

PROPOSED RULEMAKING

DELAWARE RIVER BASIN COMMISSION

[25 PA. CODE CH. 901]

Proposed Amendments to the Water Quality Regulations, Water Code and Comprehensive Plan to Provide for Regulation of Natural Gas Development Projects

Summary: The Delaware River Basin Commission (Commission) proposes to amend its Water Quality Regulations (WQR), Water Code and Comprehensive Plan by adding a new Article 7 to the WQR providing for the conservation and development of water resources of the Delaware River Basin during the implementation of natural gas development projects. Proposed Article 7 applies to all natural gas development projects involving siting, construction or use of production, exploratory or other wells in the Basin regardless of the target geologic formation, and to water withdrawals, well pad and related activities and wastewater disposal activities comprising part of, associated with or serving such projects.

Dates and Locations: The public hearings are scheduled for two dates in February 2011 at three locations as set forth in detail on the Commission's web site at www.drbc.net.

Addresses: Written comments for the record may be submitted either (a) electronically, through the public comment collection system to which a link is provided on the DRBC web site, www.DRBC.net; or (b) in hard copy, via U.S. Mail to Natural Gas Regulations c/o Commission Secretary, DRBC, P. O. Box 7360, West Trenton, NJ 08628-0360; via private carrier to Natural Gas Regulations c/o Commission Secretary, DRBC, 25 State Police Drive, West Trenton, NJ 08628-0360; or by hand to DRBC staff at any of the Commission's public hearings or at the Commission's office building in West Trenton, New Jersey. Comments submitted by other means will not be included in the rulemaking record.

Further Information, Contact: Detailed information concerning the public hearings and submission of written comments is posted on the Commission's web site at www.DRBC.net. Questions concerning how to submit oral and written comments also may be addressed to Mr. John Calkin at 609-477-7266 or Ms. Paula Schmitt at 609-883-9500, ext. 224.

Supplemental Information: The Draft Natural Gas Development Regulations (draft regulations) were posted on the Commission's web site, www.drbc.net, on December 9, 2010 and remain available there. Notice of the availability of the draft regulations was published in the Federal Register on January 1, 2011. Hard copies of the draft regulations may be obtained at cost by contacting Ms. Paula Schmitt at 609-883-9500, ext. 224.

Purpose, Authority and Scope: The Commission is proposing a new Article 7 of DRBC's Water Quality Regulations to protect the water resources of the Basin during the construction and operation of natural gas development projects. This Article applies to all natural gas development projects involving siting, construction or use of production, exploratory or other wells in the Basin regardless of the target geologic formation, and to water

withdrawals, well pad and related activities and wastewater disposal activities comprising part of, associated with or serving such projects. The provisions of this Article rely on the state oil and gas regulatory programs of Pennsylvania and New York where separate administration by the Commission would result in unnecessary duplication. If approved, Article 7 would supersede the Executive Director's determinations issued on May 19, 2009, June 14, 2010 and July 23, 2010.

Draft Article 7 implements the statutory authority that the Basin states of Delaware, New Jersey, New York and Pennsylvania and the federal government granted to the Commission in the Delaware River Basin Compact and supplements the Commission's Comprehensive Plan with respect to natural gas development projects within the Basin. Commission regulations are one mechanism by which the Basin states and federal government work together to manage water resources in an integrated manner for the benefit of all citizens of the Basin.

Strategic Regulatory Framework: Proposed Article 7 is divided into sections addressing water sources for natural gas development, well pad siting, and wastewater disposal. The Commission relies on the state regulatory programs applicable to oil and gas development projects and the experienced staff of the states in which natural gas wells are located to manage well construction and operation.

