.

The project sponsor is required to electronically report all monitoring data to the Commission quarterly, or as otherwise requested, as specified in Commission Regulation §806.30(b)(1).

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. Commission staff recommends the project sponsor demonstrate to the satisfaction of 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.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years.

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 consumptive use of water of up to 4.500 mgd from the listed public water supplier and other approved sources 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 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 quantity 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. Total consumptive water use for the project shall be calculated as the sum of the daily quantity of water consumptively used at all drilling pad sites.

5. The project sponsor shall submit a metering plan to account for its consumptively used water for review and approval by Commission staff prior to any use of water consumptively. The project sponsor may propose alternative metering for Commission staff review and approval.

6. The quantity of water utilized from Emporium Water Company shall not exceed the daily quantity the public water supplier has agreed to provide, as demonstrated by means of an updated commitment letter or other documentation acceptable to the Commission.

7. The project sponsor shall keep daily records of metered water obtained from each public water supplier as it is delivered to each drilling pad, and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted via hard copy or electronically, as required by the Commission, within thirty (30) days after the close of the preceding quarter.

8. 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).

9. The project sponsor shall demonstrate to the satisfaction of 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.

10. 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.

11. 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 \$0.14 per 1,000 gallons (\$0.21 per 1,000 gallons effective January 1, 2009) of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity 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.

12. Within thirty (30) days of well completion, the project sponsor shall submit to the Commission well completion reports for each well within the area of consumptive use authorized by this approval.

13. 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 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 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.

15. The project sponsor shall demonstrate to the Commission annually, by means of an updated commitment letter or other documentation acceptable to the Commission, that an approved public water supplier intends to continue to supply water to the project sponsor. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination.

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

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 project sponsor shall obtain all necessary permits 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 any approval if the project sponsor fails to obtain or maintain such approvals.

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

20. 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.

21. 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.

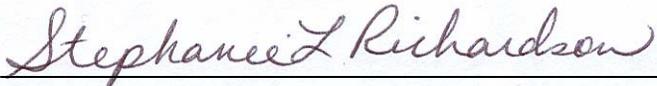
22. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

23. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

24. 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 December 4, 2008.

Dated: December 5, 2008


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. 20081213

Approval Date: December 4, 2008

J-W OPERATING COMPANY

Surface Water Withdrawal (Peak Day) of up to 0.245 mgd, When Available,
from Driftwood Branch Sinnemahoning Creek,
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.

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.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050202020, Sinnemahoning Creek Watershed, Lumber Township, Cameron County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.245 million gallons per day (mgd) (peak day) from Driftwood Branch of Sinnemahoning Creek in Lumber Township at a maximum instantaneous rate of withdrawal of 170 gallons per minute (gpm). The withdrawal will support natural gas development in Cameron County, Pennsylvania.

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 natural gas development project entails withdrawing water from Driftwood Branch Sinnemahoning Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be

stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.245 mgd so that water could be withdrawn from Driftwood Branch 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 0.245 mgd (peak day) from Driftwood Branch Sinnemahoning Creek in Lumber Township, at a maximum instantaneous withdrawal rate of 170 gpm.

Driftwood Branch Sinnemahoning 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 Driftwood Branch Sinnemahoning Creek at the point of taking to be 4.10 cubic feet per second (cfs) (1,840 gpm), and the average daily flow to be 449 cfs.

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 (ADF), which equals a passby flow of 89.80 cfs or 40,310 gpm. The project sponsor must cease all withdrawals when streamflow in Driftwood Branch Sinnemahoning Creek drops below 89.80 cfs for the protection of aquatic resources and downstream users.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from Driftwood Branch Sinnemahoning Creek when the streamflow, as measured at the U.S. Geological Survey's stream gage 01543000 Driftwood Branch Sinnemahoning Creek at Sterling Run, Pennsylvania, is less than 89.80 cfs, and should not reinstate withdrawals until the streamflow has remained above 89.80 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 0.245 mgd. Commission staff recommends approval of up to 0.245 mgd, when available, and the requested withdrawal rate of 170 gpm.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Driftwood Branch Sinnemahoning Creek at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Driftwood Branch Sinnemahoning Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.245 mgd, when available, from Driftwood Branch Sinnemahoning Creek 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; and meter specifications 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 Driftwood Branch of Sinnemahoning Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 170 gpm.

8. The project sponsor shall cease all withdrawals from Driftwood Branch Sinnemahoning Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01543000 on Driftwood Branch Sinnemahoning Creek, at Sterling Run, Pennsylvania, is less than 89.80 cfs, and shall not reinstate withdrawals until the streamflow has remained above 89.80 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from Driftwood Branch of Sinnemahoning Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

12. The project sponsor shall maintain any meters or 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.

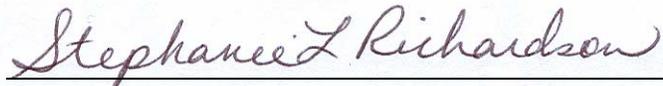
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008



Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20081215

Approval Date: December 4, 2008

KBK-HR ASSOCIATES LLC – HONEY RUN GOLF CLUB

Consumptive Water Use of up to 0.382 mgd (Peak Day),
for Golf Course Irrigation,
Dover 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 April 18, 2008.

Description

Purpose. The purpose of the application is to request the approval for the consumptive use of water for irrigation of greens, tees, and fairways at an existing 18-hole golf course.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Little Conewago Creek Watershed, Dover Township, York County, Pennsylvania.

Project Features. The project sponsor has requested approval for the consumptive water use of up to 0.382 mgd. The project sponsor reports its maximum average 30-day consumptive water use to be 0.174 mgd and peak day consumptive water use to be 0.382 mgd.

The project sponsor also has requested approval for the withdrawal of up to 0.382 mgd, when available, from Honey Run and up to 1.440 mgd, when available, from Little Conewago Creek. The proposed withdrawals from Honey Run and Little Conewago Creek are addressed in Commission Docket Nos. 20081216 and 20081217, respectively.

Honey Run Golf Club was constructed as an 18-hole golf course in 1970, and has been in continuous operation since that time. The original irrigation system was installed in 1970, and was replaced by the current system in 2000. Honey Run Golf Club was sold to KBK-HR Associates LLC (KBK) in December 2007. As the new owner, KBK submitted the transfer notification to the Commission on April 11, 2008, and filed new consumptive use and surface water withdrawal applications for the existing withdrawal on Honey Run and a new withdrawal from Little Conewago Creek on April 18, 2008.

The current system consists of a single-row irrigation system. Water for the irrigation system is withdrawn from Honey Run and stored in an off-stream storage pond. According to the project sponsor, the storage pond was constructed prior to 1971, and has a maximum depth of 10 feet. Commission staff has calculated that the storage pond has a surface area of 1.7 acres and an average depth of approximately 7 feet. Based on these calculations, the storage pond has a maximum storage capacity of approximately 3.87 million gallons, which is sufficient storage for approximately 22 days of irrigation, based on the maximum average 30-day use of 0.174 mgd.

The project sponsor has a passive passby flow device at the point of withdrawal on Honey Run. Water is gravity-fed to the storage pond from Honey Run through a metered 4-inch polyvinyl chloride (PVC) pipeline. The intake of the pipeline is constructed upstream from the passby structure that allows a passby flow of 404 gallons per minute (gpm) in Honey Run before the withdrawal can occur. A totalizing flow meter is installed in the 4-inch PVC pipeline between the withdrawal point and the storage pond.

Water in the storage pond drains into a wet well equipped with two 60-horsepower pumps. Water is pumped from the wet well to the golf course irrigation system. A totalizing flow meter is installed between the wet well and golf course irrigation system. The total capacity of the existing golf course irrigation system is 1,200 gpm.

The project sponsor has requested approval to utilize a new intake and pumping station on the Little Conewago Creek to meet the project's irrigation demands. The project sponsor proposes to install a permanent intake structure equipped with a pump (centrifugal, submersible, or other type) to transfer water from Little Conewago Creek to the storage pond.

Findings

The project's consumptive water use is subject to Commission approval and reporting requirements as per Commission Regulations §806.4, §806.22, and §806.30.

All water evaporated from the storage pond, as well as water withdrawn from the storage pond and used for golf course irrigation, is considered to be used consumptively. Water evaporated from the pond should be calculated by the project sponsor employing a methodology acceptable to the Commission. The irrigation system is equipped with a meter that measures the quantity of water withdrawn from the pond and used for irrigation.

The project sponsor has requested a consumptive water use approval of up to 0.382 mgd. Based on an analysis of irrigation records supplied by the project sponsor, Commission staff is recommending approval of the requested quantity. Should the project's future consumptive water use exceed or be expected to exceed 0.382 mgd, the project sponsor must apply for a modification to this docket at that time.

The project sponsor is required to electronically report the quantity of water consumptively used at the golf course to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

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 should be reviewed and approved by Commission staff.

The project's requested consumptive use of water for irrigation is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. To satisfy these requirements, the project sponsor proposes to make quarterly payments to the Commission to mitigate its consumptive water use. The payment will be based on the daily quantity of water used for irrigation plus the calculated evaporative loss from the irrigation pond.

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

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.

Commission staff recommends that Commission Docket No. 20020827, issued to Honey Run Golf Club on April 15, 2002 and revised on June 13, 2007, be rescinded.

The project is physically feasible 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 water use of up to 0.382 mgd 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. 20020827, issued to Honey Run GIBG LLC, is hereby rescinded.

5. 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 quantity

evaporated from the storage pond plus water used for irrigation. Commission staff shall review and approve the method of calculation of evaporative loss from the storage pond.

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 current rate of \$0.14 per 1,000 gallons of water (\$0.21 per 1,000 gallons effective January 1, 2009) consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of evaporative loss from the storage pond plus the quantity pumped to the irrigation system. 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 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.

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

9. To satisfy the Commission's registration requirement, the project sponsor shall register with the Pennsylvania Department of Environmental Protection 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 December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 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 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 December 4, 2008.

Dated: December 5, 2008



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. 20081216

Approval Date: December 4, 2008

KBK-HR ASSOCIATES LLC – HONEY RUN GOLF CLUB

Surface Water Withdrawal of up to 0.382 mgd, When Available,
from Honey Run for Golf Course Irrigation,
Dover 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 April 18, 2008.

Description

Purpose. The purpose of the application is to request approval for a surface water withdrawal from Honey Run for golf course irrigation.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Little Conewago Creek Watershed, Dover Township, York County, Pennsylvania.

Project Features. The project sponsor has requested approval for the surface water withdrawal of up to 0.382 mgd, when available, from Honey Run.

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.

Honey Run Golf Club was constructed as an 18-hole golf course in 1970, and has been in continuous operation since that time. The original irrigation system was installed in 1970, and was replaced by the current system in 2000. Honey Run Golf Club was sold to KBK-HR Associates LLC (KBK) in December 2007. As the new owner, KBK submitted the transfer notification to the Commission on April 11, 2008, and filed new consumptive use and surface water withdrawal applications for the existing withdrawal on Honey Run and a new withdrawal from Little Conewago Creek on April 18, 2008.

The approval for the consumptive water use for irrigation of greens, tees, and fairways at the existing 18-hole golf course is addressed in Commission Docket No. 20081215. The project sponsor also has requested approval for the surface water withdrawal of up to 1.440 mgd, when available, from Little Conewago Creek. The proposed surface water withdrawal from Little Conewago Creek is addressed in Commission Docket No. 20081217.

The project sponsor has a passive passby flow device at the point of withdrawal on Honey Run. Water is gravity-fed to an off-stream storage pond from Honey Run through a metered 4-inch polyvinyl chloride (PVC) pipeline. The intake of the pipeline is constructed upstream from the passby structure that allows a passby flow of 404 gallons per minute (gpm) in Honey Run before the withdrawal can occur. A totalizing flow meter is installed in the 4-inch PVC pipeline between the withdrawal point and the storage pond.

Water in the storage pond drains into a wet well equipped with two 60-horsepower pumps. Water is then pumped from the wet well to the golf course irrigation system. A totalizing flow meter is installed between the wet well and golf course irrigation system. The total capacity of the existing golf course irrigation system is 1,200 gpm.

Findings

The project's surface water withdrawal is subject to Commission approval and reporting requirements as per Commission Regulations §806.4, §806.23, and §806.30.

