

**DOCKET NO. D-2009-13-1**

**DELAWARE RIVER BASIN COMMISSION**

**Special Protection Waters**

**Stone Energy Corporation**

**Surface Water Withdrawal for Natural Gas Exploration and Development Projects**

**West Branch Lackawaxen River Withdrawal Site**

**Mount Pleasant Township, Wayne County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Stone Energy Corporation (Stone) on March 5, 2009 for review of a surface water withdrawal from the West Branch of the Lackawaxen River (WBLR). The withdrawal will be used to support Stone's natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the Delaware River Basin (DRB) in the Commonwealth of Pennsylvania.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The Wayne County Planning Commission and the Township of Mount Pleasant, Wayne County, Pennsylvania has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on February 24, 2010.

**A. DESCRIPTION**

**1. Purpose.** The purpose of this project is to withdraw up to 0.7 million gallons per day (mgd) of surface water from the WBLR to support Stone's natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the DRB in the Commonwealth of Pennsylvania.

**2. Location.** The Stone surface water withdrawal (WBLR withdrawal site) is located on private property under lease agreement with Stone in Mount Pleasant Township, Wayne County, Pennsylvania. The withdrawal point is located in the WBLR watershed. The WBLR is classified by Pennsylvania Department of Environmental Protection (PADEP) as a high quality (HQ)-Cold Water Fishery (CWF) stream. Specific latitude and longitude location information of the withdrawal point has been withheld for security reasons.

**3. Area/Wells Served.** The surface water withdrawals from the WBLR withdrawal site shall only be used to support Stone's natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the DRB in the

Commonwealth of Pennsylvania. For the purpose of this docket, natural gas development and extraction activities include or are associated with: mud rotary/air rotary natural gas well drilling, hydraulic fracturing well stimulation, mixing cement for well construction, mixing drilling mud/fluid, support vehicle tire cleaning, dust control and site construction and reclamation on associated well pad sites and access roads within Stone's lease holdings in the Pennsylvania portion of the DRB. Subject to the limitations in this docket, the surface water withdrawals under this docket shall only to be used to support Stone's natural gas development and extraction activities at sites targeting shale formations within the drainage area of Special Protection Waters within the DRB in the Commonwealth of Pennsylvania that have the applicable approvals by the DRBC and the Pennsylvania Department of Environmental Protection (PADEP) (See discussion in Findings section and Conditions in the Decision section of the docket). For the purpose of defining Area Served, the Application is also incorporated herein by reference consistent with conditions contained in the Decision section of this docket and without expanding the limitations or service area as set forth above.

**4. Physical Features.** The docket holder estimates that the majority of the withdrawn surface water will be used to stimulate horizontal and/or vertical natural gas wells by hydraulic fracturing. The remaining withdrawn water will be used for mixing cement for well construction, mixing drilling mud/fluid, support vehicle tire cleaning, dust control and site construction and reclamation on associated well pad sites and access roads within Stone's lease holdings in the Pennsylvania portion of the DRB.

**a. Surface Water Source Design Criteria.** Proposed facilities at the WBLR withdrawal site will consist of up to eight 6-inch diameter floating intake screens (Megator Dolphin Floating Suction Strainers) on the end of flexible suction line attached to a portable Prime Series pump. The floating suction strainers shall be tethered to the stream bank using nylon rope or steel cable. The pump will have an intake capacity of 1,040 gallon per minute (gpm) (see Condition n in the Decision section of the docket). A duplicate back-up pump unit may also be stored at the site. Water withdrawn from the WBLR will be distributed directly into a maximum of ten (10), 500-barrel capacity (21,000 gallon) mobile storage tanks located within a fenced-in and gated staging area approximately 0.5 acres in size. Water will be pumped from the storage tanks into the tanks of the water trucks via pumps carried on the hauling vehicles. The water trucks will be filled within the staging area. The pumps will also be located within the fenced in staging area. The staging area shall be constructed with coarse stone aggregate underlain where necessary by a geosynthetic liner. The withdrawal location will have restricted access, through use of fencing and signage. The withdrawal location will be restricted to the operations associated with the function of water withdrawal. Prior to construction, the docket holder will submit final plans and specifications for the WBLR withdrawal site to the Commission. No construction shall commence at the WBLR site until the final plans and specifications have been submitted to the Commission and approval by the Executive Director in accordance with Condition e. in the Decision section of the docket

The withdrawn water and equipment in contact with that water shall be managed and treated in accordance with the Invasive Species Control Plan (if determined to be applicable) and

the Operation Plan (Conditions r and s respectively in the Decision section of the docket) to prevent the spread of invasive species.

