

Susquehanna River Basin Commission

a water management agency serving the Susquehanna River Watershed



July 29, 2008

TO ALL CONCERNED:

At the June 12, 2008, Commission meeting, the draft minutes of the March 13, 2008, Commission meeting were approved as written with the following minor additions: To the list of “Alternate Commissioners and Advisors Present,” add the name Susan K. Weaver, and to the “Also Attending” list, add the name Pamela Bishop, Esq., PADEP. Please attach this notice to your copy of the March 13, 2008, minutes.

- DRAFT -

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

**MINUTES OF THE
SUSQUEHANNA RIVER BASIN COMMISSION
June 12, 2008
#2008-03**

The meeting was held at the Holiday Inn Elmira-Riverview, Elmira, N.Y. Chairwoman Weaver called the meeting to order at 8:30 a.m.

ROLL CALL

Commissioners Present

Ms. Susan K. Weaver, Chief, Div. of Water Use Planning, Pennsylvania Dept. of Environmental Protection (PADEP)

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

Col. Peter W. Mueller, Dist. Engineer, U.S. Army Corps of Engineers (USACE), Baltimore District

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

**Alternate Commissioners
and Advisors Present**

Staff Present

Mr. Paul O. Swartz, Executive Director

Mr. Thomas W. Beauduy, Deputy Director

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

Ms. Susan S. Obleski, Director of Communications

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

Mr. Duane A. Friends, Chief Administrative Officer

Ms. Deborah J. Dickey, Secretary to the Commission

Also Attending

Ms. Pamela Bishop, PADEP Regulatory Counsel

INTRODUCTIONS & REMARKS

Chairwoman Weaver welcomed the members of the audience to the Commission's meeting and noted the presence of several representatives of gas well development companies. She thanked Fortuna Gas Development Co. for allowing the Commission and its staff to visit one of its drilling sites the previous day. With the flurry of drilling activity in the Marcellus Shale areas of the basin, the Commission is quickly familiarizing itself with these projects and seeking to work cooperatively with the industry on project review and approval. Chairwoman Weaver and the other commissioners each commented briefly on relevant activities in their jurisdictions.

Commissioner Lynch also extended a welcome to Elmira, N.Y. He noted the Commission's efforts to hold its meetings at various locations throughout the basin to allow residents in those locations an opportunity to participate. This meeting was one of the best attended and he thanked all who were present. He noted how each of the member jurisdictions benefits by working together on basin problems. For example, New York State sewage treatment plants in the Susquehanna basin have received further financial support for upgrades as part of the effort to protect the Chesapeake Bay. On the gas well project boom, New York State is working cooperatively with the Commission to insure that the quantity of water is protected while the state focuses on water quality protection.

Commissioner Mueller indicated that he was representing U.S. Member Brig. Gen. Todd Semonite who was unable to attend. He noted that he would be presenting slides showing how federal infrastructure supports flood risk management in this portion of the basin.

Commissioner Summers noted Maryland's appreciation for the partnership it has with the upstream states of the Commission and how Maryland had a lot to gain or lose by what happens in the upstream portions of the basin. He stated that it is extremely important to Maryland and the Chesapeake Bay that there be a continuing source of clean water from the basin. However, in protecting the waters of the basin, the upstream states are not only benefiting Maryland, but also benefiting themselves in the protection of the economic and environmental values of the river system.

Chairwoman Weaver mentioned that the Pennsylvania Department of Environmental Protection (PADEP) Secretary McGinty is hosting a Marcellus Shale Summit in Harrisburg on June 13, 2008. All the companies involved in the drilling of the Marcellus formation have been invited. The summit will focus on the regulatory framework facing gas drillers in Pennsylvania and will seek to encourage a dialogue between the regulators and the drilling companies. The Department has invited the Susquehanna River Basin Commission, the Delaware River Basin Commission, and the Pennsylvania Fish and Boat Commission to participate. She also mentioned Governor Rendell's infrastructure initiative that is focusing on dams, flood protection works, and other methods of flood mitigation, and stated that several related pieces of legislation connected with this initiative are beginning to move forward in the legislature.

Executive Director Swartz noted the commencement on May 18, 2008, of a 90-day comment period on a proposed revision of the Commission's Comprehensive Plan. He reported that the Commission is mandated to maintain this plan under the terms of the Susquehanna River

Basin Compact and had not made a major revision of the plan since 1987. He stated that the Commission is interested in receiving public comment on the proposed revision and had scheduled three public hearings for that purpose, the first scheduled for July 8, 2008, in Owego, N.Y., with additional information available on the Commission's web site – www.srbc.net. He also mentioned the deployment of an early warning system for water suppliers in the Elmira and Binghamton areas that will provide warning of contaminants entering streams and rivers where these suppliers have intakes. Finally, he mentioned that the eighteenth Susquehanna Sojourn will begin on June 16, 2008, in Corning, N.Y. and end in Laceyville, Pa. on June 20, 2008.

PRESENTATIONS

1. Water Infrastructure Activities in the Member Jurisdictions

After describing the challenges of maintaining and improving water-related infrastructure, Commissioner Lynch invited the members of the Commission to discuss what is being done in each of their jurisdictions to deal with this issue.

Commissioner Mueller discussed federal flood control infrastructure efforts. These days, the watchwords are no longer flood control or flood protection, but flood risk management and flood damage reduction. In New York State Department of Environmental Conservation (NYDEC) Regions 7 and 8, there are 14 federally-authorized projects that comprise 30 individual levee systems. There are four dams in New York and three in Pennsylvania that also provide flood protection to that area of New York State. Over their history, these dams have reduced damages by over \$1.5 billion. The federally-built levee systems have reduced damages by \$2.2 billion over their lifetimes. The Corps of Engineers maintains inspection responsibilities for these projects under new risk assessment criteria that have been issued since the Hurricane Katrina disaster of 2005. All recent inspections have produced a satisfactory rating. He went on to provide further information on these projects using a slide presentation, including a description of how well these projects performed in the record-breaking floods of June 2006. The data indicates that all projects performed in accordance with their design standards.

Commissioner Summers indicated that the main use of the Susquehanna River by the State of Maryland is for water supply, being the major source of supply for Cecil and Harford Counties and the backup source for the City of Baltimore. About 4 million Marylanders rely on the water supply provided by the river. The river is also the major source of fresh water for the Chesapeake Bay. Since 95 percent of the state drains to the Chesapeake Bay, Maryland's emphasis has been on upgrading all sewage treatment plants to best available technology and correcting sanitary sewer overflow problems. Billions of dollars are being invested on these upgrades, with resources also being expended to upgrade water treatment and distribution systems.

Chairwoman Weaver pointed out that Pennsylvania is facing a \$22 billion cost for needed upgrades to sewage, water supply, and stormwater systems. She reported that Governor Rendell has convened a "Sustainable Water Infrastructure Task Force" of 30 members with special expertise to look at this issue and report back to him by October 1, 2008. She stated that the Task Force will determine costs, available financial resources, cost savings available through the use

of non-structural approaches, and allocation of costs; and will also make recommendations regarding any needed legislative or regulatory changes. The Task Force held nine public meetings across Pennsylvania for the purpose of collecting input on this issue.

Commissioner Lynch then introduced Ms. Sandi Allen, Director of the New York State Clean & Safe Water Infrastructure Initiative, to report on water infrastructure activities and initiatives in New York State. Ms. Allen reported that the initial focus of the New York State infrastructure effort is on wastewater. There are 610 publicly-owned wastewater treatment plants in the state serving its population of 18 million. A 1965 state bond issue provided \$1 billion for construction of such facilities in the state. At 30 to 40 years of age, many of these facilities are now in need of an update.

Ms. Allen noted that other regulatory considerations have also come along that are applying additional pressure to the treatment systems. Combined Sewer Overflows and Sanitary Sewer Overflows in many locations complicated the problems. An effort is underway to correct these deficiencies, but retrofits are very expensive. There are now indications that this aging infrastructure is beginning to contribute to a decline in water quality. This could have economic as well as environmental impacts, as the abundance of clean water is considered one of New York's most important economic assets. Meanwhile, federal funding for New York's wastewater treatment infrastructure decreased by 70 percent. Much of the infrastructure needs are concentrated in urban centers that the state is trying to revitalize.

She further reported that \$36.2 billion was needed over the next 20 years to deal with aging wastewater infrastructure. For drinking water infrastructure, the number is an additional \$20 billion; however, beyond just obtaining the money for this work, there needs to be a sustainable infrastructure program for the future. Funding at all levels of government will be required to attain this goal. Old sources of funding like federal grant programs and state bond issues are no longer available. Some future funding options include a restored Clean Water State Revolving Fund (CWSRF) loan program, federal and state grants, hardship community grants, appropriate local rates, and public/private partnerships. Other helpful options for sustaining infrastructure include good asset management and maintenance, innovative technology, energy efficiency, and water conservation.

She stated that future challenges could also include equitable treatment of municipalities, climate change, maintaining a competitive business climate, and the impacts of unknown pollutants such as personal care products. Next steps planned by the Infrastructure Initiative include urging the restoration of the federal CWSRF loan program, making improvements to the existing loan program, improving public outreach, and identifying the elements necessary to attain the goal of a sustainable infrastructure program for the future. The Infrastructure Initiative welcomed comments and suggestions from the public. Following her presentation, Ms. Allen answered several questions from the audience.

2. Hydrologic Conditions

Water Resources Management Division Chief Brownell presented information on the current hydrologic conditions in the Susquehanna basin. Although data indicate a basinwide precipitation surplus averaging about 3.5 inches for the first five months of 2008, there was a precipitation deficiency of about 2 to 3 inches in the northern half of the basin. This deficiency affected hydrologic conditions such as stream flow and groundwater levels in that area.

The groundwater and stream flow deficits are particularly acute in the New York portion of the basin, with numerous counties already at the drought watch stage and some even approaching the drought emergency stage. Fortunately, a rainy period in May perceptibly slowed the decline that began in April, though with the advent of summer, the decline will likely continue. The overall forecast for the basin based on current conditions is for average flows through the summer, but it is possible that it could change.

ACTION ITEMS

3. Minutes of the March 13, 2008, Commission Meeting

On a motion by Commissioner Lynch, seconded by Commissioner Summers, the minutes of the regular business meeting of March 13, 2008, meeting were unanimously adopted with a minor amendment adding the names of Susan K. Weaver and Pamela Bishop to the list of persons attending the Commission's March 13, 2008, meeting.

4. Consumptive Use Mitigation Fee Increase

Chairwoman Weaver indicated that a 60-day comment period on the proposed increase ended on May 31, 2008, and that a public hearing was held on April 23, 2008. Comments were received during that period and were considered by the Commission. The Commission was, therefore, prepared to take an action on the proposal. She introduced Chief Administrative Officer Friends to provide a final report on the proposal.

Mr. Friends mentioned that notice of the 60-day comment period and the public hearing had been published in newspapers, the Federal Register and the state notice publications. About 13 people had attended the public hearing on April 23, with two persons offering favorable comments and two persons expressing concerns. There were 26 individuals who submitted comments during the comment period. A transcript of the hearing was provided to the Commission members along with a "Comment/Response" document detailing the comments received and staff responses thereto.

The issue of primary concern was that the increase is too large to be implemented all at once. The staff responded with a proposal to phase in the increase over a two-year period starting January 1, 2009. At that time, the fee would go to \$.21 per thousand gallons consumed, followed by an increase to \$.28 per thousand gallons on January 1, 2010. Thereafter, an inflationary adjustment would be made each year.

Several comments pointed to the need for a definitive inflationary index to guide these future fee increases. In response, staff proposes to use the U.S. Army Corps of Engineers Civil Works Construction Cost Index System, published on a quarterly basis. Also, in 2013, the Commission will reevaluate the fees in terms of the known costs of storage and make appropriate adjustments to the fee in 2014.

There was also some question about the basis used by the staff to establish the fee increase. Mr. Friends noted that staff had used an independent study done by Gannet-Fleming Engineering Consultants of Harrisburg, Pa. to make these estimates. The firm had reviewed the cost of obtaining storage at several federal reservoirs in the basin in both New York and Pennsylvania to arrive at the cost estimates.

The current fee of \$.14 per 1,000 gallons of water consumed has been in effect since January 1, 1993. Inflation reduced the current value of that fee to \$.08 per 1,000 gallons consumed. The need for an increase is, therefore, apparent for the Commission to retain the ability to acquire storage for the purpose of mitigating consumptive use of water.

The Commission did look at other options for providing storage such as mine pools and recreation lakes, and those costs are higher than the use of federal reservoirs. Mr. Friends concluded his comments and presented a resolution (Exhibit B) to adopt an increase in the consumptive use mitigation fee as proposed by staff.

Commissioner Summers moved to adopt the resolution, adding that the proposal had been thoroughly documented by staff, extensively debated in the public forum, and carefully considered by the Commission. It was an important step to support the Commission's overall efforts to deal effectively with the issue of consumptive use of water in the basin. Consumptive users are encouraged to explore other options for mitigation that they feel are more cost effective. This motion was seconded by Commissioner Mueller.

Before calling for a vote, Chairwoman Weaver noted for the record that this increase was part of an overall evaluation of consumptive use mitigation that led to the adoption of a Consumptive Use Mitigation Plan by the Commission at its March 2008 meeting. That plan also documented the need for this fee increase to cope with increasing storage costs. Reiterating Commissioner Summers' comments, she also pointed to other options that are available to consumptive users instead of payment of the fee. The fee is only intended as a default option for those consumptive users who can not provide their own form of mitigation. The resolution was then unanimously adopted by the Commission.

5. Rescission of SRBC Policies

Chairwoman Weaver indicated that, with the passing of time and changing of conditions, it becomes necessary to periodically rescind unneeded or obsolete Commission policies as a matter of good housekeeping. She called on the Executive Director, who presented a resolution (Exhibit C) detailing a list of such policies and effecting their rescission. He noted that six of the policies to be rescinded have been effectively superseded by new regulations adopted by the Commission in December 2006, while a seventh has been superseded by a new policy.

On a motion by Commissioner Summers, seconded by Commissioner Lynch, the Commission unanimously adopted the resolution presented by the Executive Director.

6. FY-2010 Budget

Chief Administrative Officer Friends presented a resolution (Exhibit D) to adopt a proposed Commission budget for FY 2010, covering the period July 1, 2009, to June 30, 2010. The budget proposes \$2,989,000 in member jurisdiction contributions and obtains another \$2,411,000 in revenue from grants, approvals, and other fees for total projected revenues of \$5,400,000.

Some of the major programs to be undertaken under this budget include: nutrient and sediment monitoring on the main stem and major tributaries; subbasin surveys; the Early Warning System for water suppliers; the Whitney Point Adaptive Management Plan; Total Maximum Daily Load studies; continuation of regulatory activities, including enforcement and compliance; follow-up work on the Consumptive Use Mitigation Plan; and work on the Flood Forecasting and Warning System. The major budget categories for the \$5.4 million budget include personnel and benefits, contractual services, building and auto fleet expenses, and maintenance of the Commission's computer system.

On a motion by Commissioner Lynch, seconded by Commissioner Summers, the budget resolution was unanimously adopted.

7. Contract Approval – Bear Run AMD Restoration Project

Watershed Assessment and Protection Chief Heicher requested that the Commission ratify a contract under which the Commission will provide technical assistance to the Indiana County Conservation District in support of the Bear Run Abandoned Mine Drainage (AMD) Restoration Project in Banks Township, Indiana County, Pennsylvania. Bear Run is one of the largest sources of AMD in the headwaters of the West Branch Susquehanna River.

The conservation district and the Commission applied for a Pennsylvania Growing Greener Grant in 2007 to restore the watershed to a high quality, cold water brook trout fishery. The project will also support the Pennsylvania Wilds initiative and the activities of the West Branch Task Force, and will complement several other important AMD clean-up efforts such as the Barnes and Tucker Abandoned Mine Remediation Project. The Commission's services will include construction coordination, inspection, and pre- and post-construction monitoring. The cost of the two-year contract for construction of Phase IV of the project is \$30,000. The Commission expects to receive additional contract work of this nature in future years, as Phases V-VIII of the district's cleanup plan are implemented in the future.

On a motion by Commissioner Summers, seconded by Commissioner Lynch, the Commission unanimously ratified the contract as presented.

8. Contract Approval – U.S. Army Corps of Engineers FCSA

The Commission worked with the Corps of Engineers and the Nature Conservancy to develop a Feasibility Cost Sharing Agreement (FCSA) for work related to the establishment of ecological flow needs in critical stream reaches of the Susquehanna River Basin. The Nature Conservancy has considerable worldwide experience in performing ecological flow studies and would assist the Commission and the Corps with the assessment work. The Corps will cover 75 percent of the cost and the Commission 25 percent, with the Commission's share not to exceed \$230,000. Negotiations among the parties are ongoing and expected to produce a draft FCSA, a project management plan, and a letter of intent by mid-summer, with final approval later in the summer or fall. The actual work will begin in late calendar year 2008 or early 2009 and will continue over a two-year period.

Mr. Heicher requested that the Commission authorize continued negotiations and execution of a FCSA by the Executive Director. Once negotiated and executed, the contract will be subject to subsequent Commission ratification.

Commissioner Summers added that this is a very important study initiative. The results will be useful to the State of Maryland's water appropriations permitting program and its participation as an active member of the Commission and the Interstate Commission on the Potomac River Basin. Chairwoman Weaver also cited the importance of the study to Pennsylvania's water management efforts.

On a motion by Commissioner Summers, seconded by Commissioner Lynch, the Commission unanimously authorized continued negotiation on and execution of a FCSA as described by Mr. Heicher.

9. Election of Officers – FY 2009

The Executive Director explained that, with the approach of a new fiscal year, it is time for the Commission to elect a Chairman and a Vice Chairman to preside over the Commission for FY 2009, which will begin on July 1, 2008. In accordance with the rotational order of officer positions used in the past, it was the staff's recommendation that the member from the State of Maryland (Dr. Robert M. Summers) be elected Chairman of the Commission, and the member from the United States (Brig. Gen. Todd Semonite) be elected Vice Chairman of the Commission.

On a motion by Commissioner Mueller, seconded by Commissioner Lynch, the above members recommended by staff were unanimously elected Chairman and Vice Chairman of the Commission for FY 2009.

COUNSEL'S REPORT

Deputy Director Beauduy provided a report on legal proceedings in which the Commission is involved. He mentioned the following items:

- a. An appeal filed by Mr. Eric Epstein on March 2, 2008, in the U.S. District Court for the Middle District of Pennsylvania in response to a denial of Mr. Epstein's December 5, 2007, administrative appeal requesting a hearing on the Commission's approval of consumptive use modification docket for PPL Susquehanna, LLC.

Following an expedited case management conference, the defendants, the Commission and PPL, were ordered to file motions to dismiss and briefs in support of those motions. The issues covered by these motions and briefs included standing, timeliness of the appeal, subject matter jurisdiction, and de novo review. Mr. Epstein filed reply briefs to these filings. On June 9, 2008, Judge Rambo issued an order granting the Commission's motion to dismiss, affirming the court's own jurisdiction and dismissing Mr. Epstein's appeal as untimely. The Court saw no further need to address the issues of standing and de novo review. Mr. Epstein had 30 days to appeal the decision to the U.S. Court of Appeals-Third Circuit.

- b. Ongoing administrative filings by East Hanover Township, Dauphin County, Pennsylvania (and some of its residents) regarding the Commission's issuance of consumptive use and withdrawal dockets to Mountainview Thoroughbred Racing Association (MTRA).