The project's primary source of water for the storage pond is the withdrawal from Honey Run. The project sponsor has requested withdrawal of up to 0.382 mgd. Commission staff is recommending approval of the requested quantity and rate. A meter has been installed on the surface water intake, in accordance with Commission Regulation §806.30. The project sponsor should keep daily records of its withdrawal. These data should be electronically reported to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

Honey Run is classified as a trout stocked fishery (TSF) (Title 25, Chapter 93, Pa. Code). The project sponsor's requested peak day withdrawal of 0.382 mgd, if withdrawn over a 24-hour period, results in a withdrawal rate of approximately 265 gpm. This rate of withdrawal is greater than 7-day 10-year low flow (Q7-10 flow) for Honey Run (207 gpm) at the point of withdrawal, thereby requiring a passby flow to protect aquatic resources and downstream users. Commission staff recommends that the project sponsor allow a flow to pass in Honey Run directly below the intake of not less than 20 percent of annual average daily flow (ADF), which equals 0.899 cubic feet per second (cfs) (404 gpm). The project sponsor currently operates its withdrawal using a passive passby structure that meets these criteria. If Commission staff finds changes to be necessary, the project sponsor will need to submit a plan for Commission staff's review and approval.

During operation of the surface water withdrawal, the project sponsor must maintain the passby system, keeping it free of debris and fully functional. The Commission reserves the right to inspect the passby flow device and intake structure at any time.

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.

Commission staff recommends that Commission Docket No. 20020827, issued to Honey Run Golf Club on April 15, 2002 and revised on June 13, 2007, be rescinded.

The project is physically feasible 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 from Honey Run of up to 0.382 mgd, when available, 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. 20020827, issued to Honey Run GIBG LLC, is hereby rescinded.
5. The project sponsor shall maintain metering on the intake on Honey Run, accurate to within five (5) percent.
6. The project sponsor shall keep daily records of the surface water withdrawal from Honey Run and shall provide the results 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 monitoring to the Commission for staff review and approval.
7. The maximum instantaneous rate of withdrawal shall not exceed 265 gpm.
8. The project sponsor shall allow a flow to pass in Honey Run directly below the intake of not less than 0.899 cfs (404 gpm). When the streamflow below the intake is less than this amount, the withdrawal shall be reduced to allow 0.899 cfs (404 gpm) in the stream channel below the intake. When the flow is equal to or less than 0.899 cfs (404 gpm), no water may be withdrawn, and the entire flow shall be allowed to pass the intake to allow such flow in the channel below the intake as may prevail above. The passby system shall be kept fully functional and free of debris. The Commission reserves the right to inspect the passby flow device and intake structure at any time. The project sponsor may propose an alternative to a passive passby flow device to the Commission for staff review and approval.

9. 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.

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

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

12. 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.

13. 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.

14. 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.

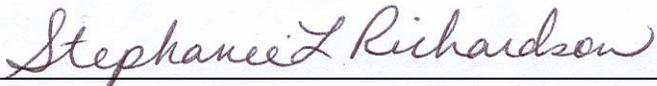
15. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

16. This approval is effective until December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

17. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081217

Approval Date: December 4, 2008

KBK-HR ASSOCIATES LLC – HONEY RUN GOLF CLUB

Surface Water Withdrawal of up to 1.440 mgd, When Available,
from Little Conewago Creek for Golf Course Irrigation,
Dover 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 April 18, 2008.

Description

Purpose. The purpose of the application is to request approval for a surface water withdrawal from Little Conewago Creek for golf course irrigation.

The approval for the consumptive water use and surface water withdrawal from Honey Run for golf course irrigation are addressed in Commission Docket Nos. 20081215 and 20081216, respectively.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Little Conewago Creek Watershed, Dover Township, York County, Pennsylvania.

Project Features. The project sponsor has requested approval for the withdrawal of up to 1.440 million gallons per day (mgd), when available, from Little Conewago Creek.

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.

Honey Run Golf Club was constructed as an 18-hole golf course in 1970, and has been in continuous operation since that time. The original irrigation system was installed in 1970, and was replaced by the current system in 2000. Honey Run Golf Club was sold to KBK-HR Associates LLC (KBK) in December 2007. As the new owner, KBK submitted the transfer notification to the Commission on April 11, 2008, and filed new consumptive use and

surface water withdrawal applications for the existing withdrawal on Honey Run and a new withdrawal from Little Conewago Creek on April 18, 2008.

Currently, water for the irrigation system is withdrawn from Honey Run and stored in an off-stream storage pond. According to the project sponsor, the storage pond was constructed prior to 1971, and has a maximum depth of 10 feet. Commission staff has calculated that the storage pond has a surface area of 1.7 acres and an average depth of approximately 7 feet. Based on these calculations, the storage pond has a maximum storage capacity of approximately 3.87 million gallons, which is sufficient storage for approximately 22 days of irrigation, based on the maximum average 30-day use of 0.174 mgd.

The project sponsor has requested to utilize a new intake and pumping station on the Little Conewago Creek to meet the project's irrigation demands while allowing for the required passby flow in Honey Run. The project sponsor proposes to install a permanent intake structure equipped with a pump (centrifugal, submersible, or other type) to transfer water from Little Conewago Creek to the storage pond. The intake structure will be designed to prevent sediment and biota from being drawn into the pump intake.

Water in the storage pond drains into a wet well equipped with two 60-horsepower pumps. Water is then pumped from the wet well to the golf course irrigation system. A totalizing flow meter is installed between the wet well and golf course irrigation system. The total capacity of the existing golf course irrigation system is 1,200 gallons per minute (gpm).

Findings

The project's surface water withdrawal is subject to Commission approval and reporting requirements as per Commission Regulations §806.4, §806.23, and §806.30.

The project sponsor has requested withdrawal of up to 1.440 mgd from Little Conewago Creek. Commission staff is recommending approval of the requested quantity. A meter should be installed on the surface water intake, in accordance with Commission Regulation §806.30, and the project sponsor should keep daily records of its withdrawal. These data should be electronically reported to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

Little Conewago Creek is classified as a trout stocked fishery (TSF) (Title 25, Chapter 93, Pa. Code). Commission staff has calculated the 7-day 10-year low flow (Q7-10 flow) for Little Conewago Creek to be 0.45 cubic feet per second (cfs) (201 gpm) at the point of withdrawal. The project sponsor requested a maximum instantaneous withdrawal rate of approximately 1,000 gpm, which is greater than 10 percent of the Q7-10 flow, thereby requiring a passby flow to protect aquatic resources and downstream users. Commission staff recommends that the project sponsor allow a flow to pass in Little Conewago Creek directly below the intake of not less than 20 percent of annual average daily flow (ADF), which equals 5.0 cfs (2,228 gpm).

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.

Commission staff recommends that Commission Docket No. 20020827, issued to Honey Run Golf Club on April 15, 2002 and revised on June 13, 2007, be rescinded.

The project is physically feasible 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 from Little Conewago Creek of up to 1.440 mgd, when available, 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. 20020827, issued to Honey Run GIBG LLC, is hereby rescinded.
5. Within sixty (60) days of the date of this approval, the project sponsor shall submit, for review and approval by Commission staff, its proposed location, design, and construction schedule for the installation of the pump and surface water intake structure to be used to transfer water from Little Conewago Creek to the storage pond. The pump and intake structure shall be installed at the approved locations and according to the approved construction designs.
6. Within sixty (60) days from the date of this approval, the project sponsor shall install and maintain metering on the surface water intake from Little Conewago Creek, accurate to within five (5) percent. The project sponsor shall notify the Commission, in writing, when the meter is installed.
7. The maximum instantaneous rate of withdrawal shall not exceed 1,000 gpm.
8. The project sponsor shall allow a flow to pass in Little Conewago Creek directly below the intake of not less than 5.0 cfs (2,228 gpm). When the streamflow below the intake is less than this amount, the withdrawal shall be reduced to allow 5.0 cfs (2,228 gpm) in the stream channel below the intake. When the natural flow is equal to or less than 5.0 cfs (2,228 gpm), no water may be withdrawn, and the entire natural flow shall be allowed to pass the intake to allow such natural flow in the channel below the intake as may prevail above.

9. Within sixty (60) days from the date of this approval, the project sponsor shall submit, for review and approval by Commission staff, a proposed plan to meet the passby requirements in Little Conewago Creek.

10. Within sixty (60) days of the date of this approval, the project sponsor shall submit an operations plan to the Commission to describe plans for acquiring and using water when streamflow drops below 5.0 cfs (2,228 gpm), and withdrawal from the Little Conewago Creek is not permitted.

11. The project sponsor shall keep daily records of the surface water withdrawal from the Little Conewago Creek and shall provide the results 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 monitoring to the Commission for staff review and approval.

12. 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.

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

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

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. 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. 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

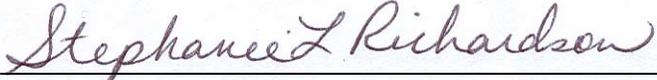
of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

20. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



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Docket No. 20081218

Approval Date: December 4, 2008

NEW OXFORD FOODS, LLC

Groundwater Withdrawal (30-Day Average) of 0.035 mgd from Well 1,
and Consumptive Water Use (Peak Day) of up to 0.380 mgd,
for the Manufacturing of Food Products,
New Oxford Borough, Adams 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 a request for transfer of the previous owner's approval on March 13, 2008, and received applications for groundwater withdrawal and consumptive water use on June 9, 2008.

Description

Purpose. The purpose of the applications is to request approval for groundwater withdrawal and consumptive water use for the manufacturing of food products at a poultry processing facility.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Conewago Creek Watershed, New Oxford Borough, Adams County, Pennsylvania.

Project Features. The project sponsor has requested approval for a groundwater withdrawal of 0.035 million gallons per day (mgd) (30-day average) from Well 1 and consumptive water use of up to 0.380 mgd (peak day) for use in the processing of poultry (mainly turkeys). The project sponsor obtains the bulk of its water from the New Oxford Municipal Authority.

New Oxford Foods, LLC purchased the poultry processing facility on March 10, 2008, from Pilgrim's Pride Corporation of Virginia, Inc. (Commission Docket No. 20020622, approved December 11, 2003). Poultry processing began at the facility in 1966 by Round Hill Poultry Company.

The facility's current peak day consumptive water use is 0.378 mgd and the projected future use is 0.380 mgd. The current maximum 30-day average groundwater withdrawal from

Well 1 is 0.032 mgd. The project purchases 0.438 mgd (maximum 30-day average) of water from the New Oxford Municipal Authority.

Specific location information concerning discrete water-related project features has been withheld for security reasons.

The facility processes 30,000 to 40,000 birds per day. The first step involves preprocessing (cleaning) of the turkeys, where the majority of water is used. Then the turkeys are chilled. Recirculated water is used in the chiller operations, which consists of a 78,000-gallon tank “drag chiller.” There are two 200-ton ammonia-cooled, recirculated water chiller units/heat exchangers. Makeup water for the two chillers is metered. The second processing step involves sizing, deboning, and packaging. Water used in this phase (wash-down water) is reclaimed for the preprocessing phase. Wastewater from the facility is pretreated at an on-site plant which consists of screens, grease skimmers, an aeration pond, and DAF (sediment floater). Sludge is weighed and trucked off-site.

The pretreatment plant effluent is metered and then conveyed to the New Oxford Municipal Authority sanitary sewer system. Wastewater from the facility’s sanitary system also goes directly to the sewer system and is not metered.

Water supplied by the New Oxford Municipal Authority is used for processing, making ice, refrigeration, makeup water for the two boilers, off-site disposal of offal and sludge, and sanitary purposes.

Well 1 has been in operation at the facility since 1986 and is metered. The water withdrawn is used in the plant’s non-contact refrigeration system, with most water being evaporated by the plant’s four evaporative condensers on the ammonia system used for freezing and room temperature control. Well 1 is constructed as a 6-inch-diameter open-rock well from approximately 63 feet below ground surface (bgs) to 340 feet bgs. The pump is set at 245 feet bgs and withdraws water at an instantaneous rate of 64 gallons per minute (gpm). The well is drilled in the Triassic-age New Oxford Formation composed of sandstone, siltstone, shale, and sandstone conglomerate. The bedrock strikes in a northeasterly direction and dips to the northwest.

Aquifer Testing. The project sponsor has requested a waiver from the requirements for aquifer testing. The request is based on historical operation practices for the well since 1986. The facility and Well 1 are located in a residential area served by the municipal water supply. No surface water features are located nearby. The project sponsor submitted historical pumping data and a groundwater availability analysis to support the request for waiving the aquifer test.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements as per Commission Regulations §806.4, §806.6, §806.22, §806.23, and §806.30.