The water storage tanks located on site shall only be used to store and distribute surface water from the WBLR. The docket holder will meter, record, and report the volume of surface water withdrawn from the WBLR as it is distributed to the storage tanks as described in Section B. FINDINGS, below and in the Decision section of the docket. Records of the volume of water distributed from the storage tanks to the hauling vehicles will be maintained and reported as part of the required transportation records as described in Section B. FINDINGS, below and in the Decision section of the docket.

Portions of the project site are located in the 100 year flood plain as delineated on the Federal Emergency Management Agency maps. Facilities at the WBLR site shall be designed and constructed in accordance with Commission Flood Plan Regulations (FPR) (e.g. lowest operating floor of such facility is above the Flood Protection Elevation (as defined in the FPR), or the facility is flood proofed according to plans approved by the Commission nor unless emergency plans and procedures for action to be taken in the event of flooding are prepared). (See Condition d. in the Decision section.)

The water system on this site will not be interconnected with any public or private water supply system and withdrawn water will only be used for the purposes defined in Section A.3 Area/Wells Served.

**b. Cost.** The overall cost of this project is estimated to be \$18,700. This cost includes planning design, and construction of the surface water withdrawal intake, staging area, and associated appurtenances.

## **B. FINDINGS**

This docket was prepared by Commission staff in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Stone on March 5, 2009 for review of a surface water withdrawal from the WBLR to be used to support Stone's natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the DRB in the Commonwealth of Pennsylvania.

The Commission provided public notice in regards to this docket application in the Federal Register on February 19, 2010. The Commission also notified parties on the Interested Parties List for this application and posted the draft Stone WBLR Withdrawal Site docket on the Commission website on February 9, 2010. On February 24, 2010, a public hearing was held at the Best Western Inn in Matamoras, Pennsylvania. Due to public interest in the project, the comment period was extended from March 12, 2010 until April 12, 2010. During the hearing, which lasted over 7 hours, oral and written comments were received. Including the comments and written materials submitted at the February 24, 2009 hearing and during the extended public

comment period, the Commission received over 2,000 letters, emails, and supporting materials during the public comment period. A copy of the transcript of the February 24, 2010 hearing and a list of the commenters that submitted comments during the hearing is available from the Commission.

Comments were received from the public, local governments, various organizations, federal and state agencies industry representatives, and the project sponsor. A significant number of comments were received from the public and other sources. While the majority of comments were in opposition to the Commission proceeding with the approval of the docket, there were also comments in favor of the proposed Commission action. Federal and state agency comments were more specifically related to docket and site requirements.

On May 5, 2010, the Commissioners directed Commission staff to draft regulations for natural gas well pad projects in shale formations in the Delaware River Basin. The Commissioner's also indicated that it will consider specific natural gas well pad applications after the new regulations are in place. The Commissioners also indicated that applications for water withdrawals associated with natural gas well pad applications activities targeting shale formations within the drainage area of Special Protection Waters within the Delaware River Basin (DRB) should continue to be processed since such applications are similar to water withdrawal applications for other uses in the DRB.

Commission staff's review of Stone's Matoushek 1 natural gas well pad application is suspended. Comments that were received during the public hearing and comment period concerning Stone's Matoushek 1 natural gas well pad docket are not addressed in the attached document. Stone's WBLR application indicated that the water withdrawal would be used for Stone's natural gas well pad activities targeting shale formations in Pennsylvania within the drainage area of Special Protection Waters within DRB. In addition, Stone indicated that it wants the processing of the WBLR application to be completed, despite the suspension of the processing of natural gas well pad applications.

After review of the comments and testimony received in preparation for the July 14, 2010 Commission meeting, Commission staff provided the Commissioners with:

- DRBC staff memo dated July 2, 2010 recommending that the Commissioners approve the attached Stone Energy docket No. D -2009-013-1 at the July 14, 2010 Commission meeting.
- DRBC staff response document to the major issues/comments received during the public comment period and public hearing concerning the Stone Energy Corporation draft Docket No. D-2009-0013- 1.
- A revised draft docket.

The Commission staff does not consider these revisions substantial and therefore does not recommend re-noticing of the draft docket or reopening the public comment period. The notice

announcing that the Commission will consider this docket at the Commission's July 14, 2010 meeting was published in the Federal Register on June 29, 2010. Commission staff sent notices to the parties on the Interested Parties List on June 30, 2010.

Public comments were not requested at the July 14, 2010 Commission meeting since: an individual public hearing was held on the draft docket; the public comment period closed on April 12, 2010; and, no substantial changes have been made to the draft docket. During the July 14, 2010 business meeting, the Commissioners' approved the docket for the project withdrawal.