In all, the Township filed: 1) an appeal of the Commission's March 13, 2008, approval of a groundwater withdrawal by MTRA; 2) a request for reconsideration of the Commission's March 13, 2008, denial of administrative appeal by the Township on a consumptive use approval issued to MTRA on December 5, 2008; and 3) a request for reconsideration of the denial by the Executive Director on April 22, 2008, of a stay in regard to the appeal of the groundwater withdrawal approval of March 13, 2008. All three of these items are on the public hearing agenda for this meeting.

- c. Two enforcement actions regarding gas well developers.

As a result of coordinated inspection with the PADEP on May 30, 2008, the Executive Director issued cease and desist orders to Chief Oil and Gas, LLC, and Range Resources Appalachian, LLC, relating to gas well development operations that both companies were undertaking in Lycoming County, Pennsylvania, without prior Commission approval. Both companies have been fully cooperative and staff reached an understanding with them regarding future operations, which include payment of settlements in lieu of penalty that will be brought before the Commission for approval at the September meeting.

- d. PPL Holtwood, LLC.

On April 18, 2008, the Commission filed a notice of intervention with the Federal Energy Regulatory Commission (FERC) on an application by PPL Holtwood, LLC (PPL) for a capacity-related licensing amendment. On May 2, 2008, the Commission also submitted comments to FERC on the scoping document previously filed by PPL

regarding the environmental impact statement for the project and the accompanying environmental assessments. The Commission's comments address fish passage, minimum flows, cumulative impact evaluation, and the geographic scope of the assessment to be undertaken to confirm it extends to the Chesapeake Bay, as it relates to water quality and fishery resources. Staff anticipates that the Commission will take a docketing action on the project later in the year and staff will file that docket with FERC in the expectation that any conditions imposed thereby will be incorporated into FERC's licensing action in consideration of the Commission's concurrent jurisdiction.

e. Conowingo Hydroelectric Station.

This is the lower most hydroelectric station on the Susquehanna River and is owned and licensed by two subsidiaries of Exelon. The owners decided to file for a licensing amendment regarding current minimum flow requirements. The request seeks an amendment to the minimum flow requirement that is consistent with the recommendations contained in the Commission's Conowingo Pond Management Plan – the “Automatic Q-FERC plus 1,000” alternative that would establish a protocol for a variance to the existing Q-FERC flows requirement and establish the conditions under which the variance is warranted. It will grant an automatic credit for leakage of up to 800 cubic feet per second (cfs) when flow at the upstream Marietta gage declines to no more than 1,000 cfs greater than the Q-FERC minimum flows currently established in the license that related to seasonal conditions. The credit would remain in effect until flows at Marietta go above that 1,000 cfs marker. An exception to the automatic credit will be in effect during the shad spawning season, April 1 through June 30. During that time, the variance could be granted only upon application to FERC after consultation with the resource agencies. Other important conditions will also be imposed on the licensees when the variance is in effect. At the invitation of the licensees, the Commission has provided comments to FERC on the draft application and will be in a position to provide formal supportive comments to FERC once the application is submitted. The Commission will not file a motion to intervene unless there is a challenge to the application.

GAS WELL DRILLING ACTIVITY PRESENTATION

Water Resources Management Chief Brownell made a presentation on the burgeoning gas well drilling activity in the Marcellus Shale geologic formation, which covers a full 72 percent of the Susquehanna River Basin in New York and Pennsylvania. The increasing number of wells was spurred on by the increasing price of gas and improvements in the technology for extracting it from such formations. The extraction technology involves the drilling of horizontal wells and the use of large quantities of water under high pressure to essentially fracture the gas-bearing formations and facilitate extraction.

The Commission's interest in these activities lies in the injection of large quantities of water into the ground in what amounts to a consumptive use of water under the Commission's regulations. The regulation would apply to any “hydro-fracing” operation that uses more than

600,000 gallons. The Commission's water withdrawal regulation also comes into play upon the triggering of the consumptive use regulation.

After use, the water requires offsite treatment to remove salt, hydrocarbons, and metals. The water may also be slightly radioactive due to the presence of radioactive materials in the Marcellus formation. There are no specialized treatment facilities currently located in the basin, though some of this water may be taken to municipal treatment plants in the basin. This issue of water treatment is being examined.

To date, two companies requested approval from the Commission for consumptive use and withdrawal, and these applications will be presented to the Commission later in the meeting. There may be as many as 100 such projects that have already been permitted in the basin without Commission review of water use.

One of the problems with water use by these operations is that the water often comes from small headwater streams, raising concerns about the need to ensure passby flows. Stream encroachments may also present regulatory challenges to New York and Pennsylvania authorities. The very mobile nature of these projects exacerbates these challenges. Other related issues include dust control and increased traffic problems from movement of large vehicles and equipment.

As noted earlier by Mr. Beauduy, the Commission did issue two cease and desist orders on May 30, 2008. On June 6, 2008, a letter also went out to 23 companies operating in the basin explaining when water use for natural gas extraction in the Susquehanna basin requires Commission approval. It was reported that Commission staff is currently working on notifying 20 additional companies that needed to be notified.

Commission staff is currently in the field carrying out further investigations of well sites and expecting that numerous applications will be submitted under the "Approval by Rule" provisions of the Commission's regulations that allow consumptive use approvals without formal action by the Commission where the source is a public drinking water facility. Staff was inundated with requests for meetings and assistance on these upcoming applications.

PUBLIC COMMENTS

The Commission heard the following public comments:

Kristi Gittins, Vice President for Communications, Chief Oil and Gas, thanked the Commission staff for working with the company to resolve its violations. Chief Oil and Gas had a long history of environmental responsibility and regretted that its relationship with the Commission had gotten off to a rocky start with violations. The company will work hard to remedy the situation.

Jaromir Kovarik, an attorney and geologist representing East Hanover Township, Dauphin County, Pa., expressed support for the Commission's regulatory efforts on gas well drilling.

Ashur Terwilliger, representing the Chemung County Farm Bureau, expressed the hope that agriculture would remain exempt under the Commission's consumptive use regulation as per the state's agreement to fund water storage. Also, he suggested that the gas well operations obtain their water from large surface sources like the Chemung River instead of groundwater.

Roy Lackner, representing Grater Watershed Citizens Alliance, spoke against gas well drilling using the hydraulic fracturing method of extraction. He alleged that the gas companies misled his neighbors into believing that only sand and water would be used in the hydraulic fracturing process when it really is much more. He recited a list of hazardous chemicals that he claimed are also used in the fracturing process and felt the process thus poses a clear and present danger to the entire watershed and drinking water sources. He further stated that the gas drilling industry is exempt from a host of important environmental laws such as the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act. The latter regulates the injection of hazardous chemicals into deep and shallow aquifers. He urged the Commission to carefully scrutinize the gas well operations that use hydraulic fracturing.

Ray Walker, Vice President – Appalachian Shale Operations Group, Range Resources, apologized for unintentionally violating Commission regulations in the implementation of its program. The violations stemmed from the company's lack of familiarity with Commission regulations, though that was no excuse. All withdrawals ceased upon receipt of Commission's order of May 30, 2008, and the company will now work closely with Commission staff to resolve all compliance issues. The company is willing to pay settlement amounts for these violations that will allow the drilling projects to go forward in complete compliance. Range, which is a S&P 500 company, has been in the drilling business for many years and drilled over 1,000 wells per year. The company employed the latest technology and used methods designed to safeguard the environment. The drilling could provide a huge economic boom to the region. Range always made compliance with environmental laws a top priority. He concluded by thanking the Commission and its staff for its cooperation and complimented Mr. Brownell on his presentation.

Christopher Denton, an attorney with the New York Natural Resources Owners Association, posed six questions regarding metering and monitoring, disclosure of information, and regulation of chemicals used in the drilling process. Mr. Brownell responded to the questions, pointing out that Commission regulations require daily metering and monitoring that is reported to the Commission quarterly. This reporting information is reviewed by three Commission staff persons who flag any violations for follow-up. Water quality regulation is not covered by the Commission; therefore, the Commission would rely on the states to oversee that aspect of the drilling operations.

Commissioner Lynch described the state regulatory process for gas well drilling in New York State. The state has developed a list of questions that must be answered by any well drilling applicant to assure the state that there is adequate protection of the environment. One of the questions being asked concerns the type of fluids that are being used in the fracturing process and how those fluids are going to be disposed of after use. Other questions deal with onsite storage and quantities of water use.

Chairwoman Weaver added that PADEP is asking drilling applicants similar questions and is conducting an overall review of its existing regulatory authority to determine how that authority is applicable to gas well operations. An addendum has been added to PADEP's standard gas well application form, which is being continuously updated as new information becomes available. Pennsylvania is well aware of the need to balance the issue of environmental impact against potential economic benefit.

Don Butler, representing New Tech Engineering, called on the Commission and its member jurisdictions to strengthen its regulatory authority to deal effectively with the deluge of gas well drilling applications.

PUBLIC HEARING¹

10. Regulatory Program Actions

The Commission convened a public hearing covering five topics: a) action on new project applications; b) an enforcement action regarding a settlement offer made by Standing Stone Golf Course; c) an administrative appeal by East Hanover Township, Dauphin County, Pennsylvania, under 18 CFR §808.2, requesting an administrative hearing on the Commission's approval of a withdrawal application for Mountainview Thoroughbred Racing Association, Inc. (MTRA) on March 13, 2008, Docket No. 20080305; d) a petition by East Hanover Township to reopen Docket No. 20020819-1 issued by the Commission on December 5, 2007, which petition also contains a request in the alternative for reconsideration of a denial of an administrative hearing request on that same approval issued on March 13, 2008, coupled with a request that the Commission's proceedings on the withdrawal and consumptive use approvals be consolidated; and e) a request by East Hanover Township for reconsideration of the denial of a request for stay on the groundwater withdrawal approval, approved for MTRA on March 13, 2008, issued by the Executive Director on April 22, 2008.

a. Project Applications

Chairwoman Weaver 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 and its consumptive use and water withdrawal regulations. The main purpose of these regulations is to avoid adverse environmental impacts and conflicts among users, particularly during periods of drought and low flow. Cumulative impacts are also considered. He 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.

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.

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; and 8) docket reopening authority.

Before describing the projects that staff is recommending 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 include: 1) East Resources (Seeley Creek withdrawal); 2) East Resources (Crooked Creek withdrawal); 3) Fortuna Energy, Inc. (Sugar Creek withdrawal); 4) Fortuna Energy, Inc. (Susquehanna River withdrawal); 5) Fortuna Energy, Inc. (Towanda Creek withdrawal); 6) Neptune Industries, Inc.; 7) United States Gypsum Company; and 8) Pennsy Supply, Inc. (Hummelstown Quarry).

The dockets recommended for action include the following projects²:

- Fortuna Energy, Inc. (S. Tier NY, Tioga/Bradford Cos., Pa.) (Exhibit A1)
- Fortuna Energy, Inc. (Catawgonk Creek) (Exhibit A2)
- East Resources, Inc. (Chemung & Steuben Cos., NY & Tioga Co., Pa.) (Exhibit A3)
- East Resources, Inc. (Chemung River) (Exhibit A4)
- Fortuna Energy, Inc., (Chemung River) (Exhibit A5)
- East Resources, Inc. (Tioga River) (Exhibit A6)
- East Resources, Inc. (Mansfield, Pa. area) (Exhibit A7)
- East Resources, Inc. (Tioga river near Mansfield) (Exhibit A8)
- Keystone Landfill, Inc. (Exhibit A9)
- Kratzer Run Development, LLC (Exhibit A10)
- Commonwealth Environmental Systems (Modification) (Exhibit A11)
- Lykens Valley Golf Course (Exhibit A12)
- Spring Creek Golf Course (Exhibit A13)
- Titanium Hearth Technologies, Inc. (Exhibit A14)
- Conestoga County Club (Well 1) (Exhibit A15)
- Rock Springs Generation Facility (Modification) (Exhibit A16)

Mr. Brownell then described the projects and the proposed conditions of approval for each. He indicated that the docket for East Resources, Inc. (Chemung River) included acceptance of a settlement offer in the amount \$175,000 for the drilling of two natural gas wells that were hydraulically fractured without prior approval. The Keystone Landfill, Inc. and Titanium Hearth Technologies, Inc. dockets also include settlements in the amounts of \$75,000 and \$65,000 respectively for prior noncompliance.

Commissioner Lynch asked Mr. Brownell to explain how the gas well approvals are structured. Mr. Brownell noted that the approvals for consumptive uses cover a certain property area, township, and county. These are the areas that the drilling companies said they have drilling operations in place. The companies have also indicated the number of wells they intend to drill over the recommended four-year approval period.

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

Commissioner Lynch also asked about the Conestoga Golf Course application for which he had received a comment from a concerned citizen. Mr. Brownell replied that staff was involved in the design of the aquifer test for that project and had made a very thorough review of the application, in close consultation with the applicant's consultant. Staff did not find any adverse impacts to either the surface stream or neighboring groundwater users and there had been a reduction in the amount requested by the applicant to ensure that remains the case. All notice requirements were met, though there appeared to be some miscommunication among residents that contributed to confusion.

Commissioner Summers pointed out that all of the Commission project approvals contained a standard requirement for the project sponsor to obtain all other necessary governmental approvals, which would cover the question raised earlier about water quality safeguards on well drilling operations. The Commission also reserved the right to reopen any project approval and issue any additional orders that may be necessary to mitigate or avoid adverse impacts, or to otherwise protect public safety and welfare and the environment.

After adding a comment that there will be continuing oversight on the gas drilling operations by the Commission and its member jurisdictions, Chairwoman Weaver invited comments from the public on the projects recommended for approval.

Christopher Denton inquired about how the number of wells was determined for project approvals. Deputy Director Beauduy explained that the Commission does not approve specific wells, but rather water uses involving withdraws or consumptive use. The number of well bores was of no consequence to a Commission approval, which instead relates to the entire project, including everything occurring on a particular drill pad.

Roy Lackner commented that reliance on the states for water quality enforcement may not be enough since the drilling operations are exempted from the Safe Drinking Water Act. He stated that it made no sense to allow the drilling operations until it is clear what chemicals are going to be injected as part of the fracing process.

Mr. Beauduy responded that, while the Commission does not duplicate state laws and regulations on water quality, the Commission does have the ability to apply special conditions in project approvals addressing water quality issues if potential problems are apparent. Commissioner Lynch added that such federal exemptions do not permit an applicant to pollute and that states do have the legal ability to oversee such projects to ensure protection of the environment. New York is asking gas drillers to identify the chemical composition of liquids they are using in the fracing process and the companies have been very cooperative with state officials in revealing this information.

John Lively, a lifelong resident of the southern tier of New York, expressed some confusion over the project applications requesting consumptive use and surface water withdrawals in the Chemung Subbasin. He was concerned that some of these uses might result in adverse impacts on surface sources like the Chemung River.

Mr. Brownell explained that the consumptive use will come from storage tanks and pits at the gas well sites that are filled from withdrawals from surface sources. The withdrawals are limited to specific 30-day average withdrawals and conditioned to protect the sources; however, once the water reaches the storage areas where it is being stockpiled onsite, the project sponsor will then consume the water based on a peak 24-hour basis for the fracturing operations. It appeared that there was a disparity between limitations on withdrawal and consumptive use.

Richard Gerard, another local resident, expressed concerns about permitted withdrawal ranges on Catatunk Creek and wondered what the average daily flow is for the creek. Mr. Brownell explained that the reason that limitation was set at 70 gallons per minute is to keep it below 10 percent of Q7-10, the statistical average 7-day, 10-year low flow, which is about 700 gallons per minute and the average daily flow is probably 5 to 10 times higher than the Q7-10.

Commissioner Summers moved approval of 13 projects and the tabling of eight other projects as recommended by staff. This motion was seconded by Commissioner Lynch and unanimously adopted by the Commission.

b. Enforcement Action – Standing Stone Golf Course

Mr. Brownell noted that, in keeping with the Commission policy of attempting to settle civil penalty matters, staff had negotiated a settlement agreement with Standing Stone Golf Course for failure to report and to submit consumptive use payments. Standing Stone offered a settlement of \$8,500 and staff recommends that the Commission accept that settlement.

On a motion by Commissioner Lynch, seconded by Commissioner Summers, the Commission unanimously accepted the settlement offer as recommended by staff.

c. Filing No. 1 – Request for Hearing on Administrative Appeal – Approval of Mountainview Thoroughbred Racing Association, Inc. Docket No. 20080305, Groundwater Withdrawal Approval of March 13, 2008

Chairwoman Weaver recounted the procedural history of this matter. On April 14, 2008, East Hanover Township, Dauphin County, Pennsylvania, along with several of its residents, filed an administrative appeal under 18 CFR §808.2 of the Commission’s regulations requesting an administrative hearing on the above approval for MTRA. The appeal further requested that the Commission stay the March 13, 2008, approval or limit the withdrawal pending this appeal. It also asked for consolidation of this appeal on the withdrawal approval with an earlier appeal on a consumptive use approval for this same project sponsor, Docket No. 20020819-1 of December 5, 2007, and consolidation of the withdrawal and consumptive use dockets issued previously by the Commission, respectively Docket Nos. 20020810-1 and 20080305.

Copies of the appeal were distributed to the Commission members along with a response to the request for stay of the approval filed by the MTRA’s counsel on or about April 21, 2008, and the Commission’s partial response issued by the Executive Director on April 22, 2008, in which the request for a stay was denied. The Township then filed an “Appeal or Request for Reconsideration of the Commission’s Denial of a Request for Stay” dated May 22, 2008. In

reply, MTRA filed a brief in opposition to the request for reconsideration on June 2, 2008, followed by another filing brief in opposition to the Township's appeal on June 4, 2008. The Township followed with yet another filing just before the convening of this hearing that addressed all three filings before the Commission at this hearing. All of these filings except the last had also been distributed in advance to the Commission.

There were also a number of pieces of correspondence in the record concerning Mr. Jaromir Kovarik's dual role in representing the Township petitioners as an attorney and as a professional geologist. Chairwoman Weaver introduced Deputy Director Beauduy to provide further background information on the entire matter.

Mr. Beauduy explained that the project sponsor runs a racing facility and casino operation, and it obtains water from two wells that were drilled for the race track facility in 1969. The project sponsor came to the Commission in 2007 with a request to modify a previously issued consumptive use approval that would allow it to use water consumptively for the casino as well as the race track. It also applied for an increase in their overall groundwater withdrawal to meet the collective demands of those two facilities.

The Commission approved the consumptive use modification on December 5, 2007, and the Township and several residents, through their counsel Mr. Kovarik, filed an administrative appeal and request for stay of that action on January 7, 2008. On January 14, 2008, MTRA filed a brief in opposition to the stay request and on January 22, 2008, the Executive Director denied the request for stay in a formal notification to the Township petitioners. MTRA later filed a brief in opposition to the appeal itself. The Commission denied the appeal on March 13, 2008, noting its untimely filing and that most of the issue raised by the Township petitioners applied to the groundwater withdrawal application instead of the consumptive use application. At that same public hearing, the Commission approved the groundwater application that is the subject of the instant appeal, limiting withdrawals to a 30-day average of 400,000 gpd.

Continuing, Mr. Beauduy explained that there were essentially three filings before the Commission at this public hearing. The instant appeal of the groundwater approval filed on April 14, 2008, and referred to by Mr. Beauduy as Filing No. 1, contained five requests. These were:

- 1) A request for a hearing on administrative appeal pursuant to 18 CFR §808.2 alleging that the aquifer testing and the report upon which it was based are inconclusive, flawed, and provides no reliable estimate of the capacity of the aquifer. Thus, the report failed to support the Commission's decision. Staff recommended denial of this request based on the fact that there was an adequate record upon which the approval was based.
- 2) A request that the instant appeal be consolidated with the previous appeal of the consumptive use approval. This related to Filing No. 2 described below.