All water used for the chiller system, non-contact refrigeration, evaporated by the plant's four evaporative condensers, used for processing, making ice, off-site offal and sludge disposal, used for the two boilers, is considered to be used consumptively.

Consumptive water use for the project should be calculated as the difference between the sum of the metered municipal water plus the metered groundwater withdrawal, and the sum of the pretreated effluent to the sewer system plus the estimated quantity of sanitary use (consumptive use equals inflow minus outflow). The project sponsor obtains water from both the municipal supply and from Well 1. The water from each source is metered and those meters are read on a daily basis. The project sponsor meters all of the effluent discharged to the New Oxford Municipal Authority's sanitary sewer system, with the exception of sanitary use. Commission staff has estimated the sanitary discharge to be 3,800 gallons per day (gpd) based on 535 employees using 10 gpd during a 5-day workweek.

The project sponsor should monitor and record daily readings from the metered public and well water supplies (inflow), and the metered pretreatment and estimated sanitary wastewater discharge (outflow). The facility's public and well water inflow meters and pretreatment plant discharge meter should be read and recorded at approximately the same time each day. These data should be reported on-line to the Commission on a quarterly basis.

Should the proposed accounting procedure fail to accurately measure the project's consumptive use, the Commission reserves the right to modify the metering, monitoring, and accounting procedure. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, or accounting procedures. Any alternative monitoring/accounting procedure 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. 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 approval for a consumptive water use of up to 0.380 mgd. Based on historical water use data by the facility, Commission staff is recommending approval of the requested quantity. Should the project's future consumptive water use be expected to exceed 0.380 mgd, the project sponsor must apply for a modification of this docket at that time.

The project sponsor has requested that the Commission waive the aquifer testing requirements for Well 1 as contained in Commission Regulation §806.12, and has submitted historical pumping data to support its request. A groundwater availability analysis was also submitted by the project sponsor as part of the waiver request for aquifer testing. Using a recharge area of 0.177 square miles and a recharge rate of 240,000 gpd per square mile (from United States Geological Survey Water Supply Paper 84-4327), Commission staff has calculated that 0.0425 gpd would be available in a 1-in-10-year drought in the vicinity of the well. This recharge rate indicates that there is sufficient quantity to provide for the requested withdrawal. Commission staff finds that the well is able to sustain the requested withdrawal without new or

increased impacts to local groundwater and surface water, and recommends that the aquifer testing requirement be waived.

The project sponsor has requested approval for groundwater withdrawal from Well 1 of 0.035 mgd (maximum 30-day average). Based on groundwater availability and historical water use data by the facility, Commission staff is recommending approval of the requested quantity. Should the project's future groundwater withdrawal be expected to exceed 0.035 mgd, the project sponsor must apply for a modification of this docket at that time.

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.

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 groundwater withdrawal (30-day average) of 0.035 mgd from Well 1, and a consumptive water use of up to 0.380 mgd (peak day) are 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 the reporting requirements contained in Commission Regulation §806.30.
4. Commission Docket No. 20020622, issued to Pilgrim's Pride Corporation of Virginia, Inc., is hereby rescinded.
5. The project sponsor shall keep daily records of the project's consumptive water use, and shall electronically report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports are due within thirty (30) days after the close of the preceding quarter. The daily quantity of consumptive use shall be the total of all water used for the chiller system, non-contact refrigeration, evaporated by the plant's four evaporative condensers, used for processing, making ice, off-site offal and sludge disposal, used for the two boilers, and not conveyed to the municipal sewer system as wastewater. The project sponsor shall continue to maintain the existing meters, accurate to within five (5) percent, to calculate the consumptive water use. Commission staff shall review and approve any required modifications to the on-line spreadsheet accounting procedure.
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 consumptive use, 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. 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 \$0.14 per 1,000 gallons of water (\$0.21 per 1,000 gallons effective January 1, 2009) consumptively used by the project. The daily quantity of water consumptively used shall be the quantity used for the chiller system, non-contact refrigeration, evaporated by the plant's four evaporative condensers, used for processing, making ice, incorporated into offal and sludge, used for the two boilers, and evaporated from the wastewater pretreatment system.

8. The project sponsor shall keep daily records of the project's groundwater withdrawal from Well 1, and shall electronically report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports are due within thirty (30) days after the close of the preceding quarter.

9. The maximum instantaneous rate of production from Well 1 shall not exceed 64 gpm.

10. The aquifer testing requirements specified in Commission Regulation §806.12 are hereby waived for Well 1.

11. To satisfy the Commission's registration requirement, the project sponsor shall register with the Pennsylvania Department of Environmental Protection all groundwater sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

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

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 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.

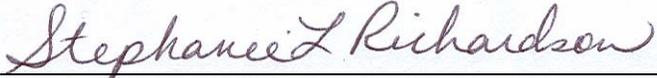
16. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

17. This approval is effective until December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

18. 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 December 4, 2008.

Dated: December 5, 2008



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. 20081220

Approval Date: December 4, 2008

REX ENERGY CORPORATION

Surface Water Withdrawal (Peak Day) of up to 0.400 mgd,
When Available, from Upper Little Surveyor Run,
for Development and Completion of Natural Gas Wells,
Girard Township, 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) 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. 20080941.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050201070, Little Surveyor Run Watershed, Girard Township, Clearfield County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.400 million gallons per day (mgd) (peak day) from Upper Little Surveyor Run in Girard Township at a maximum instantaneous rate of withdrawal of 556 gallons per minute (gpm). The withdrawal will support natural gas development in Centre and Clearfield Counties, Pennsylvania.

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 natural gas development project entails withdrawing water from Upper Little Surveyor Run; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site

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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.400 mgd so that water could be withdrawn from Upper Little Surveyor 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 0.400 mgd (peak day) from Upper Little Surveyor Run in Girard Township, at a maximum instantaneous withdrawal rate of 556 gpm.

Upper Little Surveyor Run, at the point of taking, is classified as a cold water fishery (CWF) (Title 25, Chapter 93, Pennsylvania Code) that is impaired by mine drainage. Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for the Upper Little Surveyor Run at the point of taking to be 0.01 cubic feet per second (cfs) (6 gpm), and the average daily flow to be 1.10 cfs.

The requested rate of withdrawal is greater 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, thereby requiring a passby flow for the protection of downstream uses. Due to the impairment of the stream by mine drainage, Commission staff recommends that the project sponsor allow for a passby flow of not less than 15 percent of the average daily flow (ADF), which equals a passby flow of 0.165 cfs or 74 gpm. The project sponsor must cease all withdrawals when streamflow drops below 0.165 cfs.

Commission staff recommends that the project sponsor install a passive system that will allow a minimum passby flow of 0.165 cfs at all times during active pumping.

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

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 0.400 mgd. Commission staff recommends approval of up to 0.400 mgd, when available.

The project sponsor also has requested the approval for a withdrawal from Lower Little Surveyor Run. To mitigate adverse cumulative impacts of the two withdrawals on Little Surveyor Run (Upper and Lower) while providing operational flexibility to the project sponsor, Commission staff recommends that only one withdrawal (either the Upper or Lower) operate at any time, and that the total combined maximum daily withdrawal from the two sources be limited to 0.400 mgd.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Upper Little Surveyor Run at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Upper Little Surveyor Run. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.400 mgd, when available, from Upper Little Surveyor Run at the location specified in the application in Girard Township, Clearfield County, Pennsylvania, and a combined limit of up to 0.400 mgd from the withdrawals on Upper and Lower Little Surveyor Run, 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 withdraw water from only one of the sources (Upper Little Surveyor Run and Lower Little Surveyor Run) at any time, and only withdraw water from a single location on any day.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; and meter specifications 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 Upper Little Surveyor Run, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 556 gpm.

9. The project sponsor shall allow a flow to pass Upper Little Surveyor Run, at the point of taking, of not less than 0.165 cfs (74 gpm). When the natural flow, at the point of taking, is equal to or less than 0.165 cfs (74 gpm), no water may be withdrawn and the entire flow shall be allowed to pass the intake.

10. The project sponsor shall submit its design and a proposed construction schedule for the passby flow measurement device 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 system shall be kept fully functional and free of debris.

11. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from Upper Little Surveyor Run intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

13. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

14. The project sponsor shall maintain any meters or 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.

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

16. 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).

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

18. 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.

19. 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.

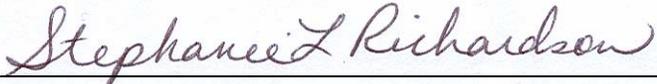
20. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

21. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

22. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081221

Approval Date: December 4, 2008

REX ENERGY CORPORATION

Surface Water Withdrawal (Peak Day) of up to 0.400 mgd,
When Available, from Lower Little Surveyor Run,
for Development and Completion of Natural Gas Wells,
Girard Township, 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) 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. 20080941.

Location. The surface water withdrawal specified in the application is located in the West Branch Susquehanna Subbasin, HUC 02050201070, Little Surveyor Run Watershed, Girard Township, Clearfield County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.400 million gallons per day (mgd) (peak day) from Lower Little Surveyor Run in Girard Township at a maximum instantaneous rate of withdrawal of 556 gallons per minute (gpm). The withdrawal will support natural gas development in Centre and Clearfield Counties, Pennsylvania.

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 natural gas development project entails withdrawing water from Lower Little Surveyor Run; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site

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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.400 mgd so that water could be withdrawn from Lower Little Surveyor 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 0.400 mgd (peak day) from Lower Little Surveyor Run in Girard Township, at a maximum instantaneous withdrawal rate of 556 gpm.

Lower Little Surveyor Run, at the point of taking, is classified as a cold water fishery (CWF) (Title 25, Chapter 93, Pennsylvania Code) that is impaired by mine drainage. Commission staff has calculated the 7-day, 10-year low flow (Q7-10) for Lower Little Surveyor Run at the point of taking to be 0.02 cubic feet per second (cfs) (10 gpm), and the average daily flow to be 1.94 cfs.

The requested rate of withdrawal is greater 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, thereby requiring a passby flow for the protection of downstream uses. Due to the impairment of the stream by mine drainage, Commission staff recommends that the project sponsor allow for a passby flow of not less than 15 percent of the average daily flow (ADF), which equals a passby flow of 0.291 cfs or 130 gpm. The project sponsor must cease all withdrawals when streamflow drops below 0.291 cfs.

Commission staff recommends that the project sponsor install a passive system that will allow a minimum passby flow of 0.291 cfs at all times during active pumping.

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

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 0.400 mgd. Commission staff recommends approval of up to 0.400 mgd, when available.

The project sponsor also has requested the approval for a withdrawal from Upper Little Surveyor Run. To mitigate adverse cumulative impacts of the two withdrawals on Little Surveyor Run (Upper and Lower) while providing operational flexibility to the project sponsor, Commission staff recommends that only one withdrawal (either the Upper or Lower) operate at any time, and that the total combined maximum daily withdrawal from the two sources be limited to 0.400 mgd.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Lower Little Surveyor Run at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Lower Little Surveyor Run. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.400 mgd, when available, from Lower Little Surveyor Run at the location specified in the application in Girard Township, Clearfield County, Pennsylvania, and a combined limit of up to 0.400 mgd from the withdrawals on Upper and Lower Little Surveyor Run, 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 withdraw water from only one of the sources (Lower Little Surveyor Run and Upper Little Surveyor Run) at any time, and only withdraw water from a single location on any day.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; and meter specifications 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 Lower Little Surveyor Run, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 556 gpm.

9. The project sponsor shall allow a flow to pass Lower Little Surveyor Run, at the point of taking, of not less than 0.291 cfs (130 gpm). When the natural flow, at the point of taking, is equal to or less than 0.291 cfs (130 gpm), no water may be withdrawn and the entire flow shall be allowed to pass the intake.

10. The project sponsor shall submit its design and a proposed construction schedule for the passby flow measurement device 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 system shall be kept fully functional and free of debris.

11. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from Lower Little Surveyor Run intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

13. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

14. The project sponsor shall maintain any meters or 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.

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

16. 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).

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

18. 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.

19. 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.

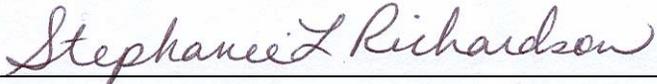
20. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

21. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

22. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081222

Approval Date: December 4, 2008

SUNBURY GENERATION LP – SUNBURY GENERATION FACILITY

Surface Water Withdrawal of up to 354.000 mgd from the Susquehanna River,
and Consumptive Water Use of up to 8.000 mgd (Peak Day),
for Electric Power Generation,
Shamokin Dam Borough and Monroe Township, Snyder 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 consumptive water use and surface water withdrawal applications on April 29, 2008.