Water Sources for Uses Related to Natural Gas Well Development: Existing Commission regulations establish a program for regulating water withdrawals. These Commission requirements serve multiple water resources objectives, including among others, preserving river flows to protect in-stream living resources and downstream withdrawers, and ensuring adequate assimilative capacity for approved discharges. The Commission has in other regulations established thresholds for project review based on the thirty-day average volume of water withdrawals. Water withdrawals for natural gas development, including high volume hydraulic fracturing, may have substantial water quality impacts due to their high intermittent daily withdrawal volume. Consequently, this Article requires that water used for natural gas development projects must come from water sources that have been approved by the Commission for use for natural gas development. The requirements for approval are designed to protect minimum stream flows, provide a record of water transfers and otherwise ensure that water resources are not adversely affected. A streamlined approval process is provided that encourages the use of existing Commission-approved water sources to minimize the need to construct and operate new water sources. This Article permits water sources located within the physical boundaries of an approved Natural Gas Development Plan (NGDP) to be approved for uses within the NGDP. This Article also permits flowback and production waters, treated wastewater and mine drainage waters to be reused for natural gas development under specified conditions.

Natural Gas Development Plan (NGDP) and Well Pad Siting Requirements: The severity of the risks to water resources from well pad construction and operation depends in large part on where the well pads are placed. Article 7 seeks to minimize impacts to water resources from natural gas development by establishing NGDP and well pad siting and planning requirements, including:

- Mandatory preparation of NGDPs by sponsors of natural gas well pad projects who have total lease holdings in the Delaware River Basin of over 3,200 acres or intend to construct more than five natural gas well pads designed for any type of natural gas well.

- Identification, through the NGDP, of the project sponsor's foreseeable natural gas development in a defined geographic area. The NGDP requirement is designed to foster protection of water resources through broad scale lease area planning rather than limited site-by-site decision making, thereby encouraging development only in areas most suitable for it and minimizing impact to sensitive water resource features. These plans identify geographic and hydrological constraints to natural gas development and identify measures to minimize those impacts.

- Restrictions regarding siting in flood hazard areas, on steep slopes, and areas that serve as critical habitat for federal- or state-designated threatened and endangered (T&E) species.

- Minimum setbacks from water bodies, wetlands, surface water supply intakes and water supply reservoirs at distances specified in the regulations, and from occupied homes, public buildings, public roads, public water supply wells, and domestic water supply wells as provided by regulations of the state in which the well pad is located.

- A requirement for pre- and post-project monitoring of surface water and groundwater near well pads involving high volume hydraulically fractured wells, including a characterization of the hydrology, water chemistry and biological resources of surface waters and the water chemistry of groundwaters.

- Requiring the monitoring, tracking, and reporting of water usage and wastewater treatment and disposal. All wastewaters must be transported to approved treatment and disposal facilities.

Well Construction and Operation Procedures: The Commission principally relies on the states' implementation of state laws, regulations and programs concerning construction and operation of natural gas wells, well pads, and appurtenant structures to satisfy the requirements of the Compact and the Commission's Comprehensive Plan. In proposed Article 7, the Commission is separately requiring that all non-domestic wastewater be transferred to appropriate tanks for temporary storage on the well pad site or to a centralized wastewater storage facility and that fluids and drill cuttings from horizontal wellbores in the target formation be beneficially reused or disposed of at an appropriate waste facility.

Wastewater Generated from Natural Gas Activities: Wastewater produced at natural gas well sites contains salts and other chemicals that present water treatment challenges. Article 7 provides that any wastewater treatment facility within the Basin may accept non-domestic wastewater from a natural gas development project only if the facility first obtains approval from the Commission in the form of a docket or modification of an existing docket.

To obtain such an approval, a project sponsor must submit a treatability study to demonstrate that acceptance of the non-domestic wastewater will not interfere with the facility's operations, and provide information to show that the facility's discharge will neither (a) cause primary and secondary Safe Drinking Water Act standards to be exceeded where surface water may be used as a public water supply; nor (b) violate zone-specific stream quality objectives and effluent limitations. Article 7 in-

cludes a comprehensive tracking system designed to promote the proper disposal of wastewater from natural gas development projects.