- 3) A request that the consumptive use and withdrawal dockets be consolidated. Staff recommended denial of this request on the basis that it does nothing to help resolve or expedite these issues.
- 4) A request for a stay pending the administrative hearing and any subsequent proceeding alleging that irreparable harm will occur. This matter is addressed in Filing No. 3 below.
- 5) A request that, in the alternative to a stay, the Commission temporarily modify the groundwater approval to either limit the withdrawal to 100,000 gpd or limit drawdown in the two wells to 75 feet and 70 feet, respectively, below ground surface. As noted above, the Executive Director denied the stay request on April 22, 2008, as having failed to demonstrate irreparable harm to the petitioners, a likelihood of harm to the public, or a likelihood of prevailing on the merits, as per the standards for a stay in 18 CFR §808.2.

Mr. Beauduy then mentioned the objections the Commission filed regarding Mr. Kovarik's dual capacity as attorney for the Township petitioners and professional geologist filing affidavits in support of the various filings. This appears to be a violation of the rules of professional conduct in Pennsylvania. It was suggested that the Township correct this by confining Mr. Kovarik's representation to one or the other capacity. On March 21, 2008, the Township responded to the Commission's objections, disagreeing with the Commission's conclusions indicating, however, that Mr. Kovarik would continue only as counsel.

In regard to Filing No. 1 that alleges a defective record of decision, Mr. Beauduy pointed out that the Township petitioners never really reviewed the entire record on which the decision to approve the withdrawal was based. The consolidated brief filed by the Township petitioners just before the convening of the hearing made allegations that the Commission acted politically in approving the withdrawal and that the conditions included in the approval such as monitoring are inadequate to prevent harm. Mr. Beauduy went on to refute these allegations, noting especially the importance of monitoring in allowing the Commission to detect problems and take corrective measures such as issuing additional conditions or limitations.

Mr. Beauduy then introduced Mr. Brownell for the purpose of demonstrating that the decision on the groundwater withdrawal was made on an adequate record – a record based on facts, science, and the professional judgment of staff. Mr. Brownell presented an overview of the record of decision based essentially on the conclusions of four professional geologists on the Commission staff. (See transcript for details of Mr. Brownell's overview.) He concluded this presentation by reciting the decision items that were included in the project approval as a result of the staff's analysis.

He further explained why the original drawdown limits on the wells were removed, including the need to be able to collect data on well use to assess the possible impact on other well users. Those drawdown limits were also based on drillers' logs that were over 35 years old. So far, MTRA has not exceeded any of the withdrawal limits and it has fulfilled its obligations to comply with all docket conditions within the specified timeframe. On May 12, 2008, MTRA's

consultant also submitted the long-term monitoring plan that was required within 60 days of the March 13, 2006, approval. This plan was intended to confirm the long-term sustainability of the aquifer and to protect neighboring users and the environment. The staff will be reviewing the plan and requiring any needed modifications to ensure its effectiveness.

Mr. Kovarik responded that he would have difficulty trying to respond to all the new material presented by Mr. Brownell at today's hearing. Mr. Beauduy injected that Mr. Brownell's presentation was merely a summary of what was already in the record of decision and that no new materials were presented. Chairwoman Weaver instructed Mr. Kovarik to address his remarks to why an administrative hearing should be granted and not simply attempt a point-by-point refutation of Mr. Brownell's summary of the record.

Mr. Kovarik denied Mr. Beauduy's statement that the Township had not reviewed the entire record of decision. The Township had made itself familiar with the database provided by Commission staff. He mentioned that the expertise of the Commission's geologists does not exceed that of the Township's professional geologists and that the Township is not trying to stop the casino from which it receives a portion of the profits in compensation for services. It was merely in the Township's interest to protect its residents' water supplies. The Township wanted to maintain the previous drawdown limits or maintain other limits on withdrawals until adequate assurances could be made to the residents through the conduct of an additional hearing.

Mr. Scott Gould, attorney for MTRA, reiterated that MTRA is in agreement with the Commission staff's findings in this matter. Quoting the requirements of 18 CFR §808.2(e), Mr. Gould pointed out that, in order for the Commission to grant a hearing, the appellant must prove that there is either an inadequate record or that further administrative review is necessary or appropriate.

The Township petitioners' case continues to focus primarily on the alleged inadequacy of the aquifer test that was performed. The Township had presented this same argument on several previous occasions and the Commission has rejected it. In addition, there had been an extensive dialogue between the Commission staff and the Township on this issue, with Commission staff members actually meeting with the Township Planning Commission and Mr. Kovarik. Thus, the Township has had more than enough opportunities to be heard on this issue. There appears to be nothing more to add and the record is therefore complete with no need for any additional hearings on the matter.

Mr. Gould also mentioned the operational monitoring that will take place in connection with well use and that there would be no chance for things to go wrong with this monitoring in place. The use of these wells has a long, incident-free history dating back to the time when there was an auto racing track at the site in the 1960's and 1970's. He further pointed to the water reuse system installed by MTRA at the racing/casino complex, which is using treated effluent to water the racetrack, to water the turf on the racetrack, and for toilet flushing in the casino. Considering all of these factors, he requested that the Commission deny the Township petitioners' request for an evidentiary hearing in this matter.

Mr. Beauduy added a final comment that, based on the information presented by Mr. Brownell, it is quite clear that the record in this matter is not only complete, but is quite extensive in scope. There may be a difference between the analysis of the Commission's professional staff and those professionals employed by the Township. The important point is that the conclusions of the Commission's professionals are based on fact, science, and careful analysis. It is the staff's recommendation that the Commission deny the request for an evidentiary hearing.

Commissioner Mueller offered the following two-part motion:

1. That the petitioners' request for a Hearing on Administrative Appeal conducted pursuant to Section 808.3 for Docket No. 20080305 be denied on the basis that the record before the Commission was adequate to support its decision in approving the docket, and that further administrative review is not necessary or desirable; and
2. That as a result of the foregoing, petitioners' requests to consolidate Docket Nos. 20080305 and 20020819-1 and to consolidate appeal proceedings under both dockets be likewise denied.

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

- The Commission took a short recess at this point. -

d. Filing No. 2 – Petition to Reopen Docket No. 20020819-1, MTRA Consumptive Use Approval or, in the Alternative, Reconsider Denial of Petitioners Request for Hearing on Administrative Appeal of Docket No. 20020819-1

Chairwoman Weaver left the hearing due to an important prior commitment. Commission Vice Chairman Summers assumed the Chair, reconvened the public hearing, and announced consideration of the above captioned item, a petition to reopen Docket No. 20020819-1 under 19 CFR §806.32, filed on April 14, 2008, by the same East Hanover Township, Dauphin County, Pennsylvania petitioners. This was a consumptive use approval granted to MTRA on December 5, 2007. In the alternative, the Township petitioners requested reconsideration of a denial of a request for an administrative hearing on this docket approval issued by the Commission on March 13, 2008. On June 9, 2008, MTRA filed a brief in opposition to the Petition to Reopen. Copies of these documents were distributed to the Commission in advance of this hearing.

Mr. Beauduy pointed out that the presentation given by Mr. Brownell under the proceedings for Filing No. 1 was also relevant to Filing No. 2. This Filing No. 2 contained two known requests and one implied request.

First, the petitioners' request that the Commission reopen the above docket pursuant to its authority under 18 CFR §806.32 and allow them to present evidence to support the contentions raised in the petition. Mr. Beauduy explained that Commission regulations contain a provision

for reopening docket approvals and this provision is separate from the provisions covering administrative appeals. A reopening can be done by the Commission itself or be done pursuant to a request by another party.

In the instant case, the Township petitioners were requesting a reopening of MTRA's consumptive use approval docket. It was noted that §806.32 places the burden of evidence upon the parties making the request to show by a preponderance of evidence that a significant adverse impact, or a threat to the public, health, safety, and welfare or water resources, exists that warrants a reopening of the docket. By this evidentiary standard, the Township petitioners must show that their arguments have the greater weight or are more convincing than the evidence offered by the Commission staff in opposition. Based on the information assembled and presented today by Mr. Brownell, the Commission staff believed that the answer to this question is "no." The Township petitioners cannot meet this burden; therefore, their request to reopen should be denied.

Second, the petitioners' request in Filing No. 2 is that the Commission consolidate the proceedings that they anticipate will be convened by the Commission under both dockets. Unless the Commission decided that there should be further proceedings on this request to reopen, there is nothing to consolidate and this request should be denied. As in the case of Filing No. 1, the request to consolidate does not advance or resolve any issues. Also nothing at present prevents the petitioners from referencing these dockets in their present form.

Third, there appeared to be an implied request to reconsider the March 13, 2008 denial of the administrative appeal of MTRA's consumptive use approval. The second part of Filing No. 2 appeared to be mistakenly called an appeal of the denial of an administrative appeal, something that the Commission regulations do not provide for. The forum for such an appeal is really federal court and the deadline for filing such a court appeal on MTRA consumptive use approval was yesterday, June 11, 2008. That leaves an implied "request for reconsideration" as the petitioners' only option. Nevertheless, the staff recommends denial of such reconsideration based again on the record as summarized earlier by Mr. Brownell, which indicates no need for reopening of this docket.

Vice Chairman Summers invited Township Counsel Kovarik to respond. Mr. Kovarik noted that the Township believed that the issues related to both the MTRA consumptive use and withdrawal approvals were so interrelated that consolidation was appropriate. Mr. Kovarik pointed out that, because of the continuing dispute as to the facts involved in these approvals, the Commission should either schedule another hearing or reconsider its earlier approvals. He apologized for the late filing of his last document just before today's Commission meeting, but said that he had little choice given the lateness of MTRA's last filing on June 9, 2008. He suggested that the Commission consider certain procedural rule changes that would prevent such late filings.

MTRA Counsel Scott Gould responded that the Township petitioners had failed to produce credible evidence of any adverse impacts to the aquifer or the residents that would warrant reopening of the docket. The aquifer test conducted by MTRA, to the contrary, showed no discernable impacts. Looking at the plethora of filings made by the Township such as requests

for stays where the circumstances did not justify such requests and the filing of requests to reconsider adverse rulings, the Township appears to have reached a stage of procedural abuse.

Mr. Beauduy added a brief explanation about the non-linkage between consumptive use and withdrawal, noting that MTRA's draws for consumptive use come from a large storage facility and its reuse system rather than a direct feed from the wells. A draw from storage for consumptive use is not directly linked to well withdrawals, as was suggested by Mr. Kovarik.

Vice Chairman Summers asked whether there was a motion to grant or deny the requests contained in Filing No. 2. Commissioner Lynch made the following three-part motion:

1. That the petitioners' request to reopen Docket No. 20020819-1, the MTRA Consumptive Use Approval, be denied on the basis that they have failed to satisfy the criteria set forth in 18 CFR §806.32; and
2. That as a result of the foregoing, petitioners' request to consolidate proceedings related to the aforementioned docket and Docket No. 20080305, the MTRA Groundwater Withdrawal Approval, likewise be denied; and
3. That, to the extent petitioners' reference to the word "appeal" in the caption of the filing is intended to alternatively constitute a request for reconsideration of the action taken on March 13, 2008, denying the administrative appeal of Docket No. 20022081-1, the MTRA Consumptive Use Approval, that their implied request for reconsideration be denied as well.

The motion was seconded by Commissioner Mueller and unanimously adopted by the Commission.

e. Filing No. 3 - Request for Reconsideration of Denial of Request for Stay of Docket No. 20080305, MTRA Groundwater Withdrawal Approval or In the Alternative, Request for Modification of the Said Docket to Limit Withdrawals

This filing was made by the Township petitioners on May 22, 2008, in response to the Executive Director's April 22, 2008, denial of the request for stay of the above referenced docket approval. MTRA filed a brief in opposition to this request on June 2, 2008. Copies of these documents were distributed to the Commission in advance of this public hearing.

Mr. Beauduy indicated that, on the basis of the presentation made earlier by Mr. Brownell and the operational monitoring requirements contained in the said docket, staff recommended denial of these requests. As stated in the Executive Director's denial of the stay request on April 22, 2008, the required operational monitoring will detect problems with the well withdrawals long before any harm can occur. There is no need to employ what would be considered an extraordinary legal remedy under any circumstances.

Mr. Beauduy also pointed out that the word "appeal" had been used in the caption to Filing No. 3; however, there was nothing more in the filing to indicate that it was an appeal under 18 CFR §808.2 of the Commission's regulations. This filing should not be considered as

an appeal under Section 808.2, since it does not meet the requirements thereof, but should only be considered a request for reconsideration or alternatively a request for modification of the docket to limit withdrawals to 100,000 gpd.

Mr. Kovarik responded with a reference to an affidavit filed with Filing No. 3 regarding a fire-fighting incident at MTRA's facility where water obtained from a hydrant had turned brown, indicating a potential shortfall that would warrant either a stay or a limitation on use.

MTRA Counsel Scott Gould replied that Mr. Kovarik was mischaracterizing the fire incident. Mr. Gould stated that the discoloration was more related to the drawdown of the storage tanks than the drawdown of MTRA's wells, and that as for the alleged shortfall, MTRA had placed limits on its well pumps to meet the requirements of the Commission's docket conditions. The request for a stay is moot at this point due to the Commission's earlier denial of the Township petitioners' request for an evidentiary hearing and the only recourse left to the petitioners is to file an appeal of that denial in federal court.

Mr. Brownell noted that staff had not ignored the fire incident referred to by Mr. Kovarik. He had spoken with Mr. Kovarik on the night that incident occurred and followed up with MTRA the next day. Mr. Brownell reported that MTRA was sincerely attempting to comply with the limitations imposed in the Commission's consumptive use approval and had installed automatic shutoffs on its well pumps to ensure compliance. The shutoffs prevented water from reaching the storage tanks during the fire incident, thus resulting in the problems with the fire hydrant. The problem was in no way connected to an overdraft of the wells or the aquifer and at no time was MTRA in violation of the docket limitations, which at that time were 158,000 gpd, not 400,000 gpd.

Mr. Beauduy explained that, while he agreed with Mr. Gould that the request for stay was essentially moot, he nevertheless felt that it was wise for the Commission to take an action on this request, lest the stay be interpreted to apply pending a federal court appeal.

Commissioner Lynch made a motion stating, "Given that the Commission has seen fit to incorporate monitoring conditions in the MTRA Groundwater Withdrawal Approval that are sufficient to provide advance warning of any possible irreparable harm or injury to the public occasioned by the withdrawal of groundwater by the project sponsor, I do not support the petitioners' request for reconsideration of the Executive Director's denial of their prior request for a stay or temporary modification of Docket No. 20020305, and therefore, move to deny such requests." This motion was seconded by Commissioner Mueller and unanimously adopted by the Commission.

Commissioner Lynch added that the fire incident mentioned by Mr. Kovarik had gotten his attention at the last hearing in March and that, after discussing this with staff, he was satisfied that it had been adequately addressed. Vice Chairman Summers commended the staff for an incredibly thorough job of evaluating this permit and all of the associated appeals, stating the staff had provided extensive information to the Commission on this matter that assisted greatly in the rendering of a decision.

END PUBLIC HEARING

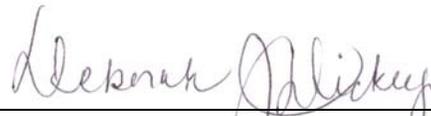
CORRECTION OF MARCH 13, 2008, PUBLIC HEARING TRANSCRIPT

Mr. Beauduy explained that a thorough examination of the transcript from the March 13, 2008, hearing had revealed a number of inaccuracies. The staff will prepare an errata sheet, circulate it to counsel for the various parties, and then submit it for adoption by the Commission at the September meeting.

ADJOURNMENT

The Vice Chairman adjourned the public hearing and the Commission meeting at 1:50 p.m. The next regular meeting of the Commission is tentatively scheduled for September 11, 2008, in Lewisburg, Pennsylvania.

Date Adopted



Deborah J. Dickey
Secretary to the Commission



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A1

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20080601

Approval Date: June 12, 2008

**FORTUNA ENERGY INC.
(SOUTHERN TIER OF NEW YORK, AND
TIOGA AND BRADFORD COUNTIES, PENNSYLVANIA)**

Consumptive Water Use of up to 3.000 mgd,
for Development and Completion of Natural Gas Wells,
Steuben, Chemung, Schuylers, Tioga, and Broome Counties, New York,
and Tioga and Bradford Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on May 8, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development and completion of 242 natural gas wells in southern New York and northern Pennsylvania, targeting the Marcellus Shale Formation. The withdrawals to support the consumptive water use are addressed in separate dockets.

Location. The project is located in the Chemung and Upper Susquehanna Subbasins, in the Southern Tier counties of New York, and Tioga and Bradford Counties in Pennsylvania.

Project Features. The project sponsor has requested approval for the consumptive use of water of up to 3.000 million gallons per day (mgd) for fracture stimulation and completion of 242 natural gas wells in New York and Pennsylvania. The gas wells are targeting the Marcellus Shale Formation. Water will be withdrawn from streams and transported to the gas well sites. The proposed withdrawals are addressed in Commission Docket Nos. 20080602, 20080605, and 20080607.

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

A typical gas well in the Marcellus is completed by drilling vertically to a depth of approximately 5,500 feet below ground surface, after which water and sand are used to stimulate the well and create fractures within the formation (hydraulic fracturing or “fracing”), then the well is tested for potential gas production. Multiple horizontal wells can be drilled from one common surface location if required.

During fracing, highly pressurized freshwater intermixed with friction reducers, bactericides, surfactants, and sand are injected into the well bore to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit or tank for storage. Some fluid may be reused in the fracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water.

Estimates provided by the project sponsor indicate that approximately 150,000 gallons of water is used during the drilling of the vertical well. An additional 0.560 million gallons (mg) of water is used when the vertical well bore is stimulated by fracing. Horizontal wells require approximately 2.500 mg each for the fracing process. Some of this water is collected at the wellhead and reused.

Although fracing may only take several days to complete, the process is scheduled in advance and setup may take a month or more. During setup, water will be withdrawn from a stream or streams, pumped to temporary storage tanks or tanker trucks, and transported to the well site for storage in large tanks (approximately 22,000 gallons each). The total volume of water must be available on-site prior to fracing.

Coordination. Commission staff has coordinated with the Pennsylvania Department of Environmental Protection (PADEP) and the New York State Department of Environmental Conservation (NYSDEC) during review of this project.

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 fracture stimulation and various well completion processes; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control is considered to be used consumptively.

The project sponsor will transport to the well sites all water used for its process operations. Because water may be hauled from several streams to several different well sites each day, Commission staff recommends that water be metered as it is withdrawn at each of the stream intakes. Total consumptive water use for the project should be calculated as the sum of the daily metered water at all of the approved withdrawal locations.

Further, Commission staff recommends that consumptive water use should be accounted for as a daily quantity when it is withdrawn, not as it is consumptively used.

Despite the fact that some percentage of the water withdrawn may eventually be returned to the Susquehanna River Basin, it will likely be a very low percentage relative to the withdrawal. The water withdrawn from the streams will likely be stored at the well site for several weeks or more before it is injected and used for gas well completion. Fracing fluids that flow back have commingled with deep connate water, and the water quality may be degraded or stored on-site in a pit or pond for reuse or transport for treatment. During the application process, the project sponsor was unable to disclose the treatment facility that would receive the wastewater.