Description

Purpose. The purpose of the applications is to request approval for consumptive water use and surface water withdrawal for processes related to operations at the Sunbury Generation Facility.

Location. The project is located in the Middle Susquehanna Subbasin, HUC 02050107, Shamokin Dam Borough and Monroe Township, Snyder County, Pennsylvania.

Project Features. Sunbury Generation LP, the project sponsor, has requested approval for the consumptive water use of up to 8.000 million gallons per day (mgd) on a peak day, of which up to 1.080 mgd will be new consumptive use related to the planned installation of a pollution control system involving a flue gas desulfurization (FGD) system. The project sponsor also has requested approval for its current surface water withdrawal of up to 354.000 mgd (peak day) from the Susquehanna River, at a maximum instantaneous withdrawal rate of 548 cubic feet per second (cfs).

The Sunbury Generation Facility provides power to the PJM regional transmission system. The project consists of six boilers (Boilers 1A, 1B, 2A, 2B, 3, and 4) that power four steam turbine generators, designated as Units 1 through 4. The boilers are permitted to burn coal products, fuel oil, and pet coke, which is a byproduct of the petroleum refining process. Units 1 and 2 began commercial operation in 1949. Units 3 and 4 began operation in 1951 and 1953, respectively. Each unit has an open-cycle (once-through) cooling system.

Water for the facility is withdrawn from the Susquehanna River at a maximum withdrawal rate of approximately 354.000 mgd. The bulk of the water is used for cooling spent steam in the condensers of the four units' cooling systems. Additional water is used for non-contact cooling for various heat exchangers, washing traveling screens, bottom ash sluice processes, and general plant/process makeup. Water that is not consumptively used is returned to the Susquehanna River under authorization of a National Pollutant Discharge Elimination System (NPDES) permit issued by the Pennsylvania Department of Environmental Protection (PADEP).

Currently, consumptive water losses at the facility result from instream evaporation induced by thermal loading from the cooling water discharged to the river, evaporative loss from the boilers, water lost in ash, used for dust control, and removed as wastewater treatment plant sludge. The maximum monthly heat rejection rate is 3,600 million British thermal units (Btu) per hour. The project sponsor estimates the current rate of instream evaporation to be 6.740 mgd as a maximum 30-day average, assuming a 100 percent capacity factor for plant operation. The current peak consumptive use related to on-site power plant operation is estimated to be 0.200 mgd.

The project sponsor intends to install a pollution control project (PCP), including a common wet FGD system to reduce sulfur dioxide emissions from Boilers 1A, 1B, 2A, 2B, 3, and 4. The FGD system will involve installation of a wet FGD scrubber stack, limestone storage and handling equipment, limestone slurry preparation system, and a gypsum dewatering system. In addition, new balanced draft pulse jet fabric filters will be installed on Units 1 and 2 to control particulate matter.

The FGD system will reduce sulfur dioxide emissions by utilizing chemical reactions that produce gypsum as a byproduct. The flue gases from the boilers will be collected in a single duct and directed to an absorber vessel. A limestone slurry will be injected into the vessel and compressed air will be introduced, which will react with the sulfur dioxide to cause precipitation of gypsum. The limestone slurry will lower the temperature of the exhaust gas and increase the effectiveness of sulfur dioxide removal. Total process makeup requirements of water for the FGD system are projected to be up to 1.250 mgd, and operation of the FGD system is projected to increase consumptive water use by up to 1.080 mgd. Water for the FGD system will be obtained from recycling and reusing treated water from the project's process wastewater treatment system. Additionally, to enhance the PCP's reliability, supplemental water may be withdrawn from the existing process water distribution system if a sufficient amount of treated wastewater is not available.

Findings

The project is subject to Commission approval, monitoring, and reporting requirements, as per Commission Regulations §806.4, §806.22, §806.23, and §806.30.

Although the project predates the Commission's consumptive water use and surface water withdrawal regulations, the proposed addition of the PCP, including a FGD system, will

sufficiently increase consumptive water use to be subject to Commission Regulation §806.4, relating to consumptive use and the associated withdrawal requiring review.

All water evaporated or otherwise lost from the cooling system or other power generation processes; used for dust control; used in the wastewater treatment process; incorporated into ash, gypsum, or other products; the FGD system; and evaporated off the river surface due to thermal loading is considered to be consumptively used.

Commission staff recommends approval of the requested quantity of consumptive water use of up to 8.000 mgd on a peak day. The project sponsor should submit a plan for review and approval by Commission staff to quantify the project's daily consumptive water use associated with operation of the plant including thermal loading calculations. The plan should contain metering that is accurate to within 5 percent, or other suitable methods of measurement, on the water diverted to the facility, on the wastewater and thermal discharges, and other consumptive water use locations, as appropriate. The project sponsor should report on-line the daily consumptive water use data to the Commission quarterly.

Should the proposed accounting procedure fail to accurately measure the total withdrawal and 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.

Commission staff finds that consumptive water loss due to evaporation from the water surface associated with the facility's thermal discharge cannot be measured or metered directly. As such, this component of the facility's consumptive use must be determined through indirect measurement and analytical procedures. The project sponsor has calculated the pre-1971 average 30-day consumptive use quantity of 4.946 mgd based on the facility's operation capacity factor of 75 percent for calculating thermal loading of the discharge to the Susquehanna River.

Commission staff concurs with the thermal loading calculations and recommends an average 30-day pre-1971 consumptive use quantity of 4.901 mgd, which subtracts from the requested quantity the reported water use for ash conditioning and dust control that most likely did not occur prior to 1971. For purposes of this docket, the quantity of 4.901 mgd of consumptive water use is considered "grandfathered" and is exempt from water mitigation requirements.

Should the approved methodology for estimating future consumptive water use associated with the thermal component of the facility's discharge differ from the project sponsor's methodology used as a basis for the preparation of this docket, Commission staff recommends that the docket's pre-Compact consumptive water use be adjusted accordingly (i.e., the pre-Compact consumptive water use in the docket should be updated to reflect the same assumptions and analytical procedures approved for use in estimating future evaporative loss from the water surface associated with the facility's thermal discharge).

The project's consumptive use of water in excess of its grandfathered quantity is subject to water mitigation requirements, as per Commission Regulation §806.22(b). To satisfy these

requirements, the project sponsor proposes to provide quarterly monetary payments to the Commission to mitigate for its consumptive water use.

The withdrawal from the Susquehanna River predates the effective date of Commission Regulation §806.4; however, the project sponsor's increase in consumptive water use triggers Commission review and approval of the surface water withdrawal.

Commission staff recommends approval of the requested withdrawal of up to 354.000 mgd (peak day). Based on the United States Geological Survey's stream gaging station on the Susquehanna River at Sunbury, Pennsylvania, the 7-day, 10-year low flow (Q7-10) rate at the project location is approximately 1,740 cfs or 1,125 mgd. The withdrawal exceeds 10 percent of the Q7-10 low flow; however, Commission staff finds that a passby flow is not required because of mitigation from the return flow immediately downstream from the intake. The project sponsor should submit a plan to quantify the daily total withdrawal from the Susquehanna River for review and approval by Commission staff. The plan should contain metering that is accurate to within 5 percent, or other suitable methods of measurement, on the water diverted to the facility. The project sponsor should report the daily withdrawal to the Commission quarterly.

The project sponsor has chosen to pay the application fee in three consecutive equal installments, in accordance with Commission Regulation §806.13, and in accordance with Commission Resolution No. 2007-07. The project sponsor has paid the appropriate fee for the Year 1 installment.

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 withdrawal from the Susquehanna River of up to 354.000 mgd, and the project's consumptive use of water up to 8.000 mgd, are 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. 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 that accounts for all water withdrawn from the river, the wastewater and thermal discharge, and the total

consumptive water use at the facility. Following approval, the project sponsor shall execute the plan and complete any installation of meters or other means of measuring surface water withdrawals in accordance with the approved schedule. The project sponsor shall notify the Commission, in writing, when the meters are installed and certify the accuracy of the measuring devices to within five (5) percent of actual flow. The project sponsor shall notify the Commission when the monitoring plan has been implemented.

5. The project sponsor shall keep daily records of the project's consumptive water use and surface water withdrawal, 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 evaporated or otherwise lost from the cooling system or other power generation processes; used for dust control; incorporated into ash, gypsum, or other products; used in the FGD system; and evaporated off the river surface due to thermal loading. The daily consumptive use of water shall be calculated as the sum of the consumptive uses occurring at the facility and the induced in-river evaporation water loss due to the thermal discharge.

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 current rate of \$0.14 per 1,000 gallons of water (\$0.21 per 1,000 gallons effective January 1, 2009) consumptively used by the project in excess of the grandfathered quantity. The daily quantity of water consumptively used shall be the quantity evaporated or otherwise lost from the cooling system or other power generation processes, incorporated into waste (ash) or other products, FGD systems, and evaporated off the river surface due to thermal loading. Payment amounts shall be calculated by applying this rate to the daily amount of water used consumptively by the project, less the grandfathered quantity of 4.901 mgd. If the daily grandfathered quantity exceeds the project's daily consumptive water use, that day's consumptive water use is considered to be zero. 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 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.

8. The project sponsor shall pay the application fee in installments, pursuant to Commission Regulation §806.13 and in accordance with Commission Resolution No. 2007-07. The project sponsor has paid one (1) annual installment and shall pay the balance over the next two (2) years.

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

10. The maximum instantaneous withdrawal rate shall not exceed 548 cfs.

11. 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).

12. 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.

13. 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.

14. 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.

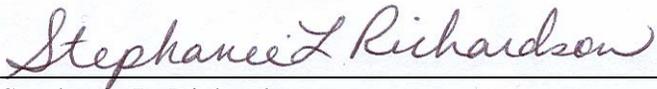
15. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

16. This approval is effective until December 4, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 4, 2023, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

17. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20081223

Approval Date: December 4, 2008

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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on September 5, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development of natural gas wells.

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 has requested 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.

Water will be purchased from public water suppliers and withdrawn from streams and other approved sources for transport to the drilling pads or storage locations. The project sponsor has requested approval to utilize the sources, when available, listed in the table below to support the consumptive water use. Listed public water suppliers were previously approved under Commission Regulation §806.22(e) and the associated stream withdrawals are addressed in separate approvals, including Commission Docket Nos. 20081224, 20081225, 20081226, and 20081227.

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*
*Quantity the public water supplier has agreed to provide.	

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Water from public water suppliers, streams, and other approved sources will be separately metered at each source, and pumped to tanker trucks for transport to drilling pads or piped directly to drilling pads. Once on-site, water will be stored in large tanks (called “frac tanks” and having a capacity of approximately 22,000 gallons each) or impoundments, or both, and distributed for operations at the drilling pad. Typically, multiple wells are completed from one drilling pad.

Water may be used in well drilling to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), for dust control, or for hydrostatic testing of pipelines. Most of the water is used during hydrofracing, when highly pressurized fresh water mixed with various chemicals and sand is injected into isolated sections of the boreholes to shatter the shale and maintain open, interconnected fractures to promote gas movement.

Although hydrofracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. The total volume of water must be available on-site prior to hydrofracing.

Some percentage of the water injected into the natural gas production wells is retained in the formation. The fracing fluid that flows back to the surface is either stored on-site for reuse in the hydrofracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water or other lawful disposal.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), the 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, §806.22, and §806.30.

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.

Total consumptive water use for the project should be calculated as the sum of the daily metered water used at all drilling pad sites authorized under this approval. Commission staff recommends that the project sponsor submit a plan to account for the daily uses for review and approval by Commission staff.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project be separately accounted for, but not be included in the daily consumptive use amount calculated for the project, 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.

The project's requested consumptive use of water for construction and completion of natural gas wells and appurtenances is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. 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 of up to 5.000 mgd. Based on the descriptions for construction and completion of natural gas wells and appurtenances supplied 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 5.000 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor will transport or pipe to the drilling pads all water used for its process operations. The water may be delivered or piped to a drilling pad or storage location each day, from various approved sources, including public water suppliers and several streams. Approval, monitoring, and reporting requirements for the requested stream withdrawals are presented in other dockets. 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.