This docket restricts the sites to which the water withdrawn from the WBLR withdrawal site may be transported to and used at (the receiving sites), but does not address the limitations needed to conform activities at these receiving sites to the Commission's Comprehensive Plan. This docket does not approve nor should it imply the Commission determinations of the natural gas development and extraction receiving sites or the activities conducted at those sites. The Delaware River Basin Commission (DRBC) at its May 5, 2010 public business meeting directed commission staff to draft regulations for natural gas well pad projects in shale formations in the Delaware River Basin. The Commissioners will consider specific natural gas well pad applications after the new regulations are in place. The Commissioners also indicated that the review of pending or future proposed water withdrawals to be used to supply water to natural gas extraction projects, including Stone Energy's proposed water withdrawal from the West Branch Lackawaxen River in Mount Pleasant Township, Wayne County, Pa., will proceed in accordance with existing DRBC regulations. In proceeding with the project under this docket, the docket holder is proceeding at its own risk relative to the Commission determinations yet to be made at such receiving sites.

In the review of this Application, Commission staff has also considered the following on and off-site natural gas development and extraction site activities:

a. **Off-site Natural Gas Development and Extraction Activities.** The recommendation to approve the water allocation under this docket is based on the docket holder's projected water demand to support Stone's natural gas development and extraction activities within the DRB in the Commonwealth of Pennsylvania. Condition k. in the Decision section of this docket requires that surface water withdrawals from the Stone WBLR Withdrawal Site shall only be used to support Stone's natural gas development and extraction activities in the drainage area to Special Protection Waters in the Pennsylvania portion of the DRB for natural gas wells targeting shale formations. The condition also requires that such sites must have been approved by the Commission and also the PADEP. Condition m. in the Decision section provides that no water withdrawal from the WBLR shall commence until the docket holder has received approval of the Commission and PADEP for natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the Delaware River Basin (DRB) in the Commonwealth of Pennsylvania.

**Off-site Non-Point Source Pollution Control Plans.** In the case of off-site natural gas well

development and extraction activities targeting shale formations, a separate NPSPCP will be a requirement within a Commission approval for those sites

**Off-site Wastewater Generation and Disposal.** The Commission's review of all water withdrawal requests includes an evaluation of the wastewaters generated from the approved withdrawals to ensure that the wastewater will be adequately treated and disposed. No water that is withdrawn from the WBLR withdrawal site (see Condition q. in the Decision section of this docket) may be discharged within the DRB, except as provided for in this docket or in accordance with future Commission issued natural gas development and extraction site approvals. Stone must demonstrate that all water withdrawn from the WBLR withdrawal site that becomes wastewater as a result of natural gas development and extraction site activities (e.g. domestic or hydro-fracturing flow-back water and produced water from gas well drilling that cannot be used in the well stimulation process) shall be conveyed to treatment and disposal facilities approved by the DRBC (if in the DRB and subject to Commission approval) as well as by the applicable state/Federal agency (if inside or outside of the DRB). The docket holder is encouraged to use the flow-back water for well stimulation in accordance with Condition w in the Decision section.

To date, the Commission has not approved any in-basin disposal facilities to accept non-domestic related wastewater from natural gas development and extraction activities. In support of its application, the docket holder indicated that it currently intends to transport the wastewaters generated from this water withdrawal to approved treatment facilities outside the DRB. The docket holder has provided the Commission with the names and addresses of these facilities. This list is available for review upon written request or at the Commission's office. Commission staff is satisfied that plans exist for treatment of wastewaters generated as a result of this withdrawal approval. The determination that any of these facilities or alternative facilities can accept the volume and quality of the wastewaters from natural gas development and extraction site activities will also be reviewed when natural gas well site specific applications are submitted to the Commission. Specific conditions for wastewater disposal will be included in any docket that may be issued for natural gas well site development and extraction activities.

## **On-site Findings**

### ***Special Protection Waters***

The project is located in the area of the Delaware River Basin that is designated by the Commission as Special Protection Waters as set forth in the DRBC *Water Quality Regulations* (WQR). The SPW designation and associated regulations are designed to protect waters with exceptional value including without limitations existing high water quality in applicable areas of the Delaware River Basin. Article 3.10.3A.2.e.1). and 2). of the *WQR, Administrative Manual* -

*Part III*, requires that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan (NPSPCP) that controls the new or increased non-point source loads generated within the portion of the docket holder's service area which is also located within the drainage area of Special Protection Waters. One exception to the NPSPCP requirement is for projects that are located above major surface water impoundments listed in Section 10.3.A.2.g.5) where time of travel and relevant hydraulic and limnological factors preclude a direct impact on Special Protection Waters (Section 10.3.A.2.e.1. c)

The docket holder's surface water withdrawal point is located within the drainage area to Special Protection Waters. The NPSPCP plan requirement is applicable to this project. This project includes the construction of a surface water intake, staging area, and associated appurtenances. The docket holder submitted a general NPSPCP with the Application. However, no site construction activities or water withdrawals approved by this docket shall take place at the WBLR withdrawal site until a site specific NPSPCP including measures to control stormwater both during and post construction on the site has been submitted to the Commission and approved by the Executive Director (Condition i. and any other necessary federal, state, and local authorizations have been issued.