To better document the locations of the project's consumptive water use, Commission staff recommends that the daily records of the withdrawal quantity and location be reported, along with the destination well site, by state permit number or other unique identifier. The project sponsor is required to electronically report the daily quantity of water consumptively used, withdrawal location, and destination 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.

The project's requested consumptive use of water for gas well construction 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 3.000 mgd. Based on the description of the well construction process supplied by the project sponsor, and the maximum withdrawal limits approved for the project sponsor by the Commission, Commission staff is recommending approval of the requested amount. Should the project's future consumptive water use be expected to exceed 3.000 mgd, the project sponsor must apply for a modification to this docket.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 242 proposed gas wells, whichever comes first. The project sponsor should submit copies of the state well completion reports for each of the 242 wells to the Commission.

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 3.000 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 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 withdrawn for use in fracture stimulation and various well completion processes; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

5. The project sponsor shall keep daily records of the withdrawal quantity, intake location, and destination well site by state permit number or other unique identifier, 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.

6. The project sponsor shall submit to the Commission copies of the state well completion reports for each of the 242 wells in the project area.

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 rate of \$0.14 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of water withdrawn for use in fracture stimulation and various well completion processes; 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.

8. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide 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.

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

10. 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.

11. 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.

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 June 12, 2012, or until the 242 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

15. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20080602

Approval Date: June 12, 2008

FORTUNA ENERGY INC.

Surface Water Withdrawal (Peak Day) of up to 0.101 mgd from the Catatunk Creek,
for Development and Completion of Natural Gas Wells,
Town of Spencer, Tioga County, New York

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on May 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. 20080601.

Location. The surface water withdrawal is located in the Chemung Subbasin, HUC 02050103, Catatunk Creek Watershed, Town of Spencer, Tioga County, New York.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.250 million gallons per day (mgd) (peak day) from the Catatunk Creek at a maximum instantaneous rate of withdrawal of 350 gallons per minute (gpm). However, Commission staff is recommending approval of a lesser quantity (0.101 mgd) at a lower maximum instantaneous rate of withdrawal (70 gpm), as described below in the findings. The withdrawal will support a natural gas development project that plans to install 242 gas wells in the Southern Tier of New York and in Bradford and Tioga Counties in Pennsylvania.

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

The natural gas development project entails withdrawing water from the Catatunk Creek; pumping it to a tanker truck; and transporting the water to the well site for use in well drilling, development, and completion. Water is stored on-site in large tanks (approximately 22,000 gallons each) or storage pits and ponds. Water used for fracture stimulation (or

hydrofracing) of natural gas production wells must be available on-site prior to hydrofracing, 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 0.101 mgd so that water could be withdrawn from the Catatunk Creek and delivered to several well sites during any one day.

During fracing, highly pressurized freshwater intermixed with friction reducers, bactericides, surfactants, and sand are injected into the well bore to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit or tank for storage. Some fluid may be reused in the fracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water.

The proposed natural gas development project in the Southern Tier of New York, and in Bradford and Tioga Counties in Pennsylvania, will be comprised of 242 vertical and lateral gas production wells, with accompanying fracture stimulation and completion activities at each well. Estimates provided by the project sponsor indicate that, during the drilling of a 5,500-foot vertical well, approximately 150,000 gallons of water is used. Once the vertical borehole is completed, the well is stimulated by hydrofracing, which requires an additional 0.560 million gallons (mg). Multiple horizontal wells can be drilled from one common surface location, each requiring approximately 2.500 mg for the hydrofracing process.

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

Findings

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

The project sponsor has requested approval for a surface water withdrawal of up to 0.250 mgd (peak day) from the Catatunk Creek, at a maximum instantaneous withdrawal rate of 350 gpm. However, at these requested rates of withdrawal, the withdrawal from Catatunk Creek would be subject to passby conditions. Thus, to avoid passby conditions, the project sponsor has reduced the request to 0.101 mgd at a maximum instantaneous rate of withdrawal of 70 gpm.

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

The project sponsor proposes to operate a surface water intake on the Catatunk Creek. Commission staff recommends that the intake design minimize potential aquatic impacts associated with impingement and entrainment through the use of technology consistent with standards defined in the Clean Water Act. Commission staff recommends that 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 metering, accurate to within 5 percent, at the intake to measure the quantity of water withdrawn from the Catatunk 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 surface water from the Catatunk Creek. The project sponsor should record the daily quantity of water withdrawn and the destination well number, 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: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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 certify to the Commission, with all necessary supporting documentation, that it has been granted access by the property owner to the proposed withdrawal location.

Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 242 proposed gas wells, whichever comes first.

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

Based on the proposed maximum instantaneous rate of withdrawal of 70 gpm from the Catatunk Creek, the 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 70 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.

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 0.101 mgd from the Catatonk Creek at the Town of Spencer, New York, 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 measure the quantity of water withdrawn and submit its metering plan or meter specifications for review and approval by Commission staff prior to the withdrawal of any surface water from the Catatonk Creek. The project sponsor may propose alternative metering and monitoring to the Commission for staff review and approval.
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 Catatonk 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 creek intake shall not exceed 70 gpm.
8. The project sponsor shall submit a design of the withdrawal device for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design from the Commission.
9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from the Catatonk Creek intake to the project area: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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, with all necessary documentation, 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(c).

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. 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.

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 June 12, 2012, or until the 242 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20080603

Approval Date: June 12, 2008

EAST RESOURCES, INC. (ELMIRA, NEW YORK, AREA)

Consumptive Water Use of up to 4.000 mgd,
for Development and Completion of Natural Gas Wells,
Chemung and Steuben Counties, New York,
and Tioga County, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on May 8, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development and completion of 486 natural gas wells in the Elmira area targeting the Marcellus Shale Formation. The withdrawals to support the consumptive water use are addressed in separate dockets.

Location. The project is located in the Chemung Subbasin, Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania.

Project Features. The project sponsor has requested approval for the consumptive use of water of up to 4.000 million gallons per day (mgd) for fracture stimulation and completion of 486 natural gas wells in Chemung County, New York, and Tioga County, Pennsylvania. The gas wells are targeting the Marcellus Shale Formation. Water will be withdrawn from streams and transported to the gas well sites. The proposed withdrawals are addressed in Commission Docket Nos. 20080604 and 20080606.

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

A typical gas well in the Marcellus is completed by drilling vertically to a depth of approximately 6,000 feet below ground surface, after which water is used to stimulate the

production of fractures within the formation (hydraulic fracturing or “hydrofracing”), then the well is tested for potential gas production. Natural gas production wells are typically completed by drilling multiple lateral wells from one vertical well.

During hydrofracing, highly pressurized fresh water and sand is injected into isolated sections of the boreholes to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit for storage 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 disposed of in disposal wells.

Estimates provided by the project sponsor indicate that approximately 10,000 gallons of water is used during the drilling of the vertical well. An additional 0.7 million gallons (mg) of water is used when the vertical borehole is stimulated by hydrofracing. Horizontal wells may require up to 3.0 mg per well.

Although hydrofracing may only take several hours to complete, the process is scheduled in advance and setup may take a month or more. During setup, water will be withdrawn from a stream or streams, pumped to a tanker truck, and transported to the well site for storage in large tanks (approximately 22,000 gallons each) or pits. The total volume of water must be available on-site prior to hydrofracing, although the process of well completion may be conducted in stages.

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

Findings

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

All water used for fracture stimulation and various well completion processes; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control is considered to be used consumptively.

The project sponsor will transport to the well sites all water used for its process operations. Because water may be hauled from several streams to several different well sites each day, Commission staff recommends that water be metered as it is withdrawn at each of the stream intakes. Total consumptive water use for the project should be calculated as the sum of the daily metered water at all of the approved withdrawal locations.

Further, Commission staff recommends that consumptive water use should be accounted for as a daily quantity when it is withdrawn, not as it is consumptively used.

Despite the fact that some percentage of the water withdrawn may eventually be returned to the Susquehanna River Basin, it will likely be a very low percentage relative to the withdrawal. The water withdrawn from the streams will likely be stored at the well site for several weeks or more before it is injected and used for gas well completion. Fracing fluids that flow back have commingled with deep connate water, and the water quality may be degraded or stored on-site in a pit or pond for reuse or transport for treatment. During the application process, the project sponsor was unable to disclose the treatment facility that would receive the wastewater.

To better document the locations of the project's consumptive water use, Commission staff recommends that the daily records of the withdrawal quantity and location be reported, along with the destination well site, by state permit number or other unique identifier. The project sponsor is required to electronically report the daily quantity of water consumptively used, withdrawal location, and destination 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.

The project's requested consumptive use of water for gas well construction 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 4.000 mgd. Based on the description of the well construction process supplied by the project sponsor, and the maximum withdrawal limits approved for the project sponsor by the Commission, Commission staff is recommending approval of the requested amount. Should the project's future consumptive water use be expected to exceed 4.000 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor operated the project without prior Commission approval since May 29, 2008, when its consumptive water use and withdrawals exceeded the regulation threshold. The project sponsor voluntarily submitted its application to the Commission, complied with application procedures, and cooperated with Commission staff during its review of the project. The project sponsor has offered a \$175,000 settlement to the Commission for the noncompliance with Commission Regulation §806.4. Commission staff recommends acceptance of the proposed settlement.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 486 proposed gas wells, whichever comes first. The project sponsor should submit copies of the state well completion reports for each of the 486 wells to the Commission.

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 4.000 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 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 withdrawn for use in fracture stimulation and various well completion processes; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.

5. The project sponsor shall keep daily records of the withdrawal quantity, intake location, and destination well site by state permit number or other unique identifier, 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.

6. The project sponsor shall submit to the Commission copies of the state well completion reports for each of the 486 wells in the Elmira project area.

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 rate of \$0.14 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of water withdrawn for use in fracture stimulation and various well completion processes; 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.

8. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide 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.

9. The project sponsor has offered a settlement by agreement, pursuant to Commission Regulation §808.18, in the amount of \$175,000 for its consumptive water use and withdrawals found to be in noncompliance with Commission Regulation §806.4, and is hereby accepted. Except where the full amount of same has been tendered to the Commission in advance hereof, this action shall be contingent upon and shall not be effective until payment of the settlement amount is made to the Commission, or arrangements for such payment have been made that are acceptable to the Executive Director of the Commission. Failure to make such payment or payment arrangements with the Commission within forty-five (45) days hereof shall render this approval null and void.

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

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. 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. 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.

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

15. This approval is effective until June 12, 2012, or until the 486 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

16. 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.

By the Commission:

Dated: June 12, 2008

Handwritten signature of Susan K. Weaver in cursive script.

Susan K. Weaver, Chair
Pennsylvania Commissioner



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Docket No. 20080604

Approval Date: June 12, 2008

EAST RESOURCES, INC. (ELMIRA, NEW YORK, AREA)

Surface Water Withdrawal (Peak Day) of up to 0.107 mgd from the Chemung River,
for Development and Completion of Natural Gas Wells,
Town of Big Flats, Chemung County, New York

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on May 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. 20080603.

Location. The surface water withdrawal is located in the Chemung Subbasin, HUC 02050105, Chemung River Watershed, Town of Big Flats, Chemung County, New York.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.107 million gallons per day (mgd) (peak day) from the Chemung River at a maximum instantaneous rate of withdrawal of 400 gallons per minute (gpm). The withdrawal will support a natural gas development project that plans to install 486 gas wells in Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania.

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

The natural gas development project entails withdrawing water from the Chemung River; pumping it to a tanker truck; and transporting the water to the well site for use in well drilling, development, and completion. Water is stored on-site in large tanks (approximately 22,000 gallons each) or storage pits and ponds. Water used for fracture stimulation (or hydrofracing) of natural gas production wells must be available on-site prior to hydrofracing, 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 0.107 mgd so that water could be withdrawn from the Chemung River and delivered to several well sites during any one day.

During hydrofracing, highly pressurized fresh water intermixed with gelling agents and sand is injected into isolated sections of the boreholes to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit for storage for reuse in the hydrofracing process, or pumped into tanker trucks for transport to a wastewater treatment facility for treatment and discharge to surface water.

The proposed natural gas development project in the Elmira area will be comprised of 486 wells, with accompanying fracture stimulation and completion activities at each well. Estimates provided by the project sponsor indicate that, during the drilling of a 7,000-foot vertical well, approximately 10,000 gallons of water is used. Once the vertical borehole is completed, the well is stimulated by hydrofracing, which requires an additional 0.7 million gallons (mg). Horizontal wells require approximately 3.0 mg for the hydrofracing process.

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

Findings

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

The project sponsor has requested approval for a surface water withdrawal of up to 0.107 mgd (peak day) from the Chemung River, at a maximum instantaneous withdrawal rate of 400 gpm.

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

The project sponsor proposes to operate a surface water intake on the Chemung River. Commission staff recommends that the intake design minimize potential aquatic impacts associated with impingement and entrainment through the use of technology consistent with standards defined in the Clean Water Act. Commission staff recommends that the final intake information and the design for the withdrawal device should be submitted to Commission staff for review and approval.

According to the New York State Department of Environmental Conservation (NYSDEC) Natural Heritage Program, several taxa of special concern potentially occur in the vicinity of the proposed intake on the Chemung River near Big Flats. If water withdrawal activities and intake design will likely disturb the streambed, the project sponsor will conduct a search for any mussels of special concern in the vicinity of the water withdrawal and coordinate

with NYSDEC Natural Heritage Program and the Commission to minimize impacts to threatened and endangered taxa. If water withdrawal activities impact vegetation at the site, the project sponsor should coordinate with NYSDEC Natural Heritage Program and the Commission to minimize impacts to any endangered grass taxa that may be in the vicinity.

Commission staff recommends that the project sponsor install and then maintain metering, accurate to within 5 percent, at the intake to measure the quantity of water withdrawn from the Chemung 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 surface water from the Chemung River. The project sponsor should record the daily quantity of water withdrawn and the destination well number, 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: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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 certify to the Commission, with all necessary supporting documentation, that it has been granted access by the property owner to the proposed withdrawal location.

Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 486 proposed gas wells, whichever comes first.

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

Based on the proposed maximum instantaneous rate of withdrawal of 400 gpm from the Chemung River, the 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 400 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.

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 0.107 mgd from the Chemung River at Big Flats, New York, 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 measure the quantity of water withdrawn and submit its metering plan or meter specifications for review and approval by Commission staff prior to the withdrawal of any surface water from the Chemung River. The project sponsor may propose alternative metering and monitoring to the Commission for staff review and approval.

5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the Chemung River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, 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 400 gpm.

8. The project sponsor shall submit a design of the withdrawal device for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design from the Commission.

9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from the Chemung River intake to the project area: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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, with all necessary documentation, 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(c).

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. 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.

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 June 12, 2012, or until the 486 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

Docket No. 20080605

Approval Date: June 12, 2008

FORTUNA ENERGY INC.

Surface Water Withdrawal (Peak Day) of up to 0.250 mgd from the Chemung River,
for Development and Completion of Natural Gas Wells,
Town of Chemung, Chemung County, New York

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the surface water withdrawal application on May 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. 20080601.

Location. The surface water withdrawal is located in the Chemung Subbasin, HUC 02050105, Chemung River Watershed, Town of Chemung, Chemung County, New York.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.250 million gallons per day (mgd) (peak day) from the Chemung River at a maximum instantaneous rate of withdrawal of 1,400 gallons per minute (gpm). The withdrawal will support a natural gas development project that plans to install 242 gas wells in the Southern Tier of New York and in Bradford and Tioga Counties in Pennsylvania.

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

The natural gas development project entails withdrawing water from the Chemung River; pumping it to a tanker truck; and transporting the water to the well site for use in well drilling, development, and completion. Water is stored on-site in large tanks (approximately 22,000 gallons each) or storage pits and ponds. Water used for fracture stimulation (or hydrofracing) of natural gas production wells must be available on-site prior to hydrofracing, 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 the Chemung River and delivered to several well sites during any one day.

During fracing, highly pressurized freshwater intermixed with friction reducers, bactericides, surfactants, and sand are injected into the well bore to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit or tank for storage. Some fluid may be reused in the fracing process, or pumped into a tanker truck for transport to a wastewater treatment facility for treatment and discharge to surface water.

The proposed natural gas development project in the Southern Tier of New York, and in Bradford and Tioga Counties in Pennsylvania, will be comprised of 242 vertical and lateral gas production wells, with accompanying fracture stimulation and completion activities at each well. Estimates provided by the project sponsor indicate that, during the drilling of a 5,500-foot vertical well, approximately 150,000 gallons of water is used. Once the vertical borehole is completed, the well is stimulated by hydrofracing, which requires an additional 0.560 million gallons (mg). Multiple horizontal wells can be drilled from one common surface location, each requiring approximately 2.500 mg for the hydrofracing process.

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

Findings

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

The project sponsor has requested approval for a surface water withdrawal of up to 0.250 mgd (peak day) from the Chemung River, at a maximum instantaneous withdrawal rate of 1,400 gpm.

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

The project sponsor proposes to operate a surface water intake on the Chemung River. Commission staff recommends that the intake design minimize potential aquatic impacts associated with impingement and entrainment through the use of technology consistent with standards defined in the Clean Water Act. Commission staff recommends that 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 metering, accurate to within 5 percent, at the intake to measure the quantity of water withdrawn from the Chemung 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 surface water from the Chemung River. The project sponsor should record the daily quantity of water withdrawn and the destination well number, 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: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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 certify to the Commission, with all necessary supporting documentation, that it has been granted access by the property owner to the proposed withdrawal location.

Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 242 proposed gas wells, whichever comes first.

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

Based on the proposed maximum instantaneous rate of withdrawal of 1,400 gpm from the Chemung River, the 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 1,400 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.

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 from the Chemung River at the Town of Chemung, New York, 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 measure the quantity of water withdrawn and submit its metering plan or meter specifications for review and approval by Commission staff prior to the withdrawal of any surface water from the Chemung River. The project sponsor may propose alternative metering and monitoring to the Commission for staff review and approval.
5. Upon approval of the meter specifications or metering plan, and prior to any withdrawal, the project sponsor shall install and maintain metering on the withdrawal from the Chemung River, in accordance with Commission Regulation §806.30. The project sponsor shall notify the Commission, in writing, 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 1,400 gpm.
8. The project sponsor shall submit a design of the withdrawal device for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design from the Commission.
9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from the Chemung River intake to the project area: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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, with all necessary documentation, 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(c).

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. 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.

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 June 12, 2012, or until the 242 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

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Docket No. 20080606

Approval Date: June 12, 2008

EAST RESOURCES, INC. (ELMIRA, NEW YORK, AREA)

Surface Water Withdrawal (Peak Day) of up to 0.107 mgd from the Tioga River,
for Development and Completion of Natural Gas Wells,
Tioga Junction, Lawrence 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 May 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. 20080603.

Location. The surface water withdrawal is located in the Chemung Subbasin, HUC 02050104, Tioga River Watershed, Tioga Junction, Lawrence Township, Tioga County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.107 million gallons per day (mgd) (peak day) from the Tioga River at a maximum instantaneous rate of withdrawal of 400 gallons per minute (gpm). The withdrawal will support a natural gas development project that plans to install 486 gas wells in Chemung and Steuben Counties, New York, and Tioga County, Pennsylvania.

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

The natural gas development project entails withdrawing water from the Tioga River; pumping it to a tanker truck; and transporting the water to the well site for use in well drilling, development, and completion. Water is stored on-site in large tanks (approximately

22,000 gallons each) or storage pits and ponds. Water used for fracture stimulation (or hydrofracing) of natural gas production wells must be available on-site prior to hydrofracing, 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 0.107 mgd so that water could be withdrawn from the Tioga River and delivered to several well sites during any one day.