Commission staff finds that the listed public water suppliers (Dushore Water Authority and Towanda Municipal Authority) have sufficient capacity to be acceptable sources for the requested quantities of water. The project sponsor should report the total daily quantities of water obtained from each public water supplier.

To document the source of all water used at each drilling pad, Commission staff recommends that the project sponsor record the daily quantity of water delivered to each drilling

pad identified by name or other unique identifier. The project sponsor should submit a metering plan to account for this use to the Commission for review and approval prior to consumptively using any water.

The project sponsor should submit copies of well completion reports for each of the wells covered by this approval to the Commission.

The project sponsor is required to electronically report all monitoring data to the Commission quarterly, or as otherwise requested, as specified in Commission Regulation §806.30(b)(1).

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. Commission staff recommends the project sponsor demonstrate to the satisfaction of 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.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years.

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 consumptive use of water of up to 5.000 mgd from listed public water suppliers and other approved sources 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 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 quantity 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. Total consumptive water use for the project shall be calculated as the sum of the daily quantity of water consumptively used at all drilling pad sites.

5. The project sponsor shall submit a metering plan to account for its consumptively used water for review and approval by Commission staff prior to any use of water consumptively. The project sponsor may propose alternative metering for Commission staff review and approval.

6. The quantity of water utilized from Dushore Water Authority and Towanda Municipal Authority shall not exceed the daily quantity each public water supplier has agreed to provide, as demonstrated by means of an updated commitment letter or other documentation acceptable to the Commission.

7. The project sponsor shall keep daily records of metered water obtained from each public water supplier as it is delivered to each drilling pad, and shall provide the results to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted via hard copy or electronically, as required by the Commission, within thirty (30) days after the close of the preceding quarter.

8. 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).

9. The project sponsor shall demonstrate to the satisfaction of 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.

10. 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.

11. 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 \$0.14 per 1,000 gallons (\$0.21 per 1,000 gallons effective January 1, 2009) of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity 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.

12. Within thirty (30) days of well completion, the project sponsor shall submit to the Commission well completion reports for each well within the area of consumptive use authorized by this approval.

13. 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 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 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.

15. The project sponsor shall demonstrate to the Commission annually, by means of an updated commitment letter or other documentation acceptable to the Commission, that an approved public water supplier intends to continue to supply water to the project sponsor. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination.

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

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 project sponsor shall obtain all necessary permits 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 any approval if the project sponsor fails to obtain or maintain such approvals.

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

20. 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.

21. 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.

22. 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.

23. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

24. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081224

Approval Date: December 4, 2008

TURM OIL, INC.

Surface Water Withdrawal (Peak Day) of up to 0.216 mgd,
When Available, from Deer Lick Creek,
for Development and Completion of Natural Gas Wells,
Rush 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 5, 2008 and additional information on October 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. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081223.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106060, Wyalusing Creek Watershed, Rush Township, Susquehanna County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.249 million gallons per day (mgd) (peak day) from Deer Lick Creek in Rush Township at a maximum instantaneous rate of withdrawal of 173 gallons per minute (gpm). The withdrawal will support natural gas development in Susquehanna County, Pennsylvania. Commission staff recommends reductions in the requested quantity and maximum instantaneous rate of withdrawal, 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 natural gas development project entails withdrawing water from Deer Lick Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.249 mgd so that water could be withdrawn from Deer Lick 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 0.249 mgd (peak day) from Deer Lick Creek in Rush Township, at a maximum instantaneous withdrawal rate of 173 gpm.

Deer Lick 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 Deer Lick Creek at the point of taking to be 0.10 cubic feet per second (cfs) (45 gpm), and the average daily flow to be 6.55 cfs.

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 (ADF), which equals a passby flow of 1.31 cfs or 588 gpm. The project sponsor must cease all withdrawals when streamflow on Deer Lick Creek drops below 1.31 cfs.

Commission staff further recommends that the requested withdrawal rate be reduced to 150 gpm to mitigate the cumulative impacts to downstream users. By reducing the maximum instantaneous pumping rate, the project sponsor will be allowed to operate its proposed withdrawal on the main stem Wyalusing Creek without passby requirements.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from Deer Lick Creek when the streamflow, as measured at the U.S. Geological Survey's stream gage 01534000, located on Tunkhannock Creek near Tunkhannock, Pennsylvania, is less than 108.20 cfs, and

should not reinstate withdrawals until the streamflow has remained above 108.20 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 0.249 mgd. Commission staff recommends approval of up to 0.216 mgd, when available, which is the maximum quantity that could be taken at the recommended withdrawal rate of 150 gpm.

The project sponsor also has requested the approval for three additional withdrawals in Wyalusing Creek Watershed: one on the main stem Wyalusing Creek and two others on headwater streams (East Branch Wyalusing Creek and Elk Lake Stream). To mitigate adverse cumulative impacts of the four withdrawals while providing operational flexibility to the project sponsor, Commission staff recommends that only one withdrawal of the three from the headwaters of Wyalusing Creek (East Branch Wyalusing Creek, Deer Lick Creek, or Elk Lake Stream) operate at any time.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Deer Lick Creek at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Deer Lick Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information

should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.216 mgd, when available, from Deer Lick Creek at the location specified in the application in Rush 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 withdraw water from only one of the three headwater streams of Wyalusing Creek (East Branch Wyalusing Creek, Deer Lick Creek, and Elk Lake Stream) at any time, and only withdraw water from a single location on any day.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; and meter specifications 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 Deer Lick Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 150 gpm.

9. The project sponsor shall cease all withdrawals from Deer Lick Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01534000 on Tunkhannock Creek, near Tunkhannock, Pennsylvania, is less than 108.20 cfs, and shall not reinstate withdrawals until the streamflow has remained above 108.20 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from Deer Lick Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

12. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

13. The project sponsor shall maintain any meters or 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.

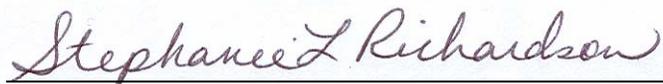
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008



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. 20081225

Approval Date: December 4, 2008

TURM OIL, INC.

Surface Water Withdrawal (Peak Day) of up to 0.216 mgd,
When Available, from East Branch Wyalusing Creek,
for Development and Completion of Natural Gas Wells,
Rush 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 5, 2008 and additional information on October 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. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081223.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106060, Wyalusing Creek Watershed, Rush Township, Susquehanna County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.249 million gallons per day (mgd) (peak day) from East Branch Wyalusing Creek in Rush Township at a maximum instantaneous rate of withdrawal of 173 gallons per minute (gpm). The withdrawal will support natural gas development in Susquehanna County, Pennsylvania. Commission staff recommends reductions in the requested quantity and maximum instantaneous rate of withdrawal, 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 natural gas development project entails withdrawing water from East Branch Wyalusing Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to

a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.249 mgd so that water could be withdrawn from East Branch Wyalusing 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 0.249 mgd (peak day) from East Branch Wyalusing Creek in Rush Township, at a maximum instantaneous withdrawal rate of 173 gpm.

East Branch Wyalusing 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 East Branch Wyalusing Creek at the point of taking to be 0.84 cubic feet per second (cfs) (377 gpm), and the average daily flow to be 64.20 cfs.

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 (ADF), which equals a passby flow of 12.84 cfs or 5,763 gpm. The project sponsor must cease all withdrawals when streamflow in East Branch Wyalusing Creek drops below 12.84 cfs.

Commission staff further recommends that the requested withdrawal rate be reduced to 150 gpm to mitigate the cumulative impacts to downstream users. By reducing the maximum instantaneous pumping rate, the project sponsor will be allowed to operate its proposed withdrawal on the main stem Wyalusing Creek without passby requirements.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from East Branch Wyalusing Creek when the streamflow, as measured at the U.S. Geological Survey's stream gage 01534000, located on Tunkhannock Creek near Tunkhannock, Pennsylvania, is less than 108.20 cfs, and should not reinstate withdrawals until the streamflow has remained above 108.20 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 0.249 mgd. Commission staff recommends approval of up to 0.216 mgd, when available, which is the maximum quantity that could be taken at the recommended withdrawal rate of 150 gpm.

The project sponsor also has requested the approval for three additional withdrawals in Wyalusing Creek Watershed: one on the main stem Wyalusing Creek and two others on headwater streams (Deer Lick Creek and Elk Lake Stream). To mitigate adverse cumulative impacts of the four withdrawals while providing operational flexibility to the project sponsor, Commission staff recommends that only one withdrawal of the three from the headwaters of Wyalusing Creek (East Branch Wyalusing Creek, Deer Lick Creek, or Elk Lake Stream) operate at any time.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 East Branch Wyalusing Creek at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from East Branch Wyalusing Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.216 mgd, when available, from East Branch Wyalusing Creek at the location specified in the application in Rush 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 withdraw water from only one of the three headwater streams of Wyalusing Creek (East Branch Wyalusing Creek, Deer Lick Creek, and Elk Lake Stream) at any time, and only withdraw water from a single location on any day.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; and meter specifications 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 East

Branch Wyalusing Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 150 gpm.

9. The project sponsor shall cease all withdrawals from East Branch Wyalusing Creek when streamflow, as measured at the U.S. Geological Survey's stream gage 01534000 on Tunkhannock Creek, near Tunkhannock, Pennsylvania, is less than 108.20 cfs, and shall not reinstate withdrawals until the streamflow has remained above 108.20 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from East Branch Wyalusing Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

12. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

13. The project sponsor shall maintain any meters or 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.

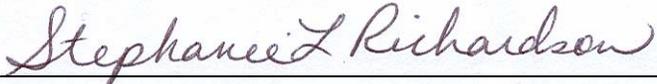
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20081226

Approval Date: December 4, 2008

TURM OIL, INC.

Surface Water Withdrawal (Peak Day) of up to 0.216 mgd,
When Available, from Elk Lake Stream,
for Development and Completion of Natural Gas Wells,
Rush 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 5, 2008 and additional information on October 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. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081223.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106060, Wyalusing Creek Watershed, Rush Township, Susquehanna County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.249 million gallons per day (mgd) (peak day) from Elk Lake Stream in Rush Township at a maximum instantaneous rate of withdrawal of 173 gallons per minute (gpm). The withdrawal will support natural gas development in Susquehanna County, Pennsylvania. Commission staff recommends reductions in the requested quantity and maximum instantaneous rate of withdrawal, 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 natural gas development project entails withdrawing water from Elk Lake Stream; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.249 mgd so that water could be withdrawn from Elk Lake Stream 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 0.249 mgd (peak day) from Elk Lake Stream in Rush Township, at a maximum instantaneous withdrawal rate of 173 gpm.

Elk Lake Stream, 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 the Elk Lake Stream at the point of taking to be 0.17 cubic feet per second (cfs) (75 gpm), and the average daily flow to be 11.9 cfs.

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 (ADF), which equals a passby flow of 2.38 cfs or 1,068 gpm. The project sponsor must cease all withdrawals from Elk Lake Stream when streamflow drops below 2.38 cfs.

Commission staff further recommends that the requested withdrawal rate be reduced to 150 gpm to mitigate the cumulative impacts to downstream users. By reducing the maximum instantaneous pumping rate, the project sponsor will be allowed to operate its proposed withdrawal on the main stem Wyalusing Creek without passby requirements.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from Elk Lake Stream when the streamflow, as measured at the U.S. Geological Survey's stream gage 01534000, located on Tunkhannock Creek near Tunkhannock, Pennsylvania, is less than 108.20 cfs, and

should not reinstate withdrawals until the streamflow has remained above 108.20 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 0.249 mgd. Commission staff recommends approval of up to 0.216 mgd, when available, which is the maximum quantity that could be taken at the recommended withdrawal rate of 150 gpm.

The project sponsor also has requested the approval for three additional withdrawals in Wyalusing Creek Watershed: one on the main stem Wyalusing Creek and two others on headwater streams (Deer Lick Creek and East Branch Wyalusing Creek). To mitigate adverse cumulative impacts of the four withdrawals while providing operational flexibility to the project sponsor, Commission staff recommends that only one withdrawal of the three from the headwaters of Wyalusing Creek (East Branch Wyalusing, Deer Lick Creek, or Elk Lake Stream) operate at any time.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Elk Lake Stream at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Elk Lake Stream. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information

should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.216 mgd, when available, from Elk Lake Stream at the location specified in the application in Rush 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 withdraw water from only one of the three headwater streams of Wyalusing Creek (East Branch Wyalusing Creek, Deer Lick Creek, and Elk Lake Stream) at any time, and only withdraw water from a single location on any day.