Approval by Rule (ABR) Procedures: Existing procedures for obtaining a Commission decision on a project application generally take six to nine months. Article 7 provides for a streamlined review process for natural gas development projects that demonstrate that they satisfy certain criteria. Commission approval for projects that meet the specified criteria may be issued through an "approval by rule" involving public notice and application to and approval by the Executive Director in a process that may take fewer than 30 days. Eligible projects include (a) bulk water sales for uses related to natural gas by holders of valid Commission approvals that can provide water within their current allocations; (b) well pad projects that conform to a Commission-approved Natural Gas Development Plan; (c) well pad projects that conform to specified restrictions and setback requirements; and (d) water supply projects involving the reuse of recovered flowback and production fluids as make-up water for hydraulically fracturing natural gas wells. In addition, projects that do not involve fracturing or that consist of well pads constructed exclusively for the development and operation of exploratory natural gas wells and that are expected to use no more than 80,000 gallons or equivalent of hydraulic fracturing fluids (low volume hydraulically fractured wells) are eligible for an ABR if they comply with applicable state programs and Commission setbacks and requirements. Approval by rule is not available for projects located in National Park Service Management Areas or in the watersheds of the New York City reservoirs.

Financial Assurance Requirements: Financial assurance for the plugging, abandonment and restoration of natural gas wells and the remediation of any pollution from natural gas development activities is required in the amount of \$125,000 per natural gas well. After well installation and hydraulic fracturing are complete, the Executive Director may approve a reduction in the amount of the financial assurance required for individual wells if there is no evidence of harm to the water resources of the Basin and the project sponsor obtains a separate "excess" insurance policy or other financial assurance instrument. The text of proposed Article 7 of the Commission's Water Quality Regulations, Water Code and Comprehensive Plan is set forth below:

Article 7 of the Administrative Manual Part III—Basin Regulations

Section 7.1. Purpose, Authority, Scope and Relationship to other Requirements and Rules.

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(f) Well Pads added to an approved NGDP

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Section 7.6. Wastewater Generated by Natural Gas Development.

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(g) Wastewater Imports

(h) Underground Injection Control

Appendix: Wording of Financial Assurance Instruments

ARTICLE 7

Section 7.1. Purpose, Authority, Scope and Relationship to other Requirements and Rules.

(a) *Purpose.* The purpose of this Article is to protect the water resources of the Delaware River Basin during the construction and operation of natural gas development projects. To effectuate this purpose, this Section establishes standards, requirements, conditions and restrictions to prevent, reduce or mitigate depletion and degradation of surface and groundwater resources and to promote sound practices of watershed management including control of runoff and erosion.

(b) *Authority.* This Article implements Sections 3.3, 3.6(b), 3.8, 4.1, 5.2, 7.1, 13.1 and 14.2(a) of the Delaware River Basin Compact and supplements the Commission's Comprehensive Plan with respect to natural gas extraction projects within the Basin.

(c) *Scope.* This Article applies to all natural gas development projects as defined in Section 7.2 including the construction or use of production, exploratory or other natural gas wells in the Basin regardless of the target geologic formation, and to water withdrawals, well pad and related activities, and wastewater disposal activities comprising part of, associated with or serving such projects.

(d) *Comprehensive Plan and Project Review.* The Commission has determined that the provisions of this Article are required for the immediate and long range use of the water resources of the Basin and are therefore incorporated into the Commission's Comprehensive Plan. The Commission has also determined that all natural gas development projects may have a substantial effect on the water resources of the Basin. Consequently, in accordance with Section 3.8 of the *Compact*, no natural gas development project may be undertaken without first having obtained the approval of the Commission. Any approvals of natural gas development projects granted by the Commission or the Executive Director in accordance with Section 3.8 of the *Compact* or otherwise will contain such conditions as are appropriate to ensure that the project does not conflict with the provisions of this Section.