During hydrofracing, highly pressurized fresh water and sand is injected into isolated sections of the boreholes to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit for storage for reuse in the hydrofracing process, or pumped into tanker trucks for transport to a wastewater treatment facility for treatment and discharge to surface water.

The proposed natural gas development project in the Elmira area will be comprised of 486 vertical wells, with accompanying fracture stimulation and completion activities at each well. Estimates provided by the project sponsor indicate that, during the drilling of a 7,000-foot vertical well, approximately 10,000 gallons of water is used. Once the vertical borehole is completed, the well is stimulated by hydrofracing, which requires an additional 0.7 million gallons (mg). Horizontal wells require approximately 3.0 mg for the hydrofracing process.

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

Findings

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

The project sponsor has requested approval for a surface water withdrawal of up to 0.107 mgd (peak day) from the Tioga River, at a maximum instantaneous withdrawal rate of 400 gpm.

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

The project sponsor proposes to operate a surface water intake on the Tioga River. Commission staff recommends that the intake design minimize potential aquatic impacts associated with impingement and entrainment through the use of technology consistent with standards defined in the Clean Water Act. Commission staff recommends that 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 metering, accurate to within 5 percent, at the intake to measure the quantity of water withdrawn from the Tioga 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 surface water from the Tioga River. The project sponsor should record the daily quantity of water withdrawn and the destination well number, 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: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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 certify to the Commission, with all necessary supporting documentation, that it has been granted access by the property owner to the proposed withdrawal location.

Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 486 proposed gas wells, whichever comes first.

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

Based on the proposed maximum instantaneous rate of withdrawal of 400 gpm from the Tioga River, the 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 400 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.

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 0.107 mgd from the Tioga River at Tioga Junction, 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 measure the quantity of water withdrawn and submit its metering plan or meter specifications for review and approval by Commission staff prior to the withdrawal of any surface water from the Tioga River. The project sponsor may propose alternative metering and monitoring to the Commission for staff review and approval.

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 Tioga 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 river intake shall not exceed 400 gpm.

8. The project sponsor shall submit a design of the withdrawal device for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design from the Commission.

9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from the Tioga River intake to the project area: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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, with all necessary documentation, 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(c).

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 June 12, 2012, or until the 486 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

19. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A7

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

Docket No. 20080608

Approval Date: June 12, 2008

EAST RESOURCES, INC. (MANSFIELD, PENNSYLVANIA, AREA)

Consumptive Water Use of up to 4,000 mgd,
for Development and Completion of Natural Gas Wells,
Tioga and Bradford Counties, Pennsylvania

Review Authority

This project is subject to review pursuant to Article 3, Section 3.10, of the Susquehanna River Basin Compact (Compact), P.L. 91-575, 84 Stat. 1509 et seq., and Susquehanna River Basin Commission (Commission) Regulation §806.4, relating to projects requiring review and approval. The Commission received the consumptive water use application on May 8, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water for the development and completion of 446 natural gas wells in Tioga and Bradford Counties targeting the Marcellus Shale Formation. The withdrawals to support the consumptive water use are addressed in separate dockets.

Location. The project is located in the Chemung Subbasin, Tioga and Bradford Counties, Pennsylvania.

Project Features. The project sponsor has requested approval for the consumptive use of water of up to 4,000 million gallons per day (mgd) for fracture stimulation and completion of 446 natural gas wells in Tioga and Bradford Counties, Pennsylvania. The gas wells are targeting the Marcellus Shale Formation. Water will be withdrawn from streams and transported to the gas well sites. The proposed withdrawals are addressed in Commission Docket Nos. 20080606 and 20080609.

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

A typical gas well in the Marcellus is completed by drilling vertically to a depth of approximately 7,000 feet below ground surface, after which water is used to stimulate the production of fractures within the formation (hydraulic fracturing or “hydrofracing”), then the

well is tested for potential gas production. Natural gas production wells are typically completed by drilling multiple lateral wells from one vertical well.

During hydrofracing, highly pressurized fresh water and sand is injected into isolated sections of the boreholes to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit for storage 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.

Estimates provided by the project sponsor indicate that approximately 10,000 gallons of water is used during the drilling of the vertical well. An additional 0.7 million gallons (mg) of water is used when the vertical borehole is stimulated by hydrofracing. Horizontal wells require approximately 3.0 mg for the hydrofracing process.

Although hydrofracing may only take several hours to complete, the process is scheduled in advance and setup may take a month or more. During setup, water will be withdrawn from a stream or streams, pumped to a tanker truck, and transported to the well site for storage in large tanks (approximately 22,000 gallons each) or pits. The total volume of water must be available on-site prior to hydrofracing, although the process of well completion may be conducted in stages.

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

Findings

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

All water used for fracture stimulation and various well completion processes; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control is considered to be used consumptively.

The project sponsor will transport to the well sites all water used for its process operations. Because water may be hauled from several streams to several different well sites each day, Commission staff recommends that water be metered as it is withdrawn at each of the stream intakes. Total consumptive water use for the project should be calculated as the sum of the daily metered water at all of the approved withdrawal locations.

Further, Commission staff recommends that consumptive water use should be accounted for as a daily quantity when it is withdrawn, not as it is consumptively used.

Despite the fact that some percentage of the water withdrawn may eventually be returned to the Susquehanna River Basin, it will likely be a very low percentage relative to the withdrawal. The water withdrawn from the streams will likely be stored at the well site for

several weeks or more before it is injected and used for gas well completion. Fracing fluids that flow back have commingled with deep connate water, and the water quality may be degraded or stored on-site in a pit or pond for reuse or transport for treatment. During the application process, the project sponsor was unable to disclose the treatment facility that would receive the wastewater.

To better document the locations of the project's consumptive water use, Commission staff recommends that the daily records of the withdrawal quantity and location be reported. The project sponsor is required to electronically report the daily quantity of water consumptively used, withdrawal location, and destination 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.

The project's requested consumptive use of water for gas well construction 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 4,000 mgd. Based on the description of the well construction process supplied by the project sponsor, and the maximum withdrawal limits approved for the project sponsor by the Commission, Commission staff is recommending approval of the requested amount. Should the project's future consumptive water use be expected to exceed 4,000 mgd, the project sponsor must apply for a modification to this docket.

Due to the relative short-term nature of this project, Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 446 proposed gas wells, whichever comes first. The project sponsor should submit copies of the state well completion reports for each of the 446 wells to the Commission.

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 4.000 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 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 withdrawn for use in fracture stimulation and various well completion processes; incorporated into products, byproducts, and wastes; evaporated from any holding ponds; and used for dust control.
5. The project sponsor shall keep daily records of the withdrawal quantity, intake location, and destination well site by state permit number or other unique identifier, 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.
6. The project sponsor shall submit to the Commission copies of the state well completion reports for each of the 446 wells in the Mansfield project area.
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 rate of \$0.14 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of water withdrawn for use in fracture stimulation and various well completion processes; 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.
8. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide 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.

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

10. 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.

11. 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.

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 June 12, 2012, or until the 446 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

15. 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.

By the Commission:



Dated: June 12, 2008

Susan K. Weaver, Chair
Pennsylvania Commissioner



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. 20080609

Approval Date: June 12, 2008

EAST RESOURCES, INC. (MANSFIELD, PENNSYLVANIA, AREA)

Surface Water Withdrawal (Peak Day) of up to 0.107 mgd from the Tioga River,
for Development and Completion of Natural Gas Wells,
Mansfield, Richmond 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 May 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. 20080608.

Location. The surface water withdrawal is located in the Chemung Subbasin, HUC 02050104, Tioga River Watershed, Mansfield, Richmond Township, Tioga County, Pennsylvania.

Project Features. The project sponsor has requested approval of a withdrawal of up to 0.107 million gallons per day (mgd) (peak day) from the Tioga River at a maximum instantaneous rate of withdrawal of 400 gallons per minute (gpm). The withdrawal will support a natural gas development project that plans to install 446 gas wells in Tioga County, Pennsylvania.

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

The natural gas development project entails withdrawing water from the Tioga River; pumping it to a tanker truck; and transporting the water to the well site for use in well drilling, development, and completion. Water is stored on-site in large tanks (approximately 22,000 gallons each) or storage pits and ponds. Water used for fracture stimulation (or

hydrofracing) of natural gas production wells must be available on-site prior to hydrofracing, 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 0.107 mgd so that water could be withdrawn from the Tioga River and delivered to several well sites during any one day.

During hydrofracing, highly pressurized fresh water and sand is injected into isolated sections of the boreholes to crack the shale and maintain open, interconnected fractures to promote gas movement. Some percentage of the water injected into the wells is retained in the formation. The fracing fluid that flows back to the surface is either pumped to an on-site pit for storage for reuse in the hydrofracing process, or pumped into tanker trucks for transport to a wastewater treatment facility for treatment and discharge to surface water.

The proposed natural gas development project in the Mansfield area will be comprised of 446 vertical and lateral gas production wells, with accompanying fracture stimulation and completion activities at each well. Estimates provided by the project sponsor indicate that, during the drilling of a 6,000-foot vertical well, approximately 10,000 gallons of water is used. Once the vertical borehole is completed, the well is stimulated by hydrofracing, which requires an additional 0.7 million gallons (mg). Horizontal wells require approximately 3.0 mg for the hydrofracing process.

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

Findings

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

The project sponsor has requested approval for a surface water withdrawal of up to 0.107 mgd (peak day) from the Tioga River, at a maximum instantaneous withdrawal rate of 400 gpm.

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

The project sponsor proposes to operate a surface water intake on the Tioga River. Commission staff recommends that the intake design minimize potential aquatic impacts associated with impingement and entrainment through the use of technology consistent with standards defined in the Clean Water Act. Commission staff recommends that 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 metering, accurate to within 5 percent, at the intake to measure the quantity of water withdrawn from the Tioga 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 surface water from the Tioga River. The project sponsor should record the daily quantity of water withdrawn and the destination well number, 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: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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 certify to the Commission, with all necessary supporting documentation, that it has been granted access by the property owner to the proposed withdrawal location.

Commission staff recommends that the length of the approval be limited to 4 years, and that the approval expire after 4 years or after completion of the 446 proposed gas wells, whichever comes first.

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

Based on the proposed maximum instantaneous rate of withdrawal of 400 gpm from the Tioga River, the 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 400 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.

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 0.107 mgd from the Tioga River at Mansfield, 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 measure the quantity of water withdrawn and submit its metering plan or meter specifications for review and approval by Commission staff prior to the withdrawal of any surface water from the Tioga River. The project sponsor may propose alternative metering and monitoring to the Commission for staff review and approval.

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 Tioga 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 river intake shall not exceed 400 gpm.

8. The project sponsor shall submit a design of the withdrawal device for Commission staff review and approval. The project sponsor shall not utilize the device until it receives written approval of the design from the Commission.

9. The project sponsor shall provide to the Commission the following information regarding the trucks transporting water from the Tioga River intake to the project area: registration, owner of the vehicle, identifiable markings, and the tanker truck's holding capacity. 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, with all necessary documentation, 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(c).

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 June 12, 2012, or until the 446 proposed natural gas wells have been completed, whichever comes first. As specified in Commission Regulation §806.31(e), the project sponsor shall submit a renewal application by December 12, 2011, and obtain Commission approval prior to continuing operation beyond June 12, 2012.

19. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A9

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

Docket No. 20080611

Approval Date: June 12, 2008

KEYSTONE LANDFILL, INC.

Consumptive Water Use of up to 0.100 mgd (Peak Day),
for Landfill, Excavation, and Aggregate Processing Operations,
and Groundwater Withdrawal (30-Day Averages) of 0.010 mgd from Well 1,
0.020 mgd from Well 2, and 0.020 mgd from Well 3,
Dunmore Borough, Lackawanna 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 use application on September 17, 2007, and supplemental information on January 8, 2008; the groundwater withdrawal applications were received on February 18, 2008, and additional information on May 6, 2008.

Description

Purpose. The purpose of the application is to request approval for the withdrawal and consumptive use of water for landfill operations, excavation, and aggregate processing operations.

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

Project Features. The project sponsor has requested approval for the withdrawal and consumptive use of water of up to 0.100 million gallons per day (mgd) for landfill, excavation, and aggregate processing operations. The project sponsor consumptively uses water for road washing, dust suppression, odor control (mistlers and foamers), evaporation at the leachate lagoon, drilling and excavation, and stone washing and dust suppression at the aggregate crushing and sorting facility. The project sponsor estimates the current maximum day consumptive water use to be approximately 0.100 mgd, and current 30-day average consumptive water use to be 0.075 mgd.

Sources to the project's consumptive water use include groundwater withdrawals from Wells 1, 2 and 3, and the public water supply (two Main Gate hydrants and one Quarry hydrant).

The project sponsor has requested approval for the withdrawal (30-day averages) of 0.010 mgd of water from Well 1, 0.020 mgd from Well 2, and 0.020 mgd from Well 3.

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

The project sponsor operates three companies at the facility: Keystone Landfill, Inc., Keystone Sanitary Landfill, Inc., and Keystone Quarry, Inc. Keystone Sanitary Landfill, Inc. began operation in 1990 to collect and dispose of municipal and residual waste. The sanitary landfill operates under the Pennsylvania Department of Environmental Protection (PADEP) Waste Management Permit No. 101247, which will expire on April 6, 2015. The project anticipates it will file a permit renewal application at that time and continue receiving waste until 2028. The sanitary landfill is comprised of 15 permitted cells, with operations currently active in Cells 3, 4, and 5.

The second company, Keystone Landfill, Inc., began operation in 1988 and performs landfill site development, construction, and closure and post-closure maintenance for the facility. As part of the landfill site development, Keystone Landfill, Inc. is currently removing aggregate in the future footprint of additional sanitary landfill cells. The active quarry pit is mined by drilling, blasting, and excavating the underlying shale and sandstone. The excavated materials are trucked from the quarry to the aggregate crushing and sorting area of the facility for processing and distribution by Keystone Quarry, Inc.

Keystone Quarry, Inc. began operations in 1992 to process excavated materials into various aggregate products. The majority of the processed aggregate is used for daily and permanent cover at the landfill and as base material for the haul roads. Some of the processed aggregate is sold commercially. On average, the aggregate processing machines operate 6 days per week during the construction season and can process over 1.5 million tons of aggregate over 12 months.

Process Water Supply. Withdrawals from Wells 1, 2, and 3 are used for landfill, excavation, and aggregate processing operations. Water withdrawn from Well 1 is directly fed to the aggregate processing plant and used for stone washing and crusher dust suppression (secondary spray bars). Water withdrawals from Wells 2 and 3 are conveyed by a 10,000-gallon tanker truck, as needed, to different operations at the facility. The water is applied to the haul roads for dust suppression, used for quarry drilling and excavation, and used for odor control (mistors and foamers). The wells are not equipped with meters and historical withdrawals are based on truck fill records, estimates of use for previous landfill construction, and aggregate processing demands.

The two Main Gate hydrants supply water for sanitary needs at the administration and the maintenance buildings, and water for the truck wash, tanker trucks (dust suppression), and odor control. The water supplied to the truck wash and administration building's sanitary system is collected and discharged to the on-site treatment facility. The remaining water supplied by the Main Gate hydrants is consumptively used for landfill and quarry operations.

The Quarry hydrant is located near the aggregate processing facility. All water supplied by the Quarry hydrant is consumptively used for aggregate washing and crusher dust suppression (primary spray bars), quarry drilling and excavation, and road washing and dust suppression.

Leachate Treatment. The project sponsor operates an on-site leachate collection and treatment facility. A trench collection system intercepts leachate generated from rainwater and water that was trapped in waste within active and closed landfill cells. The collected leachate is conveyed to the on-site leachate treatment building for processing and treatment in a series of two lagoons (combined surface area of 3.3 acres). The lagoons are lined with a geomembrane to prevent infiltration. The treated leachate is conveyed to the Scranton Sewer Authority, where it is polished and discharged to the Lackawanna River. The total quantity of water discharged to the Scranton Sewer Authority is dependant on precipitation that is received at the landfill.

Monitoring Wells. The facility currently has 34 groundwater monitoring wells located within the perimeter of the facility. The monitoring wells are not pumped or used for water production. Twenty-four of the monitoring wells are constructed to monitor water quality in a deep underlying aquifer and ten monitor water quality in a shallow aquifer.

Aquifer Testing. The project sponsor requested that the constant-rate aquifer testing required by Commission Regulation §806.12 for Wells 1, 2, and 3 be waived. Based on data submitted by the project sponsor, Commission staff recommends approval of the waiver.

The site is underlain by sedimentary rock of the Upper Pottsville and Lower Llewellyn Formations (Pennsylvanian age). Both formations have been extensively mined (deep and surface) in the area, expanding the potential for increased primary and secondary fracturing. Several geologic faults and folds have been mapped in the area, allowing for additional pathways for groundwater flow. The aquifer underlying the site has been divided into two hydrologic units: the Upper “Mine Drainage” aquifer system and the Lower “Pottsville” aquifer system. The aquifers are reportedly stratigraphically isolated; however, the integrity of the aquitards has been breached due to natural fracturing and mining activities in the area.

Well 1, the Quarry Well, was drilled in 2002 to a depth of 600 feet below ground surface (bgs). Well 2, the Highway Well, was drilled in 1992 to a depth of 900 feet bgs. Well 3, the Dunham Drive Well, was drilled as part of a construction project and no data is available regarding the depth of the well.

There are no identified groundwater users within 0.25 miles of the facility. The area is serviced by a public water supply.

Coordination. Commission staff has coordinated with the PADEP, Bureau of Land Recycling and Waste Management, during review of the project. PADEP approved the project’s landfill operation in 1988. PADEP staff has reviewed this docket for consistency with its permits.

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.

All water used for road washing, dust suppression, odor control (mistlers and foamers), leachate lagoon pond evaporation, drilling and excavation, aggregate washing, and crusher dust suppression is considered to be used consumptively. The daily quantity of water consumptively used shall be the sum of the daily quantities withdrawn from Wells 1, 2, and 3; plus the daily quantity of water supplied by the Quarry hydrant; and the daily quantity of water from the two Main Gate hydrants that is used for dust suppression and odor control, evaporated at the truck wash, and evaporated from the 3.3 acres of leachate lagoons.

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

Water evaporated from the leachate lagoons will be calculated by the project sponsor employing a methodology acceptable to the Commission.

The facility currently maintains a monthly estimate of water withdrawn from each well for site activities. Currently, the wells are not metered. Commission staff recommends that the project sponsor install meters on all wells, and monitor and report daily quantities withdrawn from each well.

The facility currently maintains a monthly log of water purchased from the public water supply per hydrant. All water supplied by the Quarry hydrant is consumptively used for aggregate processing operations, and this quantity should be monitored on a daily basis. A portion of water supplied by the two Main Gate hydrants is consumptively used for dust suppression and odor control. The project sponsor currently maintains a log of the daily number of truckloads of water for road washing and dust suppression at the facility. Commission staff recommends that the volume of the water trucks and number of truckloads of water withdrawn from the Main Gate hydrants be recorded on a daily basis.

Commission staff recommends that the project sponsor submit a plan that accounts for water evaporated from the truck wash and any other water supplied by the Main Gate hydrants that is consumptively used. (Water supplied by the Main Gate hydrants that is collected and discharged to the on-site treatment facility is not consumptively used.)

Should the proposed accounting procedure fail to accurately measure the project's consumptive water use, the Commission reserves the right to modify the metering, monitoring, and accounting procedures. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, and accounting procedures. Any alternative monitoring or accounting procedure requested by the project sponsor will be reviewed and approved by Commission staff.