5. The project sponsor shall submit its intake design/withdrawal device; disinfection plan, if appropriate; and meter specifications 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 Elk Lake Stream, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 150 gpm.

9. The project sponsor shall cease all withdrawals from Elk Lake Stream when streamflow, as measured at the U.S. Geological Survey's stream gage 01534000 on Tunkhannock Creek, near Tunkhannock, Pennsylvania, is less than 108.20 cfs, and shall not reinstate withdrawals until the streamflow has remained above 108.20 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from the Elk Lake Stream intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

12. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

13. The project sponsor shall maintain any meters or 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.

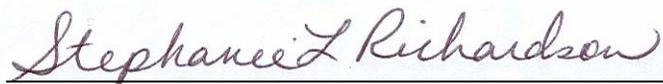
19. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

20. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008



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. 20081227

Approval Date: December 4, 2008

TURM OIL, INC.

Surface Water Withdrawal (Peak Day) of up to 0.216 mgd, from Wyalusing Creek,
for Development and Completion of Natural Gas Wells,
Rush 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 5, 2008 and additional information on October 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. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081223.

Location. The surface water withdrawal specified in the application is located in the Middle Susquehanna Subbasin, HUC 02050106070, Wyalusing Creek Watershed, Rush Township, Susquehanna County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.249 million gallons per day (mgd) (peak day) from Wyalusing Creek in Rush Township at a maximum instantaneous rate of withdrawal of 173 gallons per minute (gpm). The withdrawal will support natural gas development in Susquehanna County, Pennsylvania. Commission staff recommends a reduction in the requested amount and maximum instantaneous rate of withdrawal, 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 natural gas development project entails withdrawing water from Wyalusing Creek; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for

use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.249 mgd so that water could be withdrawn from Wyalusing 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 0.249 mgd (peak day) from Wyalusing Creek in Rush Township, at a maximum instantaneous withdrawal rate of 173 gpm.

Wyalusing 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 Wyalusing Creek at the point of taking to be 6.78 cubic feet per second (cfs) (3,041 gpm), and the average daily flow to be 211 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. However, based on its evaluation of adverse cumulative impacts from upstream uses, Commission staff recommends reduction of the maximum instantaneous withdrawal rate to 150 gpm. A protective passby flow requirement is not needed, provided that the withdrawal rate does not exceed 150 gpm.

The project sponsor also has requested the approval for three additional withdrawals in the headwaters of the Wyalusing Creek Watershed: East Branch Wyalusing Creek, Elk Lake Stream, and Deer Lick Creek. To mitigate adverse cumulative impacts of the four withdrawals while providing operational flexibility to the project sponsor, Commission staff recommends that only one withdrawal of the three headwater withdrawals operate at any time, which will allow this withdrawal to be operated at the recommended rate without further protection of passby requirements.

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 0.249 mgd. Commission staff recommends approval of up to 0.216 mgd, which is the maximum quantity that could be taken at the recommended withdrawal rate.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Wyalusing Creek at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Wyalusing Creek. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.216 mgd from Wyalusing Creek at the location specified in the application in Rush 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; and meter specifications 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 Wyalusing Creek, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 150 gpm.

8. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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.

9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from the Wyalusing Creek intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

10. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

11. The project sponsor shall maintain any meters or 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.

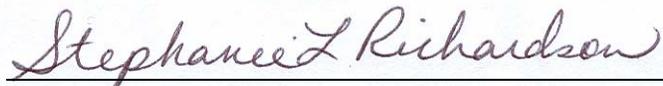
17. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

18. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008

Handwritten signature of Stephanie L. Richardson in cursive script.

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****Approval Date: December 4, 2008****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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on August 2, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development of natural gas wells.

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 has requested 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.

Water will be withdrawn from a stream for transport to the drilling pads or storage locations. The project sponsor has requested approval to utilize the source, when available, listed in the table below to support the consumptive water use. The associated stream withdrawal is addressed in a separate approval, Commission Docket No. 20081229.

Source ID	Approved Quantity (mgd)
Cowanesque River (Deerfield Township)	0.217

Specific location information concerning discrete water-related project features has been withheld for security reasons.

Water from the stream will be separately metered at the source, and pumped to tanker trucks for transport to drilling pads or piped directly to drilling pads. Once on-site, water will be stored in large tanks (called “frac tanks” and having a capacity of approximately 22,000 gallons each) or impoundments, or both, and distributed for operations at the drilling pad. Typically, multiple wells are completed from one drilling pad.

Water may be used in well drilling and to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), for dust control, or for hydrostatic testing of pipelines. Most of the water is used during hydrofracing, when highly pressurized fresh water mixed with various chemicals and sand is injected into isolated sections of the boreholes to shatter the shale and maintain open, interconnected fractures to promote gas movement.

Although hydrofracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. The total volume of water must be available on-site prior to hydrofracing.

Some percentage of the water injected into the natural gas production wells is retained in the formation. The fracing fluid that flows back to the surface is either stored on-site for reuse in the hydrofracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water or other lawful disposal.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP), the 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, §806.22, and §806.30.

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.

Total consumptive water use for the project should be calculated as the sum of the daily metered water used at all drilling pad sites authorized under this approval. Commission staff recommends that the project sponsor submit a plan to account for the daily uses for review and approval by Commission staff.

Commission staff recommends any produced flow-back fluids or brines utilized by the project sponsor for hydrofracture stimulation undertaken at the project be separately accounted

for, but not be included in the daily consumptive use amount calculated for the project, 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.

The project's requested consumptive use of water for construction and completion of natural gas wells and appurtenances is subject to consumptive use mitigation requirements, as per Commission Regulation §806.22. 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 of up to 4,990 mgd. Based on the descriptions for construction and completion of natural gas wells and appurtenances supplied 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 4,990 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor will transport or pipe to the drilling pads all water used for its process operations. The water may be delivered or piped to a drilling pad or storage location each day, from various approved sources, including public water suppliers and several streams. Approval, monitoring, and reporting requirements for the requested stream withdrawals are presented in other dockets. 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.

To document the source of all water used at each drilling pad, Commission staff recommends that the project sponsor record the daily quantity of water delivered to each drilling pad identified by name or other unique identifier. The project sponsor should submit a metering plan to account for this use to the Commission for review and approval prior to consumptively using any water.

The project sponsor should submit copies of well completion reports for each of the wells covered by this approval to the Commission.

The project sponsor is required to electronically report all monitoring data to the Commission quarterly, or as otherwise requested, as specified in Commission Regulation §806.30(b)(1).

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. Commission staff recommends the project sponsor demonstrate to the satisfaction of 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.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years.

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 consumptive use of water of up to 4.990 mgd from the approved source 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 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 quantity 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. Total consumptive water use for the project shall be calculated as the sum of the daily quantity of water consumptively used at all drilling pad sites.

5. The project sponsor shall submit a metering plan to account for its consumptively used water for review and approval by Commission staff prior to any use of water consumptively. The project sponsor may propose alternative metering for Commission staff review and approval.

6. 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).

7. The project sponsor shall demonstrate to the satisfaction of 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.

8. 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.

9. 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 \$0.14 per 1,000 gallons (\$0.21 per 1,000 gallons effective January 1, 2009) of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity 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.

10. Within thirty (30) days of well completion, the project sponsor shall submit to the Commission well completion reports for each well within the area of consumptive use authorized by this approval.

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 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 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.

13. The project sponsor shall demonstrate to the Commission annually, by means of an updated commitment letter or other documentation acceptable to the Commission, that an approved public water supplier intends to continue to supply water to the project sponsor. The project sponsor shall notify the Commission, in writing, within two (2) weeks of termination.

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. The project sponsor shall obtain all necessary permits 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 any approval if the project sponsor fails to obtain or maintain such approvals.

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 project is subject to enforcement actions pursuant to Commission Regulation §808.

18. 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.

19. 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.

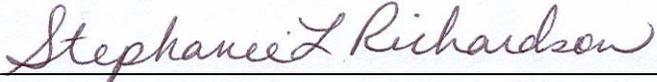
20. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

21. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

22. 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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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Docket No. 20081229

Approval Date: December 4, 2008

ULTRA RESOURCES, INC.

Surface Water Withdrawal (Peak Day) of up to 0.217 mgd,
When Available, from Cowanesque River,
for Development and Completion of Natural Gas Wells,
Deerfield Township, 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) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on July 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. The withdrawal will support the consumptive use of water as described in Commission Docket No. 20081228.

Location. The surface water withdrawal specified in the application is located in the Chemung Subbasin, HUC 02050104080, Cowanesque River Watershed, Deerfield Township, Tioga County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.217 million gallons per day (mgd) (peak day) from Cowanesque River in Deerfield Township at a maximum instantaneous rate of withdrawal of 151 gallons per minute (gpm). The withdrawal will support natural gas development in Tioga and Potter Counties, Pennsylvania.

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 natural gas development project entails withdrawing water from Cowanesque River; pumping it to a tanker truck for transport to drilling pads; or piping directly to a drilling pad for use in well drilling, development, and completion. Water will be stored on-site 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 and may be stored for a month or more during the setup period.

The project sponsor has requested a withdrawal (peak day) of up to 0.217 mgd so that water could be withdrawn from Cowanesque 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 0.217 mgd (peak day) from Cowanesque River in Deerfield Township, at a maximum instantaneous withdrawal rate of 151 gpm.

Cowanesque 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 Cowanesque River at the point of taking to be 2.65 cubic feet per second (cfs) (1,189 gpm), and the average daily flow to be 225.17 cfs.

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 (ADF), which equals a passby flow of 45.03 cfs or 20,214 gpm. The project sponsor must cease all withdrawals when streamflow at the intake of Cowanesque River drops below 45.03 cfs.

To insure the protection of the aquatic resources and downstream users, Commission staff recommends that the project sponsor should cease all withdrawals from Cowanesque River when the streamflow, as measured at the U.S. Geological Survey's stream gage 01518862, located on Cowanesque River at Westfield, Pennsylvania, is less than 20.40 cfs, and should not reinstate withdrawals until the streamflow has remained above 20.40 cfs for 48 hours. The project sponsor may propose alternative flow monitoring to the Commission for staff review and approval.

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 0.217 mgd. Commission staff recommends approval of up to 0.217 mgd, when available, and the requested withdrawal rate of 151 gpm.

Commission staff recommends that the surface water intake design minimize potential aquatic impacts associated with impingement and entrainment. The final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

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 Cowanesque River at the specified point of taking. The project sponsor should submit a metering plan or metering specifications to the Commission for review and approval prior to the withdrawal of any water from Cowanesque River. 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 proof of meter installation prior to the initiation of the withdrawal.

The project sponsor should submit to the Commission information regarding all tanker trucks authorized to pump and haul water from the proposed surface water intake. This information should include: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information should be filed with the Commission prior to the use of any vehicle for the transport of water from the withdrawal point to the project area.

The project sponsor should submit to the Commission information regarding the use of a pipeline to deliver water to drilling pads or centralized storage locations. This information should be filed with the Commission prior to the use of any pipeline for transport of water from the withdrawal point to the project area.

The project sponsor should certify to the Commission that it has been granted access by the property owner to the proposed withdrawal location.

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.

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 0.217 mgd, when available, from Cowanesque River at the location specified in the application in Deerfield Township, Tioga 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; and meter specifications 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 Cowanesque River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, when the meter is 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 151 gpm.

8. The project sponsor shall cease all withdrawals from Cowanesque River when streamflow, as measured at the U.S. Geological Survey's stream gage 01518862 on Cowanesque River at Westfield, Pennsylvania, is less than 20.40 cfs, and shall not reinstate withdrawals until

the streamflow has remained above 20.40 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. The project sponsor shall submit to the Commission information regarding the method of water transport (tanker truck or pipeline). In addition, 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 provide to the Commission the following information regarding the trucks transporting water from Cowanesque River intake to the project area: license plate number, owner of the vehicle, and the tanker truck's holding capacity, or other information on hauling contractors acceptable to the Commission. This information shall be submitted prior to the use of the vehicle for water transport for the project.

11. The project sponsor shall certify to the Commission that the property owner has granted access to the proposed withdrawal location.

12. The project sponsor shall maintain any meters or 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.

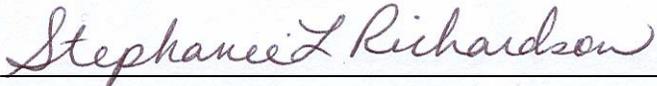
18. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

19. This approval is effective until December 4, 2012. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by June 4, 2012, and obtain Commission approval prior to continuing operation beyond December 4, 2012.