### ***Withdrawal Site and Operations***

The intake proposed at the WBLR withdrawal site shall be constructed in accordance with a design approved by PAF&BC, USACE and U.S. Fish & Wildlife Service that in the agencies' view minimizes to the greatest extent possible, impingement and entrainment impacts in the vicinity of the withdrawal site (Condition p. in the Decision section of the docket).

Surface water withdrawal is restricted to the intake structure to be located in the WBLR as provided for in this docket and as described in the Application and supporting materials. All surface water shall be conveyed directly to the water storage tanks and then to the hauling vehicles. Surface water withdrawals from the WBLR withdrawal site shall be metered through a metering plan designed to meet the DRBC metering, recording and reporting requirements of the Commission's Water Code, this docket, and the docket holder's approved Operations Plan described below. The volume of water withdrawn from the WBLR withdrawal site shall be metered and recorded by means of an automatic continuous recording device, or flow meter, and shall be measured to within 5% of actual flow (Condition t. in the Decision section of the docket). The docket holder shall report average daily withdrawal rate and daily and monthly totals of the withdrawal to the Commission on a monthly basis beginning with the 5th calendar day of the month following the month in which the water withdrawals commence in accordance with Condition t. in the Decision section of the docket. Any withdrawals that exceed the allocation provided for in Condition n. of the Decision section of the docket will be reported to the Commission within 48 hours of the exceedance in accordance with Condition ee. of the Decision section of the docket.

A control box located at the withdrawal location, combined with a metering system shall be used to control pump operations. The water storage tanks located on site shall only be used to store and distribute surface water from the WBLR withdrawal site. The docket holder shall meter, record, and report the volume of surface water withdrawn from the WBLR withdrawal site before it is distributed to the storage tanks as described in Section B. FINDINGS, below and in the Decision section of the docket.

The amount of water withdrawn from the WBLR withdrawal site shall be automatically metered and recorded daily and shall be available for inspection. The proposed WBLR surface water withdrawal pump controls shall restrict the surface water withdrawal rate to an instantaneous flow not to exceed 1,040 gpm or a total of 0.7 million gallons (MG) during any day from the river whichever is less. A “day” is defined as the 24-hour period between 12:00 AM and 12:00 AM the following day. At any time during the day, when the total volume withdrawn from the WBLR reaches 0.7 MG, the pump shall automatically shut off, not permitting any additional withdrawals from the source until the start of the following day. A pump operator will be onsite to supervise and monitor all pumping operations.

In addition to the metering and recording above, the docket holder shall maintain water transportation records for all water transferred from the WBLR withdrawal site. There shall be no direct transfer of water from the WBLR withdrawal site to a water hauling vehicle without metering and recording. Records maintained by the docket holder and kept at the WBLR withdrawal site (or at an alternative site approved in writing by the Executive Director) will include the trucking company name, license plate, name of the driver, amount of water transferred, date and time of transfer and destination of the transported water. Surface water withdrawals from the WBLR withdrawal site shall only be used to support Stone’s natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the DRB in the Commonwealth of Pennsylvania (Condition k. in the Decision section of this docket).

All water withdrawn from the WBLR withdrawal site shall be treated to prevent the spread of potentially invasive, harmful, or nuisance species from entering other watersheds in the DRB as required in the approved Invasive Species Control Plan (ISCP) described in Condition r. in the Decision section of this docket.

Unused surface water from any of the docket holder’s Commission approved natural gas development and extraction site activities targeting shale formations in the DRB may be transported to and used at other Commission and state-approved well pads targeting shale formations controlled by the docket holder in the DRB, with the written approval of the Executive Director. Such transfers shall also be reported to the Commission. The Commission encourages the reuse of recovered fracturing fluids (flow back and production fluids), however reuse must be in accordance with the terms and conditions contained in natural gas well pad dockets that may be issued within the DRB. Any reuse shall also be reported to the Commission.

No recovered fracturing fluids shall be used for any purpose other than hydraulic fracturing at natural gas wells targeting shale formations.

No water, fresh or otherwise (e.g. cement mixer wash-out, truck wash water, etc) shall be discharged to waters of the DRB except in accordance with written approvals from the Commission and/or the appropriate state agency (Condition q. in the Decision section of this docket).

The withdrawal location will have restricted access, through use of fencing, signage or other similar means. The WBLR withdrawal site location will be restricted to operations associated with the function of water withdrawal. These areas will not be used as staging areas for chemical additives, except as necessary as part of the ISCP, or fuels above what is likely needed to run an emergency generator if one is used.