The project's consumptive use of water is subject to mitigation requirements, as per Commission Regulation §806.22(b). To satisfy these requirements, the project sponsor proposes to make quarterly payments to the Commission to mitigate its consumptive water use.

The project sponsor has requested a consumptive water use approval of up to 0.100 mgd. The project sponsor estimates the current maximum day consumptive water use to be approximately 0.100 mgd, and current 30-day average consumptive water use to be 0.075 mgd. Based on an analysis of water use records supplied by the project sponsor and the future plans at the landfill, Commission staff is recommending approval of the requested amount. Should the project's future consumptive water use be expected to exceed 0.100 mgd, the project sponsor must apply for a modification to this docket at that time.

Water withdrawn from wells at Keystone Landfill, Inc. is as follows:

- Well 1 – 10,000 gallons per day (gpd); maximum instantaneous rate of 350 gallons per minute (gpm);
- Well 2 – 20,000 gpd; maximum instantaneous rate of 200 gpm;
- Well 3 – 20,000 gpd; maximum instantaneous rate of 200 gpm;

The project sponsor has requested and Commission staff recommends waiving the requirement for the aquifer testing contained in Commission Regulation §806.12 for Wells 1, 2, and 3. Based on the hydrogeologic setting, historic mining, and operational data, Commission staff finds that there is likely minimal impact related to pumping of the wells at the requested rate. Commission staff recommends approval of the current peak instantaneous pumping rates and the current 30-day average withdrawals, as listed above.

The project is subject to Commission monitoring and reporting requirements, as per Commission Regulation §806.30. The project sponsor should install appropriate metering on Wells 1, 2, and 3 and monitor withdrawals daily. The project sponsor should report these data to the Commission quarterly.

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

The project sponsor operated in violation of Commission regulations prior to January 2001, when its consumptive use exceeded the regulatory threshold of 20,000 gpd. Commission staff initially contacted the project on May 16, 2007, and based on data provided by the project, then notified the project sponsor of the need to comply with Commission regulations on July 31, 2007. The project sponsor subsequently submitted its application to the Commission, complied with application procedures, and cooperated with Commission staff during review of the project. The project sponsor has offered a \$75,000 settlement to the Commission for the noncompliance with Commission Regulation §806.4. Commission staff recommends acceptance of the project sponsor's proposed settlement.

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.16, and in accordance with Commission Resolution No. 2006-08.

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

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

Decision

1. The project's consumptive water use of up to 0.100 mgd and its groundwater withdrawal (30-day averages) of 0.010 mgd of water from Well 1, 0.020 mgd from Well 2, and 0.020 mgd from Well 3 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. The project sponsor shall keep daily records of the project's consumptive water use and shall report the data to the Commission quarterly, and as otherwise required. 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 used for truck washing, road washing and dust suppression, odor control (mistlers and foamers), leachate lagoon pond evaporation, drilling and excavation, aggregate washing, and crusher dust suppression.

5. The maximum instantaneous rates of production from Wells 1, 2, and 3 shall not exceed 350 gpm, 200 gpm, and 200 gpm, respectively.

6. Within sixty (60) days from the date of this approval, the project sponsor shall certify that meters are installed on Wells 1, 2, and 3, and are accurate to within five (5) percent. The project sponsor shall keep daily records of the metered withdrawals. 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. The project sponsor shall notify the Commission, in writing, when each meter is installed.

7. 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 evaporated from the truck wash and any other water supplied by the Main Gate hydrants that is consumptively used. The project sponsor shall propose a methodology to account for its consumptive water use based on metering rather than estimation. Following approval, the project sponsor shall execute the plan and complete installation of any additional meters beyond those required in Condition 6 in accordance with the approved schedule, and shall certify to the Commission that the monitoring plan has been implemented. The project sponsor shall maintain meters, accurate to within five (5) percent.

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

9. To satisfy the Commission's 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 of water consumptively used by the project. The daily quantity of water consumptively used shall be the total quantity used for truck washing, road washing and dust suppression, odor control (mistlers and foamers), leachate lagoon pond evaporation, drilling and excavation, aggregate washing, and crusher dust suppression. Payments shall be made quarterly and shall be calculated by applying this rate to the daily amount of water consumptively used by the project during the preceding calendar quarter. 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. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(b).

11. The constant-rate aquifer test requirement specified in Commission Regulation §806.12 is hereby waived for Wells 1, 2, and 3.

12. If the Commission determines that the operation of the project's groundwater withdrawal from Wells 1, 2, and 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.

13. The project sponsor has offered a settlement by agreement, pursuant to Commission Regulation §808.18, in the amount of \$75,000 for its consumptive water use found to be in noncompliance with Commission Regulation §806.4, and is hereby accepted. Except where the full amount of same has been tendered to the Commission in advance hereof, this action shall be contingent upon and shall not be effective until payment of the settlement amount is made to the Commission, or arrangements for such payment have been made that are acceptable to the Executive Director of the Commission. Failure to make such payment or payment arrangements with the Commission within forty-five (45) days hereof shall render this approval null and void.

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

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

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

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

20. This approval is effective until June 12, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than December 12, 2022, the existing approval shall be deemed extended until such time as the Commission renders a decision on the application.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A10

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20080613

Approval Date: June 12, 2008

KRATZER RUN DEVELOPMENT, LLC T/A EAGLES RIDGE GOLF CLUB

Surface Water Withdrawal (Peak Day) of up to 0.099 mgd
from a Storage Pond in the Headwaters of an Unnamed Tributary to Watts Creek,
and Consumptive Water Use (Peak Day) of up to 0.099 mgd,
for Golf Course Irrigation,
Ferguson 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 and consumptive water use applications on January 25, 2008, and additional information on April, 28 2008.

Description

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

Location. The project is located in the West Branch Susquehanna Subbasin, HUC 02050201, Clearfield Creek Watershed, Ferguson Township, Clearfield County, Pennsylvania.

Project Features. The project sponsor has requested approval for consumptive use up to 0.099 million gallons per day (mgd), and a maximum daily withdrawal of up to 0.099 mgd from an on-site spring-fed storage pond located in the headwaters of an unnamed tributary to Watts Creek. The project sponsor reports its maximum average 30-day consumptive use to be 0.040 mgd and peak day consumptive use to be 0.073 mgd.

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

The golf course was constructed in 1977 as an 18-hole golf course. Installation of the current irrigation system was completed in 1992. The current owners, Kratzer Run Development, LLC, purchased the golf course in August 2006, and changed the name from Grandview Golf Course to Eagles Ridge Golf Club.

The spring-fed storage pond was constructed as part of the original golf course development in 1977. The pond has a surface area of approximately 2.95 acres, is approximately 21 feet deep, and has an estimated capacity of 20.2 million gallons of water, when full.

The sources of water for the storage pond are springs reportedly within the footprint of the pond excavation and runoff from the adjacent upland areas. Water is withdrawn from the pond to supply the golf course's irrigation system. The withdrawal is currently metered at the point of taking. The maximum pumping rate of the irrigation system is limited by the intake pump, which has a reported maximum pumping rate of 600 gallons per minute (gpm). An outflow pipe has been placed in the downgradient corner of the pond to allow minimum flows to pass through the pond to meet previous passby requirements.

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.

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

The project sponsor is required to electronically report the daily 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.

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 project sponsor has requested a consumptive water use approval of up to 0.099 mgd. Based on the irrigation records 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 0.099 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor has requested a withdrawal of up to 0.099 mgd at a maximum instantaneous pumping rate of 600 gpm. Commission staff is recommending approval of the requested quantity and rate. A meter is in place to quantify the withdrawal 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).

The project's sole source of water for the irrigation system is the surface water withdrawal from the on-site spring-fed storage pond. Overflow from the pond discharges to an unnamed tributary to Watts Creek, which flows to Little Clearfield Creek, both of which are classified as high quality, cold water fisheries (HQCWF) (Title 25, Chapter, 93, Pennsylvania Code).

Commission staff, based on flow data from a gage on the West Branch of the Susquehanna River at Bower, Pennsylvania, has determined the 7-day, 10-year low flow (Q7-10 flow) in the unnamed tributary to Watts Creek at the point of taking to be 0.0043 cubic feet per second (cfs) or 1.93 gpm, and the average daily flow to be 0.1763 cfs or 79.13 gpm. The proposed maximum instantaneous rate of withdrawal (600 gpm) is greater than 10 percent of the Q7-10 of the unnamed tributary and, therefore, a passby flow is required to protect aquatic resources and downstream users.

Based on the project's classification, its geographic location in the watershed, and the anticipated associated fishery of brown trout and combined species of fish, Commission staff used the Instream Flow Incremental Methodology (SRBC Publication No. 191, May 1998) to determine the appropriate passby flow requirement. Commission staff has determined a minimum flow of 33 percent of the annual average daily flow (ADF), or 19.78 gpm, is required to prevent loss of aquatic habitat. Commission staff recommends that a release be maintained from the storage pond equal or greater to 19.78 gpm.

Based on the proposed withdrawal and consumptive use, the project sponsor has sufficient storage to meet its irrigation needs and release for approximately 158 days without recharge. Commission staff recommends that the project sponsor upgrade the current passby device that is in place to ensure the release is made throughout the irrigation season and until the pond spills naturally after the irrigation season has ended.

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

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.16, and in accordance with Commission Resolution No. 2007-07. The project sponsor had provided all proofs of notification as required by Commission Regulation §806.15.

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 a storage pond in the headwater of an unnamed tributary to Watts Creek of up to 0.099 mgd, when available, and the consumptive use of up to 0.099 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. 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 ponds.
5. The project sponsor shall keep daily records of the surface water withdrawal from the headwater pond 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.
6. The project sponsor shall allow a release to the unnamed tributary to Watts Creek at the downstream edge of the headwater pond of not less than 0.0041 cfs (19.78 gpm). The project sponsor shall upgrade the existing passive device that insures the outflow of the pond, and shall certify to the Commission that the upgrade is complete. The release system shall be kept fully functional and free of debris. The Commission reserves the right to inspect the release system at any time.
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 rate of \$0.14 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of water evaporated from the storage pond plus water 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.
8. The project sponsor shall maintain any meters or other measuring devices approved by the Commission, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.

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

10. 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).

11. 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.

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

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

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

15. This approval is effective until June 12, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than December 12, 2022, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

16. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A11

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20070304-1

Approval Date: March 14, 2007

Modification Date: June 12, 2008

COMMONWEALTH ENVIRONMENTAL SYSTEMS, L.P.

Consumptive Water Use of up to 0.150 mgd, for Landfill Operations,
and Groundwater Withdrawal (30-Day Averages)
of 0.090 mgd from Well 1 and 0.010 from Well 2,
Foster, Frailey and Reilly Townships, Schuylkill 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 for modification on September 17, 2007, and supplemental information on November 19, 2007. The Commission received applications for groundwater withdrawal on April 21, 2008.

Description

Purpose. The purpose of the application is to request approval for an increase in consumptive water use from 0.050 million gallons per day (mgd) to 0.150 mgd for landfill operations. The project sponsor also submitted applications to withdraw groundwater from Wells 1 and 2 for use at the facility, and has requested a waiver of the aquifer testing. The Commission originally approved the project on March 14, 2007, as Docket No. 20070304 (Docket). As approved, the project sponsor was authorized to withdraw 0.050 mgd (30-day average) from Well 1 and consumptively use up to 0.050 mgd, subject to conditions enumerated in the Docket. This docket modification approves the requested increases in groundwater withdrawal from Well 1 and consumptive water use, approves the requested constant-rate aquifer testing waiver and groundwater withdrawals from two wells, and also changes certain provisions contained within the Docket. The term of the docket remains unchanged.

Location. The project is located in the Lower Susquehanna Subbasin; HUC 02050301; Swatara Creek Watershed; Foster, Frailey and Reilly Townships; Schuylkill County; Pennsylvania.

Project Features. The project sponsor has requested approval for the consumptive use of water of up to 0.135 mgd from Well 1 and 0.015 from Well 2 for its operations at

Commonwealth Environmental Systems, L.P. (CES) landfill facility. The project sponsor consumptively uses water for truck and tire washing, road washing, and dust suppression at the crushing and sorting facility. The project sponsor estimates the current maximum day consumptive water use to be approximately 0.125 mgd, and current 30-day average consumptive water use to be 0.100 mgd.

The CES landfill was permitted by the Pennsylvania Department of Environmental Protection (PADEP) in 1997 and has been in continuous operation since that time. The landfill was previously permitted to operate until June 2009; CES recently received approval from the PADEP to continue operation until January 2017, at which time a permit renewal application will be submitted to PADEP. The CES landfill has expanded from the previously approved 8 permitted cells to 27 permitted cells, with operations currently in Cells 5 and 6.

Water for landfill operations is supplied by withdrawals from Wells 1 and 2. Well 1 is not currently metered, but the project sponsor currently maintains a log of the daily number of truckloads of water withdrawn from Well 1.

Water is withdrawn from Well 1, located near the truck wash building, and conveyed by a 12,000-gallon tanker truck to the landfill, where it is directly applied from the truck to the haul roads or used at the crushing operations. The peak day use is approximately 25,000 gallons per day (gpd). Well 1 is also used for sanitary water for the Administration and Maintenance Buildings, and for the truck wash. The sanitary water is collected and discharged to the on-site leachate treatment facility.

Well 2 is located near the leachate collection facility and is utilized to supply water for sanitary services and other operational needs at rates of less than 1,000 gpd. Withdrawals from Well 2 are metered. The landfill also has 14 groundwater monitoring wells located on the site. The perimeter wells are used for observation/groundwater quality monitoring wells and are not pumped.

Leachate generated from water trapped in waste, rainwater collected from the open (working) cell(s), and sanitary wastewater is conveyed to the on-site leachate collection building. The leachate is pre-processed, blended with the sanitary wastewater, and conveyed to the Schuylkill County Municipal Authority wastewater treatment plant in Gordon, Pennsylvania.

CES operates an on-site borrow pit (PADEP Permit No. 101615) that provides material for daily cover at the landfill and for the road base of the haul roads. The crushing system is not metered but the water delivered to the crusher is recorded in the tanker truck log.

Aquifer Testing. The project sponsor requested that the constant-rate aquifer testing required by Commission Regulation §806.2 for Wells 1 and 2 be waived. Based on data submitted by the project sponsor, Commission staff recommends approval of the waiver.

The permitted CES facility is underlain by sedimentary rock of the Upper Pottsville and Lower Llewellyn Formations (Pennsylvanian age). Both formations have been extensively mined (deep and surface) in the area, expanding the potential for increased primary and

secondary fracturing. Several geologic faults and folds have been mapped in the area allowing for additional pathways for groundwater flow.

Well 1 is reported to be directly connected to the flooded deep mine workings of the William Carl – Hegins Mining Company Complex. Well 2 is reported to be directly connected to the flooded deep mine workings of the William Carl – Buck Mountain Mine Complex. Groundwater contour maps, submitted to PADEP as part of CES's annual groundwater assessment requirement, indicate that the local groundwater flow gradients have been consistent since 2004.

There are four identified groundwater users within 0.25 miles of the facility. Two wells (approximately 2,500 and 2,750 feet away) are separated by Middle Creek (a groundwater divide), a third well (approximately 1,730 feet away) is no longer used as a potable source, and the fourth well (approximately 2,500 feet away) at the Keystone Potato Products facility is reportedly connected to flooded coal mine working.

Coordination. Commission staff has coordinated with the PADEP, Bureau of Land Recycling and Waste Management, during review of the project. PADEP approved the project's landfill operation in 1997. PADEP staff has reviewed this docket for consistency with its permits.

Findings

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

All water used for truck and tire washing, road washing, and dust suppression at the crushing and sorting facility is considered to be used consumptively. The daily quantity of water consumptively used shall be the daily quantity withdrawn from Well 1 for truck and tire washing, road washing, and dust suppression at the crushing and sorting facility.

The project sponsor currently maintains a log of the daily number of truckloads of water withdrawn from Well 1 for truck and tire washing, road washing, and dust suppression at the crushing and sorting facility. Commission staff recommends that the volume of the water trucks and number of truckloads of water withdrawn from Well 1 be recorded on a daily basis.

Well 2 is currently metered. Commission staff recommends that water withdrawn from Well 2 be recorded on a daily basis.

Should the proposed accounting procedure fail to accurately measure the project's consumptive water use, the Commission reserves the right to modify the metering, monitoring, and accounting procedures. Commission staff will provide the project sponsor with written notice of any required change in the metering, monitoring, and accounting procedures. Any alternative monitoring or accounting procedure requested by the project sponsor will be reviewed and approved by Commission staff.

The project's consumptive use of water is subject to water mitigation requirements, as per Commission Regulation §806.22(b). To satisfy these requirements, the project sponsor proposes to make quarterly payments to the Commission in lieu of providing actual mitigation water.

The project sponsor has requested a consumptive water use approval of up to 0.150 mgd. Based on an analysis of water use records supplied by the project sponsor and the future plans at the landfill, Commission staff is recommending approval of the requested amount. Should the project's future consumptive water use be expected to exceed 0.150 mgd, the project sponsor must apply for a modification to this docket at that time.

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 §806.16, and in accordance with Commission Resolution No. 2006-08. 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. Commission Docket No. 20070304, as approved March 14, 2007, is hereby modified to approve the project's consumptive water use of up to 0.150 mgd, and groundwater withdrawals (30-day averages) of 0.090 mgd from Well 1 and 0.010 mgd from Well 2 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 groundwater withdrawal and consumptive water use reporting requirements, as per Commission Regulation §806.30.

4. Conditions 1, 4, and 5 of the original Docket are hereby rescinded.

5. Within sixty (60) days, the project sponsor shall install metering, accurate to within five (5) percent, on Well 1. The project sponsor may propose alternative monitoring to the Commission for staff's review and approval.

6. The project sponsor shall keep daily records of the metered withdrawal in Well 1 and Well 2. 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.

7. The maximum instantaneous rates of production from Wells 1 and 2 shall not exceed 625 gpm and 175 gpm, respectively.

8. 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 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 used for truck and tire washing, road washing, and dust suppression at the crushing and sorting facility.

9. To satisfy the Commission's current mitigation requirements for consumptive water use set forth in Commission Regulation §806.22, the project sponsor shall continue to make quarterly payments to the Commission based on the rate of \$0.14 per 1,000 gallons of water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity used for truck and tire washing, road washing, and dust suppression at the crushing and sorting facility. Payments shall be made quarterly and shall be calculated by applying this rate to the daily amount of water consumptively used by the project during the preceding calendar quarter. 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. The project sponsor shall maintain any meters or measuring devices, 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.

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

12. The constant-rate aquifer test requirement specified in Commission Regulation §806.12 is hereby waived for Wells 1 and 2.

13. If the Commission determines that the operation of the project's groundwater withdrawal from Wells 1 and 2 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.

14. All other conditions in Commission Docket No. 20070304 not inconsistent herewith shall remain effective.

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

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. 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.

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 March 14, 2022. 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 September 14, 2021, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

22. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A12

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20080614

Approval Date: June 12, 2008

LYKENS VALLEY GOLF COURSE

Surface Water Withdrawal (Peak Day) of up to 0.200 mgd,
When Available, from an On-Stream Storage Pond, and
Consumptive Water Use (Peak Day) of up to 0.200 mgd,
for Golf Course Irrigation,
Upper Paxton Township, Dauphin 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 use application on March 13, 2008, the surface water withdrawal application on April 3, 2008, and additional information on March 24 and 26, 2008.

Description

Purpose. The purpose of the application is to request approval for a surface water withdrawal and the consumptive use of that 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 02050301, Little Wiconisco Creek Watershed, Upper Paxton Township, Dauphin County, Pennsylvania.