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 December 4, 2008.

Dated: December 5, 2008


Stephanie L. Richardson

RESOLUTION NO. 2008-08

A RESOLUTION of the Susquehanna River Basin Commission adopting a revised *Comprehensive Plan for the Water Resources of the Susquehanna River Basin*.

WHEREAS, under Article 3, Section 3.3 (1) and Article 14, Section 14.1 of the Susquehanna River Basin Compact, Pub. L. 91-575, (the “Compact”), the Susquehanna River Basin Commission (the “Commission”) is directed to “develop and adopt, and from time to time review and revise, a comprehensive plan for the immediate and long range development and use of the water resources of the basin;” and

WHEREAS, the Commission has maintained such a comprehensive plan since first adopting it in 1973, and has revised its contents from time to time thereafter; and

WHEREAS, under Section 14.2 of the Compact, the Commission also adopts an annual water resources program based upon the comprehensive plan, which consists of the projects and facilities that the Commission proposes to be undertaken by the Commission and its member jurisdictions over the ensuing six-year time period or such other reasonably foreseeable period as the Commission may determine; and

WHEREAS, the current comprehensive plan has not undergone a complete revision since 1987; and

WHEREAS, there is now a need to extensively revise and update the comprehensive plan to make it more timely, improve its quality, and ensure its relevance as a guide to the management and development of the basin’s water resources; and

WHEREAS, staff has produced and presented this day to the Commission a revised comprehensive plan dated December 4, 2008; and

WHEREAS, a draft of the plan was the subject of three public hearings held in July 2008 at Owego, New York; Danville, Pennsylvania; and Lancaster, Pennsylvania, respectively; and

WHEREAS, the Commission also accepted written comments on the draft plan during a 90-day comment period ending August 18, 2008; and

WHEREAS, the Commission has carefully considered the comments offered at the public hearings and in writing, and has modified the contents of the proposed plan.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Commission hereby adopts a revised *Comprehensive Plan for the Water Resources of the Susquehanna River Basin* as presented by staff, dated December 4, 2008.

2. The annual water resources program prepared by the Commission shall hereinafter implement and be based upon this revised comprehensive plan, and shall be incorporated into the plan annually.

3. The staff is directed to distribute copies of the plan in printed or electronic form to interested parties and government officials, and to make the contents of the plan available on the Commission's website.

4. The staff is further directed to:

a. assess progress toward meeting goals set forth in the plan on an annual basis;

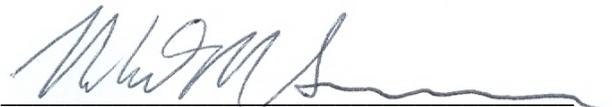
b. incorporate new approved water resources projects and plans into the comprehensive plan annually; and

c. conduct periodic review of the plan and propose appropriate revisions to the Commission to ensure its continued timeliness and relevance and to maintain its quality and utility.

5. This resolution incorporates the provisions of any and all previous resolutions or actions of the Commission regarding its comprehensive plan, unless such provisions conflict with the contents of this revised comprehensive plan, in which case they shall be superseded.

6. This resolution shall be effective immediately.

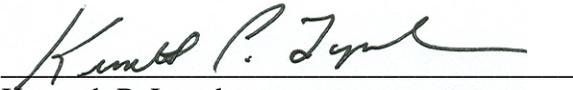
Dated: December 4, 2008



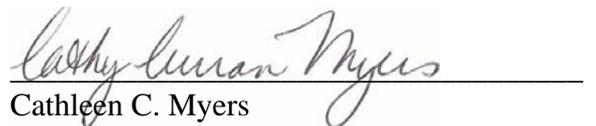
Dr. Robert M. Summers, Chairman
Maryland



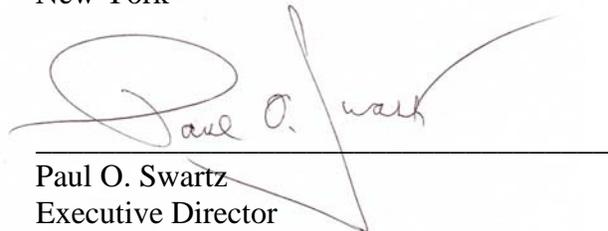
Brig. Gen. Todd T. Semonite, Vice-Chairman
U.S. Government



Kenneth P. Lynch
New York



Cathleen C. Myers
Pennsylvania



Paul O. Swartz
Executive Director

RESOLUTION NO. 2008-09

A RESOLUTION of the Susquehanna River Basin Commission adopting and promulgating a final rulemaking action amending its project review regulations by requiring review and approval of any natural gas well development project targeting the Marcellus or Utica shale formations and involving the withdrawal or consumptive use of waters of the Susquehanna River Basin; adding a provision providing for a specific approval by rule process for consumptive water use associated with such projects; and making revisions to the definitions of “construction” and “project” and other portions of the text of its regulations to insure consistency with this rulemaking action.

WHEREAS, the Commission is authorized under Sections 3.9 and 15.2 of the Susquehanna River Basin Compact, P.L. 91-575 (the “Compact”), to “adopt, amend, and repeal rules and regulations to implement the compact;” and

WHEREAS, in September 2008, the Commission proposed amendments to 18 CFR Part 806 of its project review regulations that require review and approval of any natural gas well development project targeting the Marcellus, Utica or other shale formations and involving the withdrawal or consumptive use of waters of the Susquehanna River Basin; adding a provision providing for a specific approval by rule process for consumptive water use associated with such projects; and making revisions to the definition of “project” and other portions of the text of its regulations to insure consistency with this rulemaking action; and

WHEREAS, this proposed rulemaking action was published in the Federal Register on October 2, 2008; the New York Register on October 1, 2008; the Pennsylvania Bulletin on October 4, 2008; and the Maryland Register on October 10, 2008; and

WHEREAS, in accordance with 18 CFR §808.1, this proposed rulemaking action was the subject of public hearings held in Williamsport, Pennsylvania on October 21, 2008, and Binghamton, New York on October 22, 2008; and

WHEREAS, the Commission accepted comments on the proposed rulemaking action through October 31, 2008; and

WHEREAS, 22 comments requesting changes to the proposed rulemaking action were received by October 31, 2008; and

WHEREAS, in response to those comments, the Commission had made adjustments to the contents of the final rulemaking action; and

WHEREAS, it is the determination of the Commission that the activities to be regulated under its project review regulations, as hereby amended, have, both singularly and cumulatively, a major effect on the water resources of the basin and on water resources management; and

WHEREAS, the Commission maintains a Comprehensive Plan for the Water Resources of the Susquehanna River Basin (the “comprehensive plan”); and

WHEREAS, it is the further determination of the Commission that its project review regulations, as hereby amended, are required for the effectuation of the comprehensive plan and the implementation of the Compact.

NOW THEREFORE BE IT RESOLVED THAT:

1. A final rulemaking action amending Title 18, Part 806 of the Code of Federal Regulations, as set forth in a document dated December 4, 2008, as amended is hereby adopted by the Commission.
2. The Executive Director is hereby directed to publish a final rulemaking notice in the Federal Register and comparable member state publications in accordance with this final rulemaking action.
3. This final rulemaking action shall be effective January 1, 2009, or the date of publication, whichever is later.

Dated: December 4, 2008



Dr. Robert M. Summers, Chairman
Maryland

Susquehanna River Basin Commission**TRANSITION STRATEGY****Conversion of Sec. 806.22(e) ABRs and consumptive use docket
to Sec. 806.22(f) ABRs
December 4, 2008**

1. Existing 22(e) ABRs would be reissued after notice by the Executive Director as new 22(f) ABRs, giving the project sponsor a new 5-year approval for the subject drilling pad and the opportunity to add water sources other than public water supply systems. These would be issued without cost to the project sponsor. Any surface water withdrawals or other sources previously approved by the Commission for the project sponsor would be included in the list of approved sources upon issuance. This activity would be initiated once the new regulation becomes effective.
2. If a project sponsor has one or more existing 22(e) ABRs and an overlapping consumptive use docket, the new 22(f) ABRs would be issued for the quantity of consumptive use approved in the docket and would supersede the docket as the controlling approval for the subject drilling pad upon issuance.
3. Consumptive use dockets issued prior to the effective date of the new regulation would be transitioned to 22(f) ABRs for all drilling pads where construction activity has been initiated on or before December 31, 2009, under such dockets. The new 22(f) ABRs would be issued at no cost to the project sponsor and would include as approved sources any surface water approvals or other sources previously approved for the project sponsor. Each such 22(f) ABR would be issued for the quantity of consumptive use approved in the docket and would supersede the docket as the controlling approval for the subject drilling pad upon issuance. The consumptive use dockets would terminate on December 31, 2009, and thereafter, project sponsors would need to first apply and pay the appropriate fee in order to receive a 22(f) ABR for each new drilling pad constructed. To effectuate the foregoing, the existing dockets would need to be modified by the Commission, after proper notice to project sponsors, establishing the new termination date of December 31, 2009, and incorporating these transitional conditions. These docket modifications could be scheduled for Commission action at its March 2009 business meeting.
4. During calendar year 2009, Commission staff would be directed to formulate and propose for Commission consideration an annual fee-based approach for consumptive use, or other alternate approaches, designed to adequately fund the Commission's annual 22(f) ABR programmatic costs, after consultation with the industry.

RESOLUTION NO. 2008-11

A RESOLUTION of the Susquehanna River Basin Commission (the “Commission”) regarding possible Fiscal Year 2010 funding shortfalls for the Cooperative Streamgaging Network in the Susquehanna River Basin and urging appropriations or actions that will provide adequate and sustainable support to the gaging network, which is a critical component of the Susquehanna Flood Forecast and Warning System (SFFWS) and other water management programs.

WHEREAS, the U.S. Army Corps of Engineers eliminated Fiscal Year 2009 Operation and Maintenance (O&M) funding for certain gages that are a part of the Cooperative Streamgaging Network in the Susquehanna River Basin due to reductions in the President’s budget, necessitating stopgap measures to allow the U.S. Geological Survey (USGS) to continue ongoing O&M of said gages; and

WHEREAS, there are already indications that similar O&M funding shortfalls will appear in the upcoming Fiscal Year 2010 budget; and

WHEREAS, real-time data provided by these gages are of critical importance to water managers and others for numerous water management programs such as flood forecasting and warning, drought monitoring, water quality monitoring, regulatory purposes, and recreational uses; and

WHEREAS, the Susquehanna River Basin is one of the most flood-prone watersheds in the United States, with average annual flood damages of nearly \$150 million; and

WHEREAS, real-time data are therefore of particular importance for timely and accurate flood forecast and warning activities in the Susquehanna River Basin, where the SFFWS has helped prevent injury and loss of life; reduced flood damages by tens of millions of dollars; and delivered a benefit to cost ratio of 20:1; and

WHEREAS, these water resource management programs are inextricably linked to the public health, safety, and welfare of the citizens of the Susquehanna River Basin; and

WHEREAS, given the above considerations, there is a long-term, ongoing need for the operation and maintenance of stream gages for these various purposes, and for sustainable sources of funding to allow that need to be met in the future; and

WHEREAS, in the interest of avoiding duplication of effort, maximizing available resources and promoting good government, the Commission, in accordance with its authority under Section 3.7 of the Susquehanna River Basin Compact, Pub. L. 91-575, plays an important coordinative role with federal and state agencies through the SFFWS, and also provides important technical assistance and public information services to the SFFWS.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Commission strongly recommends that the next President of the United States include sufficient funding in the Fiscal Year 2010 budget for the National Oceanic and Atmospheric Administration (NOAA) to fully fund (at \$2.4 million) the SFFWS and provide such other funds as are required for the optimal O&M of the stream gages in the Susquehanna River Basin to enable timely and accurate flood forecasts and warnings to be issued by the National Weather Service and to allow the effective continuation of other water use and management activities.

2. The United States Congress is likewise encouraged to provide full Fiscal Year 2010 funding (at \$2.4 million) for the SFFWS and, as part of that funding, to support optimal O&M for the gaging network.

3. The Commission will:

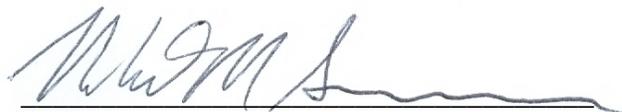
a. Provide leadership to various agencies of the member jurisdictions and other members of the SFFWS regarding the issue of long-term sustainability of the Susquehanna River Basin's stream gaging network; and

b. Convene a meeting of affected governmental agencies and users to identify alternative approaches to operating and maintaining stream gages, with a view toward developing a long-term strategy for sustainable funding.