(e) *Planning Framework.* In accordance with Section 13.1 of the *Compact*, the Commission has adopted and from time to time amends a Comprehensive Plan designed to facilitate the optimum planning, development, conservation, utilization, management and control of the water resources of the Basin to meet present and future needs. The Plan consists of certain public and private facilities and projects, statements of policies, and programs that the Commission has determined are necessary to govern the proper development and use of the water resources of the Delaware River Basin. Recognizing that the goals of the Comprehensive Plan could not be achieved without implementation authority, the signatory parties adopted *Compact* provisions to enable the Commission to integrate and achieve the *Compact's* multiple objectives. These provisions include among others the Commission's project review authority (*Compact*, Section 3.8), the Commission's authority to control future pollution that may injuriously affect the waters of the basin (Article 5 of the *Compact*) and the Commission's authority to promote sound principles of watershed management (Article 7 of the *Compact*).

The Commission concludes that management of natural gas development projects should promote use and devel-

opment of the Basin's water resources in a sustainable manner and should be conducted pursuant to rules and regulations that avoid pollution of or injury to the water resources of the Basin. The Commission concludes that these goals and the other goals of the Comprehensive Plan should be realized by a regulatory regime that:

(1) Builds on the rich history of planning in this region, including:

(i) Designation of 150 of 200 miles of the non-tidal river in the Upper Basin as Wild and Scenic pursuant to the National Wild and Scenic Rivers Act and the establishment of three National Park Units associated with the mainstem River;

(ii) Promulgation of Park Unit Management Plans, which recognize that the forested headwaters of the Delaware River Basin are critically important to the supply of clean water to satisfy basin needs for drinking water, aquatic life, recreation, and other designated uses;

(iii) Establishment of Management Plan Goals, the first of which is protection of the high water quality of the Upper Basin;

(iv) Development of a basinwide Water Resources Plan; and

(v) Designation of Special Protection Waters.

(2) Promotes the principles of sound watershed management contemplated in Article 7.1 of the *Compact* and the guiding principles enumerated in the *Water Resources Plan for the Delaware River Basin* (adopted in September 2004 by the governors of the four Basin states, the Environmental Protection Agency, the National Park Service, the U.S. Fish and Wildlife Service, US Army Corps of Engineers, US Geological Survey and the Natural Resources Conservation Service). Prominent among these principles is the recognition that integrated water management is crucial for sound results and that water resource management decisions should:

(i) Link water quality and water quantity with the management of other resources;

(ii) Recognize hydrological, ecological, social and institutional systems;

(iii) Recognize the importance of watershed and aquifer boundaries; and

(iv) Avoid shifting pollution from one medium to another or adversely impacting other locations; and push the boundaries of technological possibility while balancing economic constraints.

(3) Improves land management which is essential for improving the condition of water resources.

(i) Decision-making should be based on sound scientific principles and an understanding of the relationship between land and water resources;

(ii) Effective integrated water management requires coordinated planning and action by all levels of government including federal, regional, state and local levels; and

(iii) Existing planning efforts can provide the foundation for improving land and water resources management.

(4) Manifests regulations through a strategic regulatory framework that addresses water withdrawals, well pad siting, wastewater disposal, surface and groundwater monitoring, and water use accounting. The framework implements standards for well construction and opera-

tions primarily by relying on host state review and requirements as specified in Section 7.1 (i). The framework includes:

(i) Water withdrawal requirements that preserve river flows to protect instream living resources and downstream withdrawers, and ensure adequate assimilative capacity for approved discharges;

(ii) Well Pad requirements that protect surface and groundwater resources and facilitate tracking of water use from the withdrawal or diversion point to the point of use, and wastewater from the point of production to the point of treatment and disposal;

(iii) Natural Gas Development Plan requirements that foster protection of water resources through broad scale, rather than limited site-by-site decision making, with due consideration of environmentally sensitive landscapes;

(iv) Wastewater Docket provisions that protect receiving waters within the Delaware River Basin; and

(v) Commission approval processes that may take the form of coverage by, a protected area permit, a site-specific docket, an area-wide or leasehold area docket based on a Natural Gas Development Plan, or an Approval by Rule.