Project Features. The project sponsor has requested approval for consumptive water use of up to 0.200 million gallons per day (mgd) and maximum daily withdrawal of 0.200 mgd of water from an on-stream storage pond. The golf course's maximum 30-day average consumptive use of water over the past 2 years has been 0.116 mgd and the peak day consumptive water use has been 0.176 mgd. The project sponsor is currently planting new grass at the golf course, which will require extra water until the turf is established.

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

The 0.5-acre on-stream storage pond was in place when the golf course began operations in 1960 and is primarily supplied by flow from an unnamed tributary to the Little Wiconisco Creek. Springs and surface water runoff also contribute water to the pond. Water is pumped directly from the pond at a rate of 710 gallons per minute (gpm) into the single-row irrigation system and delivered to the greens, tees, and fairways. The current irrigation system was installed in 1996.

The golf course has operated under several names since 1960, including the Harrisburg North Golf Course, which was previously approved by the Commission. The golf course was sold in 2007 and renamed the Lykens Valley Golf Course. Commission Docket No. 20000603 was not transferred to the new owner and the approval expired.

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.

All water evaporated and withdrawn from the storage pond and used for golf course irrigation is considered to be used consumptively. Water evaporated from the pond will be calculated by the project sponsor employing a methodology acceptable to the Commission. A meter is installed at the location where water is withdrawn from the pond and enters the irrigation system. However, the project sponsor reports that the meter is reset daily and does not meter the continuous total flow from the pond into the irrigation system. Commission staff recommends that the meter be replaced with a totalizing flow meter to record flow on a continuous basis.

The project sponsor has requested a consumptive water use approval of up to 0.200 mgd. Based on water use records 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 0.200 mgd, the project sponsor must apply for a modification to this docket.

The project sponsor should electronically report the daily 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 project's primary source of water is an on-stream pond located on an unnamed tributary to Little Wiconisco Creek. The project sponsor has requested withdrawal from the pond of up to 0.200 mgd at a maximum instantaneous pumping rate of 710 gpm. Commission staff is recommending approval of the requested quantity and rate. A meter should be installed on the surface water intake as described above, 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).

According to measurements made by the project sponsor, the pond has an average depth of approximately 6.5 feet. Commission staff has determined that the surface area of the pond is approximately 0.5 acres. Based on these dimensions, Commission staff calculates that the pond has a maximum storage capacity of approximately 1.06 million gallons when full, which is sufficient storage for approximately 9 days of irrigation, with an average day usage of 0.116 mgd.

The project sponsor operates the surface water intake on the pond without engineering controls protecting downstream habitat and water use. The Little Wiconisco Creek is classified as a warm water fishery (WWF) (Title 25, Chapter 93, Pa. Code).

Commission staff has determined that the 7-day, 10-year low flow (Q7-10 flow) in the unnamed tributary is 0.0306 cubic feet per second (cfs) or 14 gpm, and the average daily flow is 1.834 cfs or 823 gpm. The proposed rate of withdrawal (710 gpm) is greater than 10 percent of the Q7-10 flow for the stream, 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 average daily flow, which equals 0.367 cfs or 165 gpm. When natural streamflow to the pond is less than 0.367 cfs, the project sponsor should allow outflow from the pond equal to the amount of natural inflow from the stream.

According to staff's analysis, the streamflow will not be sufficient to allow the recommended passby flow and meet the golf course's irrigation needs under dry conditions. Therefore, Commission staff recommends that the project sponsor initiate a study to identify other sources of water to address this water supply shortage. Any alternative water supply options should allow for a passby flow of at least 20 percent of the average daily flow (equivalent to 0.367 cfs [165 gpm]). The plan should describe development of alternate sources of water supplies and/or develop an adequate amount of storage to meet the irrigation demands at the site. The plan should include provisions for construction and operation of a system allowing a passby flow of at least 20 percent of the average daily flow, and should be submitted to the Commission for staff's review and approval within 2 years from the date of this docket approval.

Within one year from the date of this docket approval, the project sponsor should schedule a meeting with Commission staff to provide an update on the progress of the plan to allow the recommended passby flow and meet the golf course's irrigation needs under dry conditions.

Commission staff recommends, as an interim protective measure, that the project sponsor modify its withdrawal to allow a minimum flow from the pond equal to the Q7-10 flow of 0.0306 cfs (14 gpm). When natural streamflow to the pond is less than 0.0306 cfs, the project sponsor should allow outflow from the pond equal to the amount of natural inflow from the stream. Commission staff recommends that the project sponsor modify its pond spillway to incorporate a passive passby flow device allowing an outflow of 0.0306 cfs. This interim protective measure should expire 4 years from the date of this approval.

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

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

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.16, 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 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 an on-stream storage pond of up to 0.200 mgd, when available, and the consumptive use of up to 0.200 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. 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 on-stream storage pond plus the quantity pumped to the irrigation system. Commission staff shall review and approve the method of calculation of evaporative loss from the storage pond.

5. Within sixty (60) days from the date of this approval, the project sponsor shall install new metering on the irrigation pump intake. The metering shall be maintained and be accurate to within five (5) percent. The project sponsor shall notify the Commission, in writing, when the meter is installed.

6. The project sponsor shall keep daily records of the surface water withdrawal from the on-stream pond 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 for review and approval by Commission staff.

7. The project sponsor shall, as an interim protective measure, allow flow from the on-stream storage pond of at least 0.0306 cfs (14 gpm), or when streamflow into the pond is less than 14 gpm, allow an amount equal to the total inflow of the stream to the pond. The project sponsor shall modify its spillway structure to incorporate a passive passby flow device. The project sponsor shall submit its design and a proposed construction schedule within sixty (60) days from 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 flow device shall be kept fully functional and free of debris. The Commission reserves the right to inspect the passby system at any time. This interim protective measure shall expire four (4) years from the date of this approval.

8. The project sponsor shall investigate alternative water supply options for the site to allow for a passby flow of at least twenty (20) percent of the annual average daily flow to be discharged from the pond at all times. In this regard, the project sponsor shall prepare a plan to develop alternate sources of water supply and/or develop an adequate amount of storage to meet the irrigation demands at the site. The project sponsor shall meet with Commission staff within one (1) year from the date of this docket approval to report on progress. The plan shall be submitted to the Commission within two (2) years for staff's review and approval.

9. Upon termination of the interim protective measure described in Condition 7, the project sponsor shall allow a passby flow from the on-stream storage pond of not less than 0.367 cfs or 165 gpm, which equals twenty (20) percent of the average daily flow. When streamflow into the pond is less than this amount, the project sponsor shall allow a passby flow from the on-stream pond equal to the amount of the natural streamflow into the pond. The project sponsor shall modify its passive device for the passby flow accordingly. The project sponsor shall submit its design and a proposed construction schedule two (2) years before the termination of the interim protective measures for review and approval by Commission staff. 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. The Commission reserves the right to inspect the passby flow system at any time. The project sponsor may propose an alternative to the passby flow system to the Commission for staff's review and approval.

10. 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 of the water

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.

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

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

13. 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).

14. 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.

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. 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 June 12, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than December 12, 2022, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

19. 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.

By the Commission:

A handwritten signature in cursive script that reads "Susan K. Weaver". The signature is written in black ink and is positioned above a horizontal line.

Dated: June 12, 2008

Susan K. Weaver, Chair
Pennsylvania Commissioner



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A13

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20080615

Approval Date: June 12, 2008

SPRING CREEK GOLF COURSE

Surface Water Withdrawal of up to 0.081 mgd (Peak Day) from Spring Creek,
and Consumptive Water Use of up to 0.081 mgd (Peak Day),
for Golf Course Irrigation,
Derry Township, Dauphin 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 and consumptive water use applications on January 8, 2008, and additional information on April 15, 2008.

Description

Purpose. The purpose of the application is to request approval for a surface water withdrawal and the consumptive use of that water for irrigation of greens, tees, and fairways at an existing 9-hole golf course.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050305, Spring Creek Watershed, Derry Township, Dauphin County, Pennsylvania.

Project Features. The project sponsor is requesting approval for consumptive use up to 0.081 million gallons per day (mgd) and a maximum daily withdrawal of 0.081 mgd of water from Spring Creek. The project sponsor reports its maximum average 30-day consumptive use to be 0.042 mgd and peak day consumptive use to be 0.081 mgd.

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

The golf course was constructed and has been in operation since the early 1930s. The course is owned by the Hershey Trust and operated by the Hershey Country Club, a division of Hershey Entertainment and Resorts. Since the construction of the course, greens and tees have been irrigated from water withdrawn from a pumping station on Spring Creek that was shared by the Hershey Country Club (East and West courses) and Spring Creek Golf Course. That

combined historical usage of 0.240 mgd as a maximum 30-day average from the existing pumping station was previously recognized by the Commission.

In 2006, Spring Creek Golf Course modernized and changed its irrigation system by adding computer-controlled operation, expanding the coverage of the sprinkler system to include fairways, and constructing a new pumping station and intake point.

The new irrigation system will rely on two 25-horsepower vertical turbine pumps that are capable of pumping 250 gallons per minute (gpm) each. The golf course does not have any storage ponds, and relies on a direct withdrawal from Spring Creek to the irrigation system. The stream intake is constructed with a 6-inch-diameter pipe placed in the stream upgradient of an existing weir.

Findings

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

All water withdrawn from Spring Creek and used for golf course irrigation is considered to be used consumptively. The irrigation system is equipped with a meter that measures the quantity of water withdrawn from Spring Creek and used for irrigation, and the irrigation system computer that monitors and controls the amount of water used for irrigation also has a meter.

The project sponsor should keep daily records of the consumptive water use. The required monitoring data should be submitted 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.

Due to the significant changes in infrastructure, Spring Creek Golf Course is not claiming any pre-Compact water usage.

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 project sponsor has requested a consumptive water use approval of up to 0.081 mgd. Based on the new irrigation system design 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 0.081 mgd, the project sponsor must apply for a modification to this docket.

The project's sole source of water for the irrigation system is the surface water withdrawal from Spring Creek, a warm water fishery. The project sponsor has requested the withdrawal of up to 0.081 mgd, at a maximum instantaneous pumping rate of 129 gpm. Commission staff is recommending approval of the requested quantity and rate. A meter is in place to quantify the withdrawal from the surface water intake. This meter must be maintained in accordance with Commission Regulation §806.30. The project sponsor should keep daily records of the withdrawal. The required monitoring data should be electronically reported to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

Based on flow data from a downstream weir submitted from the project sponsor, Commission staff has determined the 7-day, 10-year low flow (Q7-10 flow) in Spring Creek at the point of taking to be 2.89 cubic feet per second (cfs) or 1,298 gpm, and the average daily flow to be 19.9 cfs or 8,937 gpm. The proposed rate of withdrawal (129 gpm) is less than 10 percent of the Q7-10 flow for the creek and, therefore, a passby flow is not required to protect aquatic resources and downstream users.

The irrigation system is currently designed to use up to 500 gpm; however, the project sponsor has agreed to operate at 129 gpm or less in order to avoid an interruptible withdrawal due to protective passby flow requirements. To insure compliance, Commission staff recommends that the intake system be engineered so that the maximum withdrawal from the creek cannot exceed 129 gpm.

The project sponsor has paid the appropriate application fee pursuant to Commission Regulation §806.16, and in accordance with Commission Resolution No. 2007-07. The project sponsor had provided all proofs of notification as required by Commission Regulation §806.15.

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 Spring Creek of up to 0.081 mgd, when available, and the consumptive use of up to 0.081 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. 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 withdrawn from the creek and used for irrigation.

5. The project sponsor shall keep daily records of the surface water withdrawal from Spring 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 for review and approval by Commission staff.

6. The project sponsor shall modify or replace the stream intake structure so that it is engineered to allow a maximum instantaneous withdrawal rate of up to 129 gpm. The project sponsor shall submit its design and a proposed construction schedule for a modified or replacement intake structure within sixty (60) days from 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.

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 rate of \$0.14 per 1,000 gallons of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of surface water 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.

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

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

10. 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).

11. 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.

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

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

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

15. This approval is effective until June 12, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than December 12, 2022, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

16. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A14

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20080616

Approval Date: June 12, 2008

TITANIUM HEARTH TECHNOLOGIES, INC., d/b/a TIMET NORTH AMERICAN OPERATIONS

Consumptive Water Use of up to 0.133 mgd (Peak Day),
for Titanium Refining Processes,
Caernarvon Township, Berks 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 an application for consumptive use of water on December 21, 2007, with supplemental information submitted on March 7, 2008.

Description

Purpose. The purpose of the application is to request approval for the consumptive use of water associated with the titanium refining processes.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Conestoga River Watershed, Caernarvon Township, Berks County, Pennsylvania.

Project Features. The project sponsor has requested approval for a maximum daily consumptive use of water of up to 0.133 million gallons per day (mgd) for use in titanium refining. Based on daily water use data for the years 2001 through 2007 submitted by the project sponsor, the current maximum daily use is 0.077 mgd and Commission staff has calculated the project's maximum 30-day average consumptive water use to be 0.025 mgd. The project sponsor intends to expand its manufacturing capabilities within the next 15 years, and the requested quantity will meet that future demand.

Titanium Hearth Technologies, Inc., d/b/a TIMET North American Operations (TIMET), began manufacturing at the facility in Caernarvon Township in 1982. TIMET produces raw titanium that is used in the aerospace industry, defense systems, and in various other industries. The facility has the ability to melt and refine titanium from industrial grades through aerospace qualified grades.

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

Water for the facility is provided from an on-site well and from a public water supply connection. Water is consumptively used in the non-contact cooling systems of the furnaces. Currently, there are six furnaces at the facility and each furnace is serviced by a closed-loop cooling system, a heat exchanger, and a cooling tower. An additional unit is planned to be put on-line in January 2009. Each furnace is surrounded by a water-cooled jacket with copper and steel conductors. Water is pumped from a holding tank, through the water jacket, through a heat exchanger, and back to the tank. Another cooling loop pumps water from a second holding tank, through the heat exchanger, then to an evaporative cooling tower. The cooled water returns to the second holding tank. Blowdown water is collected, polished, and then discharged with a National Pollutant Discharge Elimination System (NPDES) permit to an unnamed tributary of the Conestoga Creek (the discharge is metered).

Well 1 has historically provided the majority of the process water for the facility. TIMET drilled, but has not completed, two additional wells (Well 2 and Well 3) at the facility. The groundwater withdrawal is not approved by the Commission. The project sponsor currently is conducting aquifer testing in accordance with Commission guidance to complete its application for the withdrawal; that application will be reviewed at a later date.

Water for the facility also is purchased from the Caernarvon Township Authority and is currently metered as it enters the facility. Effluent from the facility is discharged to either the Caernarvon Township Sewer Authority's sanitary sewer system or to an unnamed tributary of the Conestoga Creek in accordance with TIMET's NPDES permit. Both discharges are metered.

Findings

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

All water evaporated from the cooling system for the furnaces is considered to be consumptively used. Commission staff recommends that the project sponsor submit a plan for quantifying consumptive water use. The plan should be based on metering, not estimates of use.

The project sponsor should keep daily records of the consumptive use by the furnace cooling system. The required daily monitoring data should be submitted electronically to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

The Commission reserves the right to modify the measuring, monitoring, and accounting procedures for consumptive water use. Commission staff will provide the project sponsor with prior written notice of any required change in the measuring, monitoring, and accounting procedures. Any alternative measuring, monitoring, or accounting procedure requested by the project sponsor must be reviewed and approved by Commission staff.

The project sponsor reports a current maximum daily consumptive use of 77,530 gallons per day (gpd) and projects a maximum daily consumptive use of 132,664 gpd for the year 2023. Considering TIMET's plan to increase its manufacturing capacity, Commission staff recommends approval of the requested consumptive water use of up to 0.133 mgd (peak day). The requested amount should accommodate the peak usage days that will occur over the 15-year duration of this approval. Should the project's future consumptive water use be expected to exceed 0.133 mgd, the project sponsor must apply for a modification to this docket at that time.

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.

Although Well 1 has historically provided most of the water for the cooling systems at the furnaces, the groundwater withdrawal is not approved by the Commission and is subject to review and approval under Commission Regulation §806.4. The project sponsor has agreed to exclusively use water from the public water supply system until aquifer testing can be conducted and the withdrawal application can be completed, reviewed, and approved by the Commission.

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.16, and in accordance with Commission Resolution No. 2006-08. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

The project sponsor has operated in violation of Commission regulations. Commission staff contacted TIMET on May 17, 2007, and based on the water use data provided by the project sponsor, notified the project sponsor on October 4, 2007, of the need to comply with Commission regulations. The project sponsor subsequently submitted its application to the Commission, complied with application procedures, and cooperated with Commission staff during review of the project. TIMET has offered a \$65,000 settlement to the Commission for the noncompliance with Commission Regulation §806.4. Commission staff recommends acceptance of the project sponsor's proposed settlement.

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.

Decision

1. Consumptive water use of up to 0.133 mgd (peak day) is approved pursuant to Article 3, Section 3.10, of the Compact.
2. The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision.

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

4. Consumptive water use at the facility shall be calculated based on metering. The project sponsor shall submit a metering plan to account for the total daily consumptive water use resulting from the cooling system for the furnaces for approval by the Commission within thirty (30) days of approval of this docket. As expansion of the facility occurs, the project sponsor shall update the metering plan accordingly for review and approval by Commission staff.

5. The project sponsor shall keep daily records of the cooling system for the furnaces, 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.

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. The project sponsor shall comply with applicable Commission water conservation requirements as per Commission Regulation §806.25(b).

8. 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 of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity evaporated from the cooling system for the furnaces. 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.

9. The project sponsor has offered a settlement by agreement, pursuant to Commission Regulation §808.18, in the amount of \$65,000 for its consumptive water use found to be in noncompliance with Commission Regulation §806.4, and is hereby accepted. Except where the full amount of same has been tendered to the Commission in advance hereof, this action shall be contingent upon and shall not be effective until payment of the settlement amount is made to the Commission, or arrangements for such payment have been made that are acceptable to the Executive Director of the Commission. Failure to make such payment or payment arrangements with the Commission within forty-five (45) days hereof shall render this approval null and void.

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

11. 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.

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

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

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

15. This approval is effective until June 12, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than December 12, 2022, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

16. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A15

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20080617

Approval Date: June 12, 2008

CONESTOGA COUNTRY CLUB

Groundwater Withdrawal (30-Day Average) of 0.281 mgd from Well 1,
for Golf Course Irrigation,
Manor and Lancaster Townships, Lancaster 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 March 7, 2008, and additional information on May 9, 2008.

Description

Purpose. The purpose of the application is to request approval for the groundwater withdrawal for the 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 Conestoga Creek Watershed, Manor and Lancaster Townships, Lancaster County, Pennsylvania.

Project Features. The project sponsor has requested approval for the withdrawal (30-day average) of 0.319 million gallons per day (mgd) of water from Well 1, but reduced its request to 0.281 mgd after discussions with Commission staff concerning passby flow thresholds. The water will be used for golf course irrigation.

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

The Commission approved the consumptive water use of up to 0.440 mgd (peak day) for the Conestoga Country Club on October 10, 2002, as Commission Docket No. 20021022. The docket approved a withdrawal from Little Conestoga Creek as the water source for the golf course irrigation, which is subject to a protective passby flow requirement.

The project sponsor intends to construct a storage pond on the golf course to provide for a continuous supply of irrigation water. Once the pond is completed, water withdrawn from the creek or from the well will be discharged into the pond, and then pumped to the irrigation system at a proposed rate of approximately 1,000 gallons per minute (gpm). In the interim, water from the well will be pumped directly to the irrigation system.