### ***Pass-by Flow***

The withdrawal shall allow at all times of the year, a minimum flow of water in the WBLR to pass-by as measured below the intake at the WBLR withdrawal site. The WBLR withdrawal site shall be fitted by the docket holder with a gage (the Stone WBLR gage) or another gage or other instrumentation approved by the Executive Director and calibrated to the downstream Aldenville gage station flow data. The installed gage shall be a real-time monitoring and recording gage. For the period of record from 1987 to 2007, the average daily flow statistic calculated for the 40.6 square mile drainage area at the Aldenville gage is 84.1 cubic feet per second (cfs). The proportional average daily flow statistic for the 11.5 square mile drainage area at the Stone WBLR withdrawal site is 23.7 cfs. The pass-by flow, which is based on 25 percent of the average daily flow, shall be a minimum of 5.9 cfs as measured at the Stone WBLR gage. Daily withdrawal rates shall be reduced as appropriate to ensure that a minimum of 5.9 cfs passes by the Stone WBLR gage (Condition o). Withdrawals shall cease entirely if the 24-hour average flow at the Stone WBLR gage, less the withdrawal, is 5.9 cfs or less. The pumps shall be shut off, not permitting any additional withdrawals from the WBLR until the flow as measured at the Stone WBLR gage is at least 8.2 cfs for a 24 hour period. The monitoring and metering of the withdrawal activities at the WBLR withdrawal site shall be described in the Operations Plan. Pass-by flows for the WBLR withdrawal site are summarized in the table below:

<b>STREAM IDENTITY</b>	<b>NEAREST USGS STREAM GAGE</b>	<b>25% OF AVERAGE DAILY FLOW AT ALDENVILLE GAGE (DATA YEARS 1987-2007)</b>	<b>INTAKE PUMP CAPACITY</b>	<b>MINIMUM PASS-BY FLOW REQUIRED AT WITHDRAWAL SITE</b>
West Branch Lackawaxen River Intake	Aldenville Gage #1428750	21 cfs	1,040 gpm	5.9 cfs

The pass-by flow is established from readily available data from the Aldenville gage station operated by the United States Geologic Survey (USGS). The gauge is located approximately 4.0-miles downstream of the proposed WBLR withdrawal site location.

The Stone WBLR gage shall be periodically calibrated by the docket holder. The calibration schedule will be based on the same frequency used by the USGS to re-calibrate its gage station. The Operations Plan shall establish the calibration schedule. The data from the Stone WBLR gage will be converted to daily average flow data for reporting and pass-by flow compliance monitoring. The docket holder shall compare the Stone WBLR gage and the USGS Aldenville gage station no less than once per week through direct observation and real time flow measurements provided by the USGS website when the flow measured at the Stone WBLR gage is 10 cfs or more. When the 24 hour average flow at the Stone WBLR gage is less than 10 cfs the docket holder shall compare the USGS Aldenville gage station and the Stone WBLR gage no less than once per day to ensure compliance with the 5.9 cfs pass-by flow. The Stone WBLR gage must be checked at the minimum intervals set forth above on days when water is withdrawn and also a minimum of 24 hours prior to the initiation of withdrawal to establish that the pass-by flow meets the minimum requirement. No water withdrawal may be initiated at the WBLR withdrawal site until an operating gage is established and a monitoring and reporting program is in effect in accordance with the requirements of the Operations Plan and conditions of this docket.

### ***Operations Plan***

In accordance with Condition t. of the Decision section of the docket, at least 90 days prior to the scheduled initiation of any site clearing or construction at the WBLR withdrawal site, the docket holder shall submit an Operations Plan (OP) for the WBLR withdrawal site to the Executive Director. The OP shall include the specifics of the site operations, which shall including, at a minimum, the procedures necessary to comply with the conditions in the Decision section of this docket. In accordance with Condition s. in the Decision section of the docket, no withdrawal of surface water from the WBLR withdrawal site is permitted until the OP is approved by the Executive Director in writing and all systems and equipment required to comply with this docket are operational.

The project is designed to conform to the requirements of the *Water Code* and *WQR* of the DRBC. Commission staff has imposed requirements and limitations to protect the water resources of the basin. For on-site water withdrawal actions and activities related to the water withdrawal actions, Commission staff has included conditions in the Decision section of this docket.