4. Copies of this resolution shall be provided to the President-elect of the United States; the Director of the Office of Management and Budget; all member jurisdiction Members of Congress; the Administrator of NOAA; the Director of USGS; the Assistant Secretary of the Army for Civil Works; the Commander, U.S. Army Corps of Engineers North Atlantic Division; the District Engineer, U.S. Army Corps of Engineers Baltimore District; the secretaries of the Pennsylvania Department of Environmental Protection and the Maryland Department of the Environment; the Commissioner of the New York Department of Environmental Conservation; the directors of the New York, Pennsylvania, and Maryland emergency management agencies; and the directors of all county emergency management agencies in the Susquehanna River Basin.

5. This resolution shall be effective immediately.

Dated: December 4, 2008



Dr. Robert M. Summers, Chairman
Maryland

RESOLUTION NO. 2008-10

A RESOLUTION of the Susquehanna River Basin Commission (the "Commission") revising the project fee schedule requiring the payment of fees for Commission review and compliance monitoring of certain water resource projects, and establishing certain administrative procedures related thereto.

WHEREAS, recognizing that review of water resource projects pursuant to Article 3, Section 3.10 of the Susquehanna River Basin Compact (the "Compact") and the Commission's "Regulations and Procedures for Review of Projects" is a substantial and growing program activity representing a major public cost, the Commission revised its project fee schedule in March 2005 under Resolution No. 2005-03; and

WHEREAS, Resolve No. 3 of said Resolution No. 2005-03 states that, "Subject to public hearing upon due notice given and final Commission approval, the categorical fees set forth herein shall be increased at the rate of 10 percent per year for five consecutive years and a Consumer Price Index (CPI) adjustment shall be made annually, beginning on January 1, 2007"; and

WHEREAS, prior to or simultaneously with the adoption of this resolution, the Commission is adopting a final rulemaking action providing certain amendments relating to the review and approval of gas well development projects in the Susquehanna River Basin; and

WHEREAS, the said amendments require certain revisions to the project fee schedule to defray the cost of their administration; and

WHEREAS, the cost of reviewing large hydroelectric projects and participating in concurrent Federal Energy Regulatory Commission proceedings is substantial, necessitating an increase in the fee for hydroelectric projects exceeding 10 megawatts; and

WHEREAS, Commission staff selectively conducts special aquatic surveys in connection with the approval of certain projects, for which a new special charge is now needed.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Commission hereby adopts a revised project fee schedule implementing the above-referenced revisions, which is attached hereto and made a part of this Resolution.
2. Except as otherwise provided below, the provisions of this revised project fee schedule are established by and subject to this Resolution, which supersedes Resolution No. 2007-07.
3. Resolve No. 3 of Resolution No. 2005-03, as set forth above in this Resolution, is incorporated herein and made a part of this Resolution, and shall remain in full force and effect.
4. This Resolution shall be effective on January 1, 2009.

Dated: December 4, 2008



Dr. Robert M. Summers, Chairman
Maryland

Susquehanna River Basin Commission

a water management agency serving the Susquehanna River Watershed



PROJECT FEE SCHEDULE **January 1, 2009 – December 31, 2009**

Adopted by Resolution No. 2008-10
December 4, 2008

1. The Susquehanna River Basin Commission (Commission) requires payment of a non-refundable project review fee, in accordance with Tables 1, 2, and 3 herein, for the following categories of projects which require review and approval by the Commission under the Susquehanna River Basin Compact (the “Compact”) and Commission Regulations Parts 801 and 806.
 - a. Consumptive uses.
 - b. Surface and groundwater withdrawals.
 - c. Diversions.
 - d. Hydroelectric projects.
 - e. Any other projects requiring the review and approval of the Commission under the Compact that do not involve a request for a quantity of water.
2. If any project involves more than one of the above categories, a separate fee is required for each category.
3. Agencies, authorities, or commissions of the member jurisdictions to the Compact are exempt from fees. However, political subdivisions of the member jurisdictions are subject to the fees.
4. Agricultural water use projects primarily involving the raising of food or forage crops, trees, flowers, shrubs, turf products, and livestock, or aquaculture, are exempt from the fees set forth in this schedule.
5. Municipal public water suppliers shall receive a 20 percent discount on all of the fees and special charges as set forth in the “Municipal Fee” category of the attached Tables 1, 2, and 3.
6. Groundwater withdrawal fees are based on a maximum 30-day average. All other fees are based on peak day.

7. The appropriate fee must be submitted to the Commission with the project application (see Paragraph 10 regarding an installment payment option). Failure to submit payment of the fee or submission of an insufficient fee with the application will result in its return to the project sponsor or, at the discretion of the Commission, an additional billing of the proper fee to the project sponsor. Except as otherwise provided in Paragraph 9, refunds will be made for any excess portion of a fee submitted with the application. The Commission will not take action on a project application until the appropriate fee is paid.
8. Sponsors of projects involving more than one category of fees shall include an itemized list of those fees with their payment.
9. Fees are non-refundable and are not reduced, nor any amount credited to the project sponsor, where the Commission's docket approval authorizes an amount or quantity of water that is less than that requested by the project sponsor.
10. If any single application fee exceeds \$10,000, project sponsors have the option of making installment payments. This option provides for the payment of up to three consecutive equal annual installments with interest thereon at the rate of 10 percent per annum on the unpaid balance. The project sponsor should indicate that it intends to use this option when making application. The first annual installment is due at the time the application is submitted.
11. When the fee calculated in accordance with the tables below is deemed by the Executive Director to be insufficient due to exceptional costs associated with review, the Executive Director may impose a fee in the amount up to 100 percent of project review costs deemed by him or her to be exceptional.
12. Sponsors for modification of projects previously approved by the Commission shall be required to pay a fee in accordance with the schedule set forth in Table 2.
13. Sponsors of projects with expiring Commission approvals shall pay the same fees as sponsors of new projects.
14. The Commission may, for good cause shown, waive or reduce any of the fees set forth herein.

TABLE 1

PROJECT FEE SCHEDULE
January 1, 2009 to December 31, 2009

Project Category	Requested Quantities or Capacities	Standard Fee	Municipal Fee
Consumptive Water Uses Paying Use Fee to Commission	20,000 gallons per day (gpd) – 99,999 gpd	\$ 2,200	\$ 1,765
	100,000 gpd – 499,999 gpd	4,425	3,530
	500,000 gpd – 999,999 gpd	8,825	7,050
	1 million gpd (mgd) – 5 mgd	26,450	21,160
	Over 5 mgd	44,100	35,270
Consumptive Use Approval by Rule	<u>Approval by Rule Under 18 CFR §806.22(e):</u>		
	20,000 gpd – 99,999 gpd	\$ 1,100	Not Applicable
	100,000 gpd – 499,999 gpd	2,212	
	500,000 gpd – 999,999 gpd	4,412	
	1 million gpd (mgd) – 5 mgd	13,225	
	Over 5 mgd	22,050	
<u>Approval by Rule Under 18 CFR §806.22(f):</u>			
Base Fee	\$ 10,000		
Per 1 mgd Increment ¹	2,000		
Consumptive Water Uses Not Paying Use Fee to Commission	20,000 gpd – 99,999 gpd	\$ 5,275	\$ 4,220
	100,000 gpd – 499,999 gpd	14,250	11,405
	500,000 gpd – 999,999 gpd	18,675	14,935
	1 mgd – 5 mgd	55,850	44,675
	Over 5 mgd	73,475	58,785
Withdrawals ^{2,3}	Less than 100,000 gpd	\$ 975	\$ 770
	100,000 gpd – 249,999 gpd	2,200	1,765
	250,000 gpd – 499,999 gpd	4,400	3,530
	500,000 gpd – 999,999 gpd	6,625	5,230
	1 mgd – 5 mgd	8,825	7,050
	5,000,001 gpd – 10 mgd	26,450	21,160
	Over 10 mgd	26,450 +	21,160 +
		\$4,440 for each additional 1 mgd increment ^{1,4}	\$3,530 for each additional 1 mgd increment ^{1,4}
Diversions	Up to 250,000 gpd	\$ 7,350	\$ 5,885
	Greater than 250,000 gpd	22,050 (plus consumptive use fee if applicable)	17,640 (plus consumptive use fee if applicable)
Hydroelectric Projects (New or Relicensing)	Greater than 10 megawatts (anything less handled under “all other projects” below)	\$200,000 + \$10,000 per year monitoring fee	Not Applicable
All other projects requiring review and approval and not otherwise specified.	Not Applicable	\$ 3,375	\$ 2,940

¹ 1 mgd increment includes any amount from 1 gallon to the next mgd.

² A separate fee is required for each point of withdrawal or withdrawal location.

³ Withdrawal applications may also be subject to an aquatic survey fee found in Table 3.

⁴ Except as provided in No. 11 on page 2, the maximum project fee for this category will be \$226,250.

TABLE 2

PROJECT MODIFICATION FEE SCHEDULE¹

January 1, 2009 to December 31, 2009

Project Category	Requested Modified Quantities or Capacities	Standard Fee	Municipal Fee
Consumptive Uses	0 gallons per day (gpd) – 99,999 gpd 100,000 gpd – 499,999 gpd 500,000 gpd – 999,999 gpd 1 million gpd (mgd) – 5 mgd Over 5 mgd	\$ 1,475 4,425 8,825 26,450 44,100	\$ 1,175 3,530 7,050 21,160 35,270
Consumptive Use Approval by Rule	<u>Approval by Rule Under 18 CFR §806.22(e):</u> 0 gpd – 99,999 gpd 100,000 gpd – 499,999 gpd 500,000 gpd – 999,999 gpd 1 million gpd (mgd) – 5 mgd Over 5 mgd <u>Approval by Rule Under 18 CFR §806.22(f):</u> Per 1 mgd Increment ² <u>New Source Registration for 18 CFR §806.22(f)³:</u> Commission Docketed Source Other Source	\$ 1,100 2,212 4,412 13,225 22,050 2,000 500 1,000	Not Applicable
Withdrawals ⁴	0 gpd – 249,999 gpd 250,000 gpd – 499,999 gpd 500,000 gpd – 999,999 gpd 1 mgd – 5 mgd 5,000,001 gpd – 10 mgd Over 10 mgd	\$ 1,475 2,950 4,400 6,625 26,450 26,450 + \$4,400 for each additional 1 mgd increment ^{2,5}	\$ 1,175 2,355 3,530 5,295 21,160 21,160 + \$3,525 for each additional 1 mgd increment ^{2,5}
Diversions	Up to 250,000 gpd Greater than 250,000 gpd	\$ 7,350 22,050 (plus consumptive use fee if applicable)	\$ 5,885 17,640 (plus consumptive use fee if applicable)
Hydroelectric Projects	Greater than 10 megawatts (anything less handled under “all other projects” below)	Actual Costs	Not Applicable
All other projects requiring review and approval and not otherwise specified.	Not Applicable	\$ 3,675	\$ 2,940

¹ The amount of the fee for a modification of an approved project involving a request for an additional quantity of water shall not be less than the difference between the amount of the fee that was paid on the total quantity of water requested in an initial application, and the fee for the total quantity of water (existing quantity + requested increase quantity) stipulated in Table 1.

² 1 mgd increment includes any amount from 1 gallon to the next mgd.

³ A separate application and fee are required for each new water source registration added to an existing Approval by Rule.

⁴ A separate fee is required for each point of withdrawal or withdrawal location.

⁵ Except as provided in No. 11 on page 2, the maximum project fee for this category will be \$226,250.

TABLE 3

SPECIAL CHARGES
January 1, 2009 to December 31, 2009

Project Category	Standard Fee	Municipal Fee
Aquatic Resource Survey ^{1,2}	\$ 5,000	\$ 5,000
Constant-Rate Aquifer Testing Plan Evaluation ²	\$ 2,950	\$ 2,355
Emergency Certificate	\$ 3,675	\$ 2,940
Transfer of Existing Approval	\$ 1,475	\$ 1,175

¹ Aquatic resource surveys will be conducted on streams when recent relevant data are not available to evaluate the potential impacts of a withdrawal. Commission staff will make that determination during the review of an application and will invoice this fee.

² A separate fee is required for each withdrawal location.