(f) *Relationship to Other Commission Requirements.* The provisions of this Article are in addition to all applicable requirements in other Commission regulations, dockets and permits. This Article supplements the Groundwater—Basinwide regulations set forth in Section 3.40 of the Commission's Administrative Manual—Part III Water Quality Regulations (WQR), 18 C.F.R. Section 410, that protect groundwater uses and quality and Section 2.20 of the Commission's Water Code that addresses groundwater apportionment, storage, recharge and withdrawal.

This Article also helps implement the Commission's Special Protection Waters (SPW) anti-degradation program where natural gas development projects are located within or affect waters designated by the Commission as Special Protection Waters or their drainage areas. The SPW regulations require among other things that a project cause no measurable change to existing water quality from point or nonpoint sources at control points identified in the SPW regulations and that the project implement non-point source controls (WQR 3.10.3A.2.b. and e.). An applicant for approval of a natural gas development project located in the drainage area of Special Protection Waters must comply with all SPW regulations in addition to this Article.

This Article may also assist in implementing, as applicable, the effluent limitations and stream quality objectives in Articles 3 and 4 of the WQR; the conservation standards in Article 2 of the Commission's Water Code, the flood plain requirements in Article 6 of the Administrative Manual—Part III Flood Plain Regulations and the water withdrawal requirements and limitations in the Ground Water Protected Area Regulations.

Upon adoption of this Article, the Executive Director Determinations dated May 19, 2009, June 14, 2010 and July 23, 2010 are superceded by the applicable provisions of this Article.

(g) *Severability.* The provisions of this Article are severable. If any provision of this Article or its application to any person or circumstances is held invalid, the invalidity will not affect other provisions or applications of this article, which can be given effect without the invalid provision or application.

(h) *Delegation of Authority.* Pursuant to these regulations, the Commission delegates certain authority regarding the review of natural gas development projects to the Executive Director. The Executive Director may in turn delegate such authority to staff where appropriate.

(i) *Host State Regulation of Natural Gas and Exploratory Well Construction and Operation.* Pursuant to their respective sovereign authorities, the Basin states of New York and Pennsylvania have enacted statutes and promulgated regulations governing the gas industry. These state laws impose requirements on, among other things, natural gas well construction and operation to protect human health and the environment, including water resources.

Section 1.5 of the *Compact* provides that it is the purpose of the signatory parties to the *Compact* to “preserve and utilize the functions, powers and duties of existing offices and agencies of government to the extent not inconsistent with the compact.” Section 1.5 further authorizes and directs the Commission “to utilize and employ such offices and agencies for the purpose of this compact to the fullest extent it finds feasible and advantageous.” In accordance with section 1.5 of the *Compact*, the Commission will utilize and employ existing offices and rely upon agencies of the State of New York and the Commonwealth of Pennsylvania in their respective states in lieu of separately administering natural gas and exploratory well construction and operation standards.

Subject to the provisions of this Section 7.1, a project sponsor’s compliance with state laws and permit requirements relating to natural gas and exploratory well construction and operation shall constitute satisfaction of the project sponsor’s obligations under section 3.8 of the *Compact* that relate to regulation of gas well construction and operation, except as specified in Section 7.5. In particular, a project sponsor’s compliance with New York Environmental Conservation Law Article 23 (NY ECL § 23-0101 et seq.), and its implementing regulations and permitting requirements or Pennsylvania’s requirements in the Oil and Gas Act, the act of December 19, 1984 (P. L. 1140, No. 223), as amended, 58 P. S. §§ 601.101 et seq., and 25 Pa. Code Chapter 78, satisfies the Commission’s requirements with respect to natural gas well construction and operation.

Article 7 contains provisions relating to applications for natural gas well pad approvals, water withdrawal and water usage reviews, financial assurance and waste/wastewater management requirements that, when supplemented with the state programs referred to above, are necessary to prevent substantial effects on the water resources of the basin. Article 7 provisions relating to natural gas development plans are included to facilitate evaluation of actual development and planning for foreseeable development as a means to further prevent potential adverse effects on the water resources of the basin. Nothing in this Article 7 shall be construed to reduce the authority of the Commission to take actions or impose requirements as the Commission may determine to be necessary to prevent adverse impacts to water resources.