Well 1 was drilled in August 2007. The 8-inch-diameter well is constructed in the Cambro-Ordovician Conestoga Formation with 50 feet of casing and drilled to a total depth of 200 feet below ground surface (bgs). The well has yet to be equipped with a permanent pump.

The Conestoga Formation is a calcareous phyllite. The local flow system relies on quartz stringers that typically align with bedding, and the connections between these stringers and the unconsolidated alluvial deposits and weathered materials that overly the bedrock.

Aquifer Testing. Commission staff approved plans for two constant-rate aquifer tests on Well 1; the first conducted on February 11-16, 2008, at an average pumping rate of 355 gpm (0.511 mgd) and the second conducted on February 20-23, 2008, at an average pumping rate of 221.5 gpm (0.319 mgd). Three residential wells located along strike from the irrigation well, two piezometer nests (both a deep and a shallow piezometer), a “wet well” adjacent to Little Conestoga Creek, and a stilling tube and staff gage in Little Conestoga Creek were monitored, in addition to the irrigation well.

Precipitation events occurred during both aquifer tests (2.17 inches of precipitation during the first test and 0.36 inches during the second test). The tests were performed during seasonally high groundwater levels and flows in Little Conestoga Creek. The stream gage on the Conestoga River at Lancaster, Pennsylvania, indicates that local river flows were approximately 99 percent of the average daily flow on February 11, 2008, and 318 percent of the average daily flow at the end of the first test, which was extended to 4 days 22 hours due to rain. During the second test, flows were at 224 percent of the average daily flow on February 20, 2008, and 185 percent of the average daily flow at the end of testing.

During the testing at a pumping rate of 355 gpm, maximum drawdown in Well 1 was 38 feet bgs. Drawdown within the production well began to steepen after approximately 1,000 minutes of pumping. The drawdown continued to steepen as it approached the second major water-bearing zone. Maximum drawdown during the testing at a rate of 221.5 gpm was approximately 17 feet.

No impacts were observed in any of the residential monitoring wells during either of the tests. During the testing at 355 gpm, a nearly instantaneous drawdown at an approximate rate of 0.21 feet per day was recorded in the deep piezometer located approximately 400 feet from Well 1. This impact to the creek-side piezometer demonstrates an efficient connection, even during high flow periods, between the well, the alluvial deposits, and the creek. During the testing at a pumping rate of 221.5 gpm, no impacts were observed. However, based on an analysis of the 120-day semi-log projection (without recharge), Commission staff expects that a withdrawal at this rate would impact streamflow and, therefore, requires a protective passby flow according to Commission guidance.

Findings

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

Commission staff reviewed the groundwater availability analysis, aquifer testing results, and supporting information submitted by the project sponsor. The impact to the stream-side piezometer indicates that Little Conestoga Creek will act as a source of recharge for Well 1, substantially increasing the area of contribution to the well. However, Commission staff finds that due to the demonstrated connection between the well and the creek, the stream would require a protective passby flow at the requested quantity of 0.319 mgd to protect aquatic resources, competing users, and instream flow uses. At a withdrawal rate of 221.5 gpm, Commission staff finds that stream flow will likely be impacted if the withdrawal is continued during extended periods without recharge and, therefore, a protective passby flow is required according to Commission guidance.

To avoid the necessity of a passby requirement which would in effect make the withdrawal interruptible, the project sponsor reduced its requested withdrawal rate so that any impact to the stream would be di minimis. Little Conestoga Creek 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 Little Conestoga Creek adjacent to the well site to be 4.386 cubic feet per second (cfs) (1,968.76 gpm), and the average daily flow to be 23,123 gpm. Ten percent of the Q7-10 flow for Little Conestoga Creek at this location is 196.9 gpm and the project sponsor has requested a proposed rate of withdrawal of 195 gpm; therefore, a passby flow is not required to protect aquatic resources and downstream users.

Commission staff finds that at its recommended quantity of 0.281 mgd, withdrawal rate of 195 gpm, and other operating conditions, the withdrawal from Well 1 will not cause significant adverse impacts to neighboring water users or to the water resources of the basin.

The project is subject to Commission monitoring and reporting requirements, as per Commission Regulation §806.30. The project sponsor should install appropriate metering on Well 1 to monitor withdrawals daily. The project sponsor should report the daily withdrawal data from Well 1 and the surface water withdrawal on Little Conestoga Creek on-line to the Commission on a quarterly basis.

The project sponsor has not requested any modification of its consumptive water use approval or stream withdrawal at this time. The current limit on peak day consumptive use of 0.440 mgd and monitoring, reporting, and mitigation will continue unchanged.

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 §806.16, and in accordance with Commission Resolution No. 2006-08.

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 0.281 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 withdrawal monitoring requirements contained in Commission Regulation §806.30.
4. Within sixty (60) days from the date of this approval, the project sponsor shall install a totalizing flow meter, accurate to within five (5) percent, on Well 1. The project sponsor shall notify the Commission, in writing, within thirty (30) days of when the meter is installed.
5. The maximum instantaneous rate of production from Well 1 shall not exceed 195 gpm.
6. Within sixty (60) days from the date of this approval, the project sponsor shall install a control device that limits the rate of withdrawal to 195 gpm or less. The project sponsor shall notify Commission staff of the final pump specifications when completed (including pump size, maximum instantaneous yield, depth of pump, etc.).
7. The project sponsor shall keep daily records of the metered withdrawals from Well 1. The required reporting data shall be submitted to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter.
8. The project sponsor shall maintain any meters or measuring devices, accurate to within five (5) percent, so as to provide a continuous, accurate record of withdrawals and uses, and certify to the Commission once every five (5) years, or as otherwise requested, the accuracy of all measuring devices and methods to within five (5) percent of actual flow.
9. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §806.25(c).
10. 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.

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 June 12, 2023. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than December 12, 2022, 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.

By the Commission:

Dated: June 12, 2008



Susan K. Weaver, Chair
Pennsylvania Commissioner



SUSQUEHANNA RIVER BASIN COMMISSION

Exhibit A16

1721 North Front Street • Harrisburg, Pennsylvania 17102-2391

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

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

Docket No. 20001203-1

Approval Date: December 14, 2000

Modification Date: June 12, 2008

ROCK SPRINGS GENERATION FACILITY

Surface Water Withdrawal (Peak Day) of up to 1.800 mgd
from an On-Site Stormwater Retention Basin,
Groundwater Withdrawal (30-Day Average) of 0.063 mgd from Supply Well 1,
and Consumptive Water Use of up to 0.262 mgd (Peak Day),
for Electricity Generation,
Rising Sun, Cecil County, Maryland

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 modification of project features on August 22, 2007, and additional information on April 14, 2008.

Description

Purpose. The purpose of the application is to request approval for modification of water use associated with the production of electricity at a natural gas-fired power generating facility. The proposed modification is to use water that is currently evaporated or trucked off-site for landscape irrigation.

The Commission originally approved the project on December 14, 2000 as Docket No. 20001203 (Docket). As approved, the project sponsor is authorized to withdraw surface water from an on-site stormwater retention basin up to 0.350 million gallons per day (mgd), based on a 30-day average, and to consumptively use water up to 0.262 mgd (peak day) subject to conditions enumerated in the Docket. The Docket also includes Supply Well 1, which is the project's sanitary water supply that also can be used as a backup supply for the facility's operations. This docket modification approves the requested changes, approves the groundwater withdrawal from Supply Well 1, and also changes certain provisions contained within the Docket.

Location. The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Conowingo Creek Watershed, Rising Sun, Cecil County, Maryland.

Project Features. The project sponsor has requested approval to consumptively use water for landscape irrigation instead of disposing the water through evaporation or by trucking it off-site. The project sponsor is not requesting an increase in the quantity of water currently consumptively used, withdrawn from the stormwater retention basin, or withdrawn from the water supply well.

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

Stormwater is pumped using two pumps simultaneously from the 4-million-gallon, 2.2-acre, unlined retention basin. The stormwater is filtered and then stored in an 8-million-gallon raw storage water tank for use as needed. This storage tank capacity can provide enough water for approximately 31 days of power generation at a consumptive use rate of 0.262 mgd. The project's projected maximum yearly water usage is 10.45 million gallons and, therefore, the storage tank will provide approximately 76.6 percent of the project's yearly usage.

Rock Springs Generation Facility began commercial operations in November 2002. The facility consists of six air-cooled combustion turbines having a maximum electrical generating capacity of 1,125 megawatts. Natural gas is used to generate electricity from April through October to meet peak power demands during the warmest months of the year. Water is used at the facility for the combustion turbine inlet air conditioning system, the service water system, fire water system, demineralizer makeup, and the potable/sanitary system. Water returned from the combustion turbine air conditioning system will be used for landscape irrigation.

The project's 6-inch-diameter water Supply Well 1 provides sanitary water for the facility and serves as a supplemental supply for the storage tank when needed. Supply Well 1 has a maximum instantaneous pumping rate of approximately 40 gallons per minute (gpm) and withdrawals from the well are currently metered.

Coordination. The project sponsor has obtained permits for water withdrawal and discharge from the Maryland Department of Environment (MDE). Supply Well 1 is permitted for use up to 0.063 mgd by MDE Water Management Administration permit number CE00G008 (01). Discharge through the irrigation system is approved under MDE permit number 07-DP-3571.

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 to cool the combustion turbine units, used for other power generation processes, and landscape irrigation, as well as water evaporated from the retention basin, is considered to be used consumptively. The amount of water evaporated from the 2.2-acre retention basin will continue to be calculated by the project sponsor using a method acceptable to the Commission.

The project sponsor should keep daily records of the consumptive use. Consumptive use is determined by metering at the holding tank and is calculated for evaporative loss from the stormwater retention basin. The required monitoring data should be submitted to the Commission on-line on a quarterly basis, as specified in Commission Regulation §806.30(b)(1).

Should the proposed accounting procedure fail to measure water use at the Rock Springs Generation Facility, 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 procedures requested by the project sponsor must be reviewed and approved by Commission staff.

The project sponsor has not requested approval for an increase in quantity of consumptive use. The project sponsor reports a current maximum daily consumptive use of 0.089 mgd and a maximum 30-day average consumptive use of 0.022 mgd. The total amount of water consumptively used in 2007 was 2.602 million gallons. The project sponsor projects a maximum daily consumptive use of 0.262 mgd for the year 2022.

The project's consumptive use of water is subject to mitigation requirements, as per Commission Regulation §806.22. The project sponsor proposes to continue to make payments to the Commission to satisfy its water mitigation requirements.

The Docket approves the surface water withdrawal from the stormwater retention basin based on a 30-day average withdrawal rate. Commission staff recommends that this be modified to reflect a peak day withdrawal rate of 1.800 mgd, which is equal to the maximum instantaneous pumping rate of 1,250 gpm from the combined surface water intakes.

The project sponsor should keep daily records of the surface water withdrawal. The required monitoring data should be electronically submitted to the Commission quarterly, as specified in Commission Regulation §806.30(b)(1).

Based on its previous review of the Supply Well 1 water data, including results of a 72-hour aquifer test and a water budget analysis, Commission staff recommends approval of a 30-day average groundwater withdrawal of 0.063 mgd.

The project sponsor should keep daily records of the groundwater withdrawal. The required monitoring data should be submitted to the Commission on-line on a quarterly basis, as specified in Commission Regulation §806.30(b)(1).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §806.16, and in accordance with Commission Resolution No. 2006-08. The project sponsor has provided all proofs of notification, as required by Commission Regulation §806.15.

Commission staff recommends that the approval remain effective until December 14, 2025, the term of the Docket.

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. Consumptive water use of up to 0.262 mgd (peak day), surface water withdrawal of up to 1.800 mgd (peak day) from the stormwater retention basin, groundwater withdrawal of 0.063 mgd (30-day average) from Supply Well 1, and the modification of project features described above 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. Condition "d" of the Docket is hereby rescinded.

5. The project sponsor shall keep daily records of the project's consumptive water use, and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports shall be submitted on-line and are due within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the quantity of water evaporated from the stormwater retention basin, used for combustion turbine cooling or other power generation process, and used for irrigation.

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. The project sponsor shall comply with applicable Commission water conservation requirements as per Commission Regulation §806.25(b).

8. 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 of the water consumptively used by the project. The daily quantity of water consumptively used shall be the quantity of water evaporated from the stormwater retention basin, used for combustion turbine cooling or other power generation process, and used for irrigation. 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.

9. The project sponsor shall keep daily records of the project's surface water and groundwater withdrawals 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.

10. If the Commission determines that the operation of the project's groundwater withdrawal from Supply 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.

11. 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.

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

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

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

15. This approval continues to be effective until December 14, 2025. As specified in Commission Regulation §806.31(e), if the project sponsor submits a renewal application no later than June 14, 2025, the existing approval shall be deemed extended until such time as the Commission renders decision on the application.

16. 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.

By the Commission:



Susan K. Weaver, Chair
Pennsylvania Commissioner

Dated: June 12, 2008

RESOLUTION NO. 2008-03

A RESOLUTION of the Susquehanna River Basin Commission providing for an increase in the Commission's Consumptive Use Mitigation Fee.

WHEREAS, under Susquehanna River Basin Commission (the "Commission") Regulation 18 CFR §806.22(b) (3), monetary payment to the Commission is an acceptable method of consumptive use mitigation; and

WHEREAS, by Resolution No. 92-10 of May 14, 1992, the Commission adopted a Consumptive Use Mitigation Fee of \$.14 per 1,000 gallons of water consumed, effective January 1, 1993; and

WHEREAS, since that time, the payment of the fee has become the most frequently-used method of compliance with the mitigation requirements of 18 CFR §806.22; and

WHEREAS, in the 16 years since adoption of the \$.14 rate, inflation has reduced its present value to only \$.08 and will continue to erode its value without some provision for periodic adjustment; and

WHEREAS, an important purpose of the fee is to enable the Commission to accrue sufficient funds to finance the acquisition and maintenance of projects for storage and release of water pursuant to Article 4, Section 4.2 of the Susquehanna River Basin Compact, Pub. L. 91-575; and

WHEREAS, economic analysis has demonstrated that the cost to acquire water storage at seven selected storage facilities in the basin ranges between \$.26 and \$.28 per 1,000 gallons of water storage; and

WHEREAS the current rate of \$.14 per 1,000 gallons consumed does not reflect the true cost of acquiring storage and release and therefore does not provide sufficient economic incentive for project sponsors to seek out storage and release sites that could provide more localized mitigation for consumptive use; and

WHEREAS, the responsibility to locate and acquire suitable facilities for storage and release of water is expected to fall increasingly upon the Commission as the amount of consumptive use continues to increase in the Susquehanna River Basin through the year 2025; and

WHEREAS, the Commission has held a public hearing upon due notice and has accepted written comments from the regulated community and the public on the proposed rate increase; and

WHEREAS, in response to comments received from the regulated community on its need to plan ahead for increased costs, the Commission has decided to phase in the increase to \$.28 per thousand gallons consumed over a two year period; and

WHEREAS, in response to further comments received from the regulated community urging that the Commission tie future inflationary adjustments to a defined index or formula, or otherwise provide more certainty with regard to future adjustments for budgeting purposes, the Commission has decided to identify adjustments to take place thereafter using recent indexing trends identified by the U.S. Army Corps of Engineers Civil Works Construction Cost Index System.

NOW THEREFORE BE IT RESOLVED THAT:

1. Pursuant to Commission Regulation 18 CFR §806.22(b)(3), the Commission's Consumptive Use Mitigation Fee is hereby established at the following rates for the next two calendar years identified below:
 - 2009 - \$.21 per thousand gallons of consumptive water use
 - 2010 - \$.28 per thousand gallons of consumptive water use
2. Thereafter, the Consumptive Use Mitigation Fee shall be adjusted annually based on the U.S. Army Corps of Engineers Civil Works Construction Cost Index System average for the immediately previous four quarters for which indexing data are available.
3. In 2013, and periodically thereafter, the staff is directed to re-evaluate the cost of acquiring and maintaining water storage and recommend any additional adjustments to the Consumptive Use Mitigation Fee as may be appropriate.
4. The Commission's current Consumptive Use Mitigation Fee rate of \$.14 per thousand gallons of consumptive water use shall remain in effect through December 31, 2008.
5. This Resolution shall be effective immediately.

Dated: June 12, 2008



Susan K. Weaver, Chair
Pennsylvania

RESOLUTION NO. 2008-04

A RESOLUTION of the Susquehanna River Basin Commission rescinding certain unneeded, inapplicable or obsolete policies.

WHEREAS, the Susquehanna River Basin Commission (the "Commission"), periodically adopts policies covering such matters as guidance on the application of Commission regulations, investment of Commission assets, fees authorized by the Compact, and access to Commission records; and

WHEREAS, these policies have been appropriately numbered in accordance with their sequence, and placed in a formal compilation of Commission policies; and

WHEREAS, with the passage of time, the changing of conditions and the revision of Commission regulations, some of these policies have become unneeded, inapplicable or obsolete, thereby necessitating their rescission.

NOW THEREFORE BE IT RESOLVED THAT:

1. The following policies are hereby rescinded by the Commission:
 - a. Policy No. 98-02 - Discontinuance of Consumptive Use.
(Covered in Regulation 18 CFR §806.22)
 - b. Policy No. 98-05 – Application of Disapproved Projects
(Covered in Regulation 18 CFR §806.21)
 - c. Policy No. 98-06 - Transferability of Consumptive Uses.
(Rendered inapplicable by revised 18 CFR §§806.4 & 806.6)
 - d. Policy Nos. 96-02 and 98-04 - Settlement of Civil Penalties.
(Superseded by Policy No. 2000-01)
 - e. Policy No. 2002-01 - Pumping Test Guidance.
(Superseded by 18 CFR § 806.12 and by Aquifer Testing Guidance Policy No. 2007-01)
 - f. Policy No. 2003-03 - Emergencies.
(Covered in 18 CFR § 806.34)
2. This Resolution shall be effective immediately.

Dated: June 12, 2008



Susan K. Weaver, Chair
Pennsylvania

RESOLUTION NO. 2008-05

A RESOLUTION by the Susquehanna River Basin Commission to adopt a proposed Current Expense Budget for the fiscal year beginning July 1, 2009, and ending June 30, 2010, and to apportion among the Commission's member jurisdictions a proposed amount required for the support of the budget.

NOW THEREFORE BE IT RESOLVED THAT:

1. A proposed Current Expense Budget for the fiscal year beginning July 1, 2009, in the amount of \$5.4 million, is hereby approved and adopted for submission to the member jurisdictions for their review and approval.

2. Pursuant to Section 14.3 of the Compact, there is hereby requested from each member jurisdiction the following apportioned amounts that are required, together with other funds as may be available to the Commission, for the support of the budget, as proposed, for the fiscal year beginning July 1, 2009.

<u>Member Jurisdictions</u>	<u>Apportionment</u>
New York	\$ 450,000
Pennsylvania	\$1,232,000
Maryland	\$ 307,000
United States	\$1,000,000

3. In accordance with the Susquehanna River Basin Compact, Section 14.3(c), the respective member jurisdictions agree to include the apportioned amounts set forth in Paragraph 2 in their respective budgets next to be adopted, subject to such review and approval as may be required by their respective budgetary processes.

4. The Executive Director is authorized and directed to transmit certified copies of the proposed budget to the principal budget officers of the respective member jurisdictions together with a certified statement of the amount hereby apportioned to each member jurisdiction in accordance with the requirement of the Compact.

5. This Resolution shall take effect immediately.

Dated: June 12, 2008



 Susan K. Weaver, Chair
 Pennsylvania