The DRBC estimates that the project withdrawals will result in a consumptive use of 100 percent of the total water withdrawn from the WBLR. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*. This withdrawal is not at present subject to water supply charges as the

point of withdrawal is located above the USGS stream gaging station at Montague, NJ. The docket holder shall be subject to any future water supply charges applicable to withdrawals located above the Montague gaging station resulting from any changes to the DRBC's existing water supply regulations.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

### **C. DECISION**

I. Effective on the approval date for Docket No. D-2009-13-1 below the project and appurtenant facilities as described in Section A "Description" are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. The project and the appurtenant facilities described in Section A "Description" shall be added to the Natural Gas Well & Withdrawal Database maintained by the DRBC.

b. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

c. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project or activities associated with this project.

d. No new construction, addition or modification shall be permitted unless the lowest operating floor of such facility is above the Flood Protection Elevation, or the facility is flood proofed according to plans approved by the Commission, nor unless emergency plans and procedures for action to be taken in the event of flooding are prepared. Plans shall be filed with the Delaware River Basin Commission and the concerned state or states. The emergency plans and procedures shall provide for measures to prevent introduction of any pollutant or toxic material into the flood water or the introduction of flood waters into potable supplies.

e. Final construction plans and specifications must be submitted by the docket holder and be approved by the Executive Director of the DRBC before any water withdrawal, site clearing, site preparation, or construction commences at the withdrawal site.

f. Upon completion of construction of the approved project, the docket holder shall submit a statement to the DRBC, signed by the docket holder's engineer or other responsible agent, advising the Commission that the construction has been completed in compliance with the approved plans, and stating the final construction cost of the approved project and the date the project is placed in operation.

g. This docket approval shall expire three years from Approval Date set fourth below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

h. The docket holder shall follow sound practices of excavation, backfill and reseeded at the WBLR withdrawal site to minimize erosion and prevent non-point source pollutants from leaving the site. The docket holder shall abide by all state and local erosion and sediment control, state stream bank disturbance permits, local floodplain development requirements and post-construction storm water management control requirements.

i. The docket holder shall submit a Non-Point Source Pollution Control Plan (NPSPCP) for the WBLR withdrawal site in accordance with Section 3.10.3.A.2.e, of the DRBC Water Quality Regulations to the Executive Director of the DRBC at least 45 working days prior to the scheduled initiation of any site clearing or construction at the site. The NPSPCP and erosion and sedimentation control plan shall be designed in accordance with the more stringent of Commission and PADEP requirements. Prior to commencing any site clearing or construction work at the WBLR withdrawal site, the docket holder shall obtain Executive Director's written approval for the NPSPCP, as well as, any other necessary federal, state, and local authorizations. The NPSPCP shall describe erosion and sedimentation controls to be implemented at the site and shall include measures to control stormwater both during and post construction. The post-construction portion of the plan shall describe the final site conditions including a pre- and post-construction project hydrograph analysis, permanent facilities, equipment, access roads, and all sediment and erosion and stormwater control structures necessary after final site restoration has been achieved.

j. Nothing herein shall be construed to grant the docket holder Commission approval or permission to commence any natural gas well development and extraction activities in the Delaware River Basin targeting shale formations including, but not limited to; preparing any natural gas well sites, drilling any natural gas well, stimulating any natural gas well, or storing, transporting, or disposing of any natural gas well hydro-fracturing or flow-back fluid.

k. This surface water withdrawal shall only be used in support of the docket holder's natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the Delaware River Basin (DRB) in the Commonwealth of Pennsylvania for which both the Commission and the PADEP have issued approvals as more fully described in Section A.3 Area/Wells Served in the Description section of this docket. The docket holder must obtain the Commission modification of this docket before using any water withdrawn from the Stone WBLR Withdrawal Site beyond the locations and/or outside of the scope of activities described in Section A.3. Area/Wells Served.

l. The docket holder shall make the surface water withdrawal location, associated natural gas well pad sites, associated natural gas wells, and operational records associated with any water withdrawal at the WBLR withdrawal site (or at an alternative site approved in writing

by the Executive Director) available at all times for inspection by the DRBC and PADEP as appropriate.

m. No water withdrawal from the WBLR shall commence until the docket holder has received approval of the Commission and PADEP natural gas development and extraction activities targeting shale formations within the drainage area of Special Protection Waters within the Delaware River Basin (DRB) in the Commonwealth of Pennsylvania.

n. Total surface water withdrawals from the project Intake No. 001 shall not exceed 0.7 mgd. The instantaneous rate of withdrawal from Intake No. 001 shall not exceed 1,040 gpm. Withdrawals are subject to the limitations in Condition I.m. below. A “day” is defined as the 24-hour period between 12:00 AM and 12:00 AM the following day.