(2) *Administrative Agreements between Commission and Host States.* In accordance with and pursuant to section 1.5 of the *Compact*, the Commission and the Basin states may enter into an Administrative Agreements (Agreements) that coordinate their functions and eliminate unnecessary duplication of effort. The Agreements are designed to: effectuate intergovernmental cooperation, minimize the efforts and duplication of state and

Commission staff resources where consistent with Commission, state and federal legal requirements, ensure compliance with Commission approved basin-wide requirements, enhance early notification of the public and other concerned interests of proposed projects in the basin, indicate that the host state requirements satisfy the Commission’s regulations and clarify the relationship and project review decision making processes of the states and the Commission for projects subject to review by the states under their state authorities and by the Commission under Section 3.8 and Articles 10 and 11 of the *Compact*.

In accordance with section 1.5 of the *Compact*, the Agreements may be used as a vehicle to further reduce any overlap between the administration of the Commission’s natural gas development regulations and the regulations of New York and Pennsylvania.

Section 7.2. Definitions.

For purposes of this Article, the following terms and phrases have the meanings provided. These definitions of necessity differ from those provided in regulations of one or more of the Commission’s member states and federal agencies.

Access road—a road constructed to the well pad that provides access for the drilling rig and other drilling-related equipment. The road is also used to inspect and maintain the well during the operating phase.

Agriculture, agricultural operations—the use of land to produce crops, livestock or poultry; the activities undertaken to grow, produce, harvest and distribute crops livestock or poultry.

Agricultural land—any parcel of land whose predominant use is categorized as agriculture or agricultural operations by the federal satellite imagery or official state orthophotography as of January 2010.

Approval by rule (ABR)—written approval to proceed with natural gas development activities through application to and approval by the Executive Director.

Artificial penetration—a human-made excavation, opening, or void beneath the ground surface that may provide a pathway for the upward migration of any potential contaminant existing or injected below the ground surface. This may include any type of well, mine, mine shafts, or tunnels.

Brine—a solution from a natural gas well that contains appreciable amounts of sodium chloride (NaCl) and/or other salts.

Best management practices (BMPs)—activities, facilities, measures, or procedures used to protect, maintain, reclaim and restore the quality of waters and the existing or designated uses of waters within the Delaware River Basin.

Centralized wastewater storage facility—an impoundment (see Impoundment) or tankage that serves or is served by more than one well pad.

Commission—the Delaware River Basin Commission (DRBC).

Commission approval—written approval in the form of a docket, protected area permit or approval by rule.

Consumptive water use—the water lost to the atmosphere from cooling devices, evaporated from water surfaces, or exported from the Delaware River Basin, or any

other water use for which the water withdrawn is not returned to the waters of the basin undiminished in quantity.

Community water supply well—See public water supply well.

Contiguous—having a common side, property line or boundary in part or entirety.

Critical habitat—specific geographic areas, whether occupied by federal or state listed species or not, that are determined by the federal or state natural resource agencies to contain physical or biological features essential to the conservation and management of species listed by the federal government or state signatories to the Delaware River Basin Compact as threatened or endangered.

Disturbed area—land area where an earth disturbance activity is occurring or has occurred. A disturbed area is devoid of trees greater than 5 meters in height and substantially devoid of native woody vegetation.

Diversion—the conveyance or transfer of water.

Docket—a legal document granting approval by the Commission, including conditions for a project having a substantial effect on the water resources of the Basin.

Domestic wastewater—liquid waste that contains pollutants produced by a domestic residence or residences. It includes liquid waste discharged after treatment by domestic wastewater treatment facilities or residences or collected in portable self-contained toilets.

Domestic water supply well—any potable water well not classified as a public water supply well. A domestic well normally serves an individual residence or small business.

Drill cuttings—rock cuttings and related mineral residues generated during the drilling of an oil, gas or exploratory well.

Drilling fluid—mud, water, brine, air, gas, or other fluids pumped down the drill string that acts as a lubricant for the bit and is used to carry rock cuttings back up the wellbore.

Earth disturbance activity—a construction or other human activity that disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, creating embankments, land development, agricultural plowing or tilling, timber harvesting activities, road construction or maintenance activities, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Erosion and sediment control plan—a site-specific plan identifying stormwater BMPs to minimize erosion from earth disturbance activity and reduce sedimentation in water bodies.

Executive Director—the Executive Director of the Delaware River Basin Commission.

Exploratory (stratigraphic) well—a well drilled outside a proven area or horizon to determine the geologic strata or the viability of natural gas production. Also referred to as a test well, such wells may or may not be converted to production wells.

Final site restoration—the process of returning or restoring the surface of a disturbed site as nearly as practicable to its condition prior to the commencement of gas drilling operations.

Flood hazard area—means the area inundated by the regulatory flood as defined in the Commission's Administrative Manual—Part III Basin Regulations—Flood Plain Regulations.

Flood, regulatory—means the flood which has a 1% chance of occurring in any one year (the "100-year flood") as defined in the Commission's Administrative Manual—Part III Basin Regulations—Flood Plain Regulations.

Flowback—retrieved and recovered fluid from hydraulic fracturing of a natural gas well.

Forested landscape—landscape classified as forested in the USGS National Land Cover Dataset (NLCD).

Forested site—any parcel of land identified for a natural gas development project that is within a forested landscape, or that is substantially covered by tree canopy as shown on state orthophotography prior to January 2010, and which will require removal of 3 or more acres of tree canopy, for the project.

Freshwater—water containing less than 1,000 milligrams per liter of dissolved solids, most often salt.

Groundwater—includes all water beneath the surface of the ground.

High volume hydraulically fractured wells—natural gas wells that use or are expected to use greater than 80,000 gallons or equivalent of hydraulic fracturing fluids, including water. Note: This definition differs from the definition established by New York State for purposes of its natural gas regulatory program.

Horizontal wellbore—the portion of a well drilled intentionally to deviate from a vertical axis, including wells drilled diagonally and horizontally.

Hydraulic fracturing—a well stimulation technique which consists of pumping water, chemicals and a propping agent, such as sand, or other fluids and materials down the wellbore under high pressure to create and maintain induced fractures in the hydrocarbon-bearing rock of the target geologic formation.

Hydraulic fracturing fluid(s)—a mixture of water, chemicals and propping agents or other fluids and materials used in the hydraulic fracturing process.

Impoundment—a liquid containment facility that is installed in a natural topographical depression, an excavation, or a bermed area formed primarily of earthen materials. Impoundments are required to be engineered and structurally sound and lined with a geomembrane or a combination of other geosynthetic materials. An impoundment used to store wastewater is termed a wastewater impoundment; an impoundment used to store freshwater is termed a freshwater impoundment.

Invasive species—a species of plant, animal or other organism that is 1) non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Leasehold—all parcels of land or mineral estates in which a project sponsor or its direct or indirect parent, subsidiary or affiliated entities has individual ownership, or common ownership, control or interest with other parties.

Low volume hydraulically fractured wells—natural gas wells that use or are expected to use less than or equal to 80,000 gallons or equivalent of hydraulic fracturing fluids, including water. Note: This definition differs from the

definition established by New York State for purposes of its natural gas regulatory program.

Mine drainage water (MDW)—all water from mines (whether by gravity flow or active pumping) or mined materials. MDW can emanate from abandoned, inactive, active or orphaned mines. In addition, MDW can be in the form of surface seepage associated with certain stockpiled (mined materials) or stockpiled mined waste products.

Natural diversity inventory assessment (NDIA)—an assessment of the occurrence of state and federally listed threatened and endangered species on a site. For projects located in the Commonwealth of Pennsylvania, a Pennsylvania Natural Diversity Inventory (PNDI) assessment satisfies this requirement. For projects located in the state of New York, an assessment done in accordance with New York, 6 NYCRR Part 182 satisfies this requirement.

Natural gas development plan (NGDP)—a project sponsor's overall plan for siting and accessing natural gas development projects in its leasehold