o. The project withdrawal must not cause the streamflow in the WBLR to be less than 5.9 cfs at the point of taking at the Stone WBLR gage. The WBLR withdrawal site shall be fitted by the docket holder with a gage (the Stone WBLR gage) or another gage or other instrumentation approved by the Executive Director and calibrated to the downstream Aldenville gage station flow data. The installed gage shall be a real-time monitoring and recording gage. Daily withdrawal rates shall be reduced as appropriate to ensure that the project withdrawal does not cause the stream flow in the WBLR to be less than 5.9 cfs as measured at the Stone WBLR gage. Whenever the 24-hour average stream flow at the Stone WBLR gage, less the Stone WBLR water withdrawal, is less than or equal to this amount, no withdrawal shall be made and the entire stream flow must be allowed to pass. Withdrawal from the WBLR at the WBLR withdrawal site shall not resume until the flow as measured the Stone WBLR gage is at least 8.2 cfs for a 24 hour period. Whenever the flow at the Stone WBLR gage is 10 cfs or more, the docket holder shall check the Stone WBLR gage and the USGS Aldenville gage station a minimum of once per week through direct observation and real time flow provided by the USGS website. Whenever the 24-hour average flow at the Stone WBLR gage is less than 10 cfs the docket holder shall check the Aldenville gaging station and Stone WBLR gage on a daily basis to ensure compliance with the 5.9 cfs pass-by flow. The docket holder is required to check the flow gages at the intervals set forth above only on days when water is withdrawn and shall also check the flow gages a minimum of 24 hours prior to the withdrawal to establish that the pass-by flow meets the minimum requirements.

p. Before commencing construction on the surface water withdrawal intake at the WBLR withdrawal site, the docket holder shall first obtain the approval of the intake design from the Commission, PAF&BC, the USACE and U.S. Fish & Wildlife Service. The intake shall be designed to minimize to the greatest extent possible, impingement and entrainment impacts in the vicinity of the withdrawal site. The docket holder shall provide the Commission with a copy of the intake design, and shall provide the Commission with copies of all correspondence between the docket holder and the other government agencies reviewing the intake design at the time the correspondence is sent or received.

q. Water withdrawn from the Stone's WBLR withdrawal site shall only be transported in water hauling tanks that are free of contaminants (except for the chemicals added as part of the Invasive Species Control Plan (ISCP)). Prior to the transfer of any water to a water hauling vehicle, the onsite pump operator shall verify that the water tank interior is clean and that the tank is dedicated for the use of hauling of fresh water.

r. The docket holder shall not allow any unused water withdrawn from the WBLR withdrawal site, fresh or otherwise, to be discharged to waters of the DRB without the advance written approval of the DRBC and the appropriate state agency or outside the DRB without the written approval of the appropriate state agency. The docket holder shall convey all wastewater created as a result of natural gas development and extraction activities undertaken with water withdrawn from the WBLR withdrawal site to treatment and disposal facilities approved by the DRBC and by the appropriate state and or federal agency (if in the DRB and subject to Commission approval), or if outside the DRB, by the appropriate state and/or federal agency.

s. If determined to be applicable, the docket holder shall submit to the DRBC an Invasive Species Control Plan (ISCP) with the Operation Plan required in Condition t. below. The ISCP shall include the management and treatment program that the docket holder will implement to ensure that all water withdrawn from the Stone WBLR Withdrawal Site prior to distribution to the transportation vehicles is managed or treated to prevent the spread of potentially invasive, harmful, or nuisance species from entering other watersheds in the DRB. The docket holder shall comply with the ISCP approved by the Executive Director.

t. At least 90 days prior to the scheduled initiation of any site clearing or construction and prior to commencement of any withdrawal operations at the Stone WBLR withdrawal site, the docket holder shall submit an Operation Plan to the DRBC. No withdrawal, site clearing or construction shall commence until the docket holder has received the Executive Director's written approval of the Operation Plan. The docket holder shall comply with the Operation Plan approved by the Executive Director. The Operation Plan shall include a procedures for metering, recording, and reporting the pass-by flow and for complying with the pass-by flow requirements, as well as, procedures for monitoring, reporting and recording the usage, transport, and destination of all water withdrawn from the site. The Executive Director may require real time monitoring, reporting and recording as part of the Operation Plan.

u. The docket holder shall meter the project surface water withdrawals with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of average daily flow rate and daily and monthly totals of the withdrawal shall be maintained. Unless the approved Operation Plan provides otherwise, the docket holder shall at a minimum, submit an electronic copy of this record to the Commission by the 5th calendar day of the month following the month in which the operations occurred beginning with the month that water withdrawal operations commence. In addition the docket holder shall make such record(s) available at any time to the Commission or the PADEP if requested by the

Executive Director. The docket holder shall also submit a record of monthly withdrawal use totals to the PADEP annually. The docket holder shall register with the PADEP all surface water sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

v. Unless the approved Operation Plan provides otherwise, the docket holder shall meter, record, and report the volume of surface water withdrawn from the on-site storage tanks as it is distributed to the hauling vehicles. Records maintained by the docket holder shall be kept at the WBLR withdrawal site (or at an alternative site approved in writing by the Executive Director). The records shall include the trucking company name, license plate number, name of the driver, amount of water transferred, date and time of transfer and destination of the transported water. Daily records of the amounts of the water withdrawals shall be automatically metered and recorded by the flow meter. The docket holder shall report this information to the Commission at the same frequency as provided in Condition u. above. In addition the docket holder shall make the WBLR withdrawal site records available at any time to the Commission and PADEP for inspection, if requested by the Executive Director.

w. In accordance with DRBC Resolution No. 87-6 (Revised), the docket holder shall continue to implement to the satisfaction of the DRBC, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate unaccounted-for water and determine the current status of system infrastructure; recommendations to monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.

x. The docket holder shall implement to the satisfaction of the Commission, the continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. This includes the reuse and recycling of flow-back waters for well stimulation activities to the greatest extent economically and technically feasible at natural gas well drilling sites targeting shale formations within the drainage area of Special Protection Waters within the Delaware River Basin (DRB) in the Commonwealth of Pennsylvania. The docket holder shall report annually to the Commission on the actions taken pursuant to this program and the impact of those actions.

y. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC, to the attention of the Project Review Section, at least 12 months prior to the expiration date below (unless written permission has been granted by the Executive Director for submission at a later date), using the appropriate DRBC application form. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

z. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

aa. Drought Plan - At least 90 days prior to the scheduled initiation of any site clearing or construction and prior to commencement of any withdrawal operations at the WBLR withdrawal site, the docket holder shall submit a drought emergency plan to the DRBC.

bb. Drought Emergencies - For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the docket holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by the Governor of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

cc. The Commission has determined that the review of the reports and submissions developed under the above docket conditions, inspections and any amendments or changes thereto will continue to cause the Commission to expend exceptional efforts and costs. As such, Commission staff will continue to maintain a record of all time and expenses associated with the post-docket approval reviews of the project and associated deliverables. A fee in the amount of 100% of these costs will be assessed on a quarterly basis and the docket holder shall pay the amount assessed within thirty days of the date of the assessment. In the event of a docket amendment or renewal, the larger of actual project review costs or the calculated project review fee will be charged.

dd. The docket holder and any other person aggrieved by a reviewable action or decision taken by the Executive Director or Commission pursuant to this docket may seek an administrative hearing pursuant to Articles 5 and 6 of the Commission's *Rules of Practice and Procedure*, and after exhausting all administrative remedies may seek judicial review pursuant to Article 6, section 2.6.10 of the *Rules of Practice and Procedure* and section 15.1(p) of the Commission's *Compact*.

ee. Failure to comply with any of the terms and conditions of this docket may result in sanctions by the Commission in accordance with Section 14.17 of the Compact and the Commission's regulations including without limitation its Rules of Practice and Procedure.

ff. The docket holder shall report to the Commission Project Review Section Supervisor any violation of the docket conditions within 48-hours of the occurrence or upon the docket holder becoming aware of the violation. In addition, the docket holder shall report in writing any violations of the pass by requirements, the daily or monthly water allocations, the approved operations plan or any other docket conditions to the DRBC Project Review Section Supervisor within three days of the violation. The docket holder shall also provide a written explanation of the causes of the violation within 30 days of the violation and shall set forth the

action(s) the docket holder has taken to correct the violation and protect against a future violation.

gg. If the surface water withdrawal operations associated with this docket approval significantly affects or interferes with any domestic or other existing wells or surface water supplies, or if the docket holder receives a complaint by any user of wells or surface water supplies, the docket holder shall immediately notify the Executive Director of any such affects, interferences or complaints and unless excused by the Executive Director, shall investigate such affects, interferences or complaints. The docket holder shall also advise the complainants that they may also direct their phone call notifications of potential interference complaints to the DRBC Project Review Section at 609-883-9500, extension 216. Oral notification by the docket holder must always be followed up in writing or via email directed to the Executive Director. In addition, the docket holder shall provide written notification to all complainants of the docket holder's responsibilities under this condition. Any well or surface water supply which is substantially adversely affected, or otherwise rendered unusable as a result of the docket holder's project withdrawal, shall be repaired, replaced or otherwise mitigated at the expense of the docket holder. The docket holder shall prepare a report of investigation and/or mitigation plan prepared by a qualified professional and shall submit the report to the Executive Director as soon as practicable or as directed by the Executive Director. The Executive Director shall make the final determination, subject to the right of appeal, regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

hh. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

ii. The docket holder shall pay any water supply charges that become applicable to the withdrawal authorized by this Docket as a result of any change to the Commission's water supply charge regulations.

**BY THE COMMISSION**

**APPROVAL DATE: July 14, 2010**

**EXPIRATION DATE: July 14, 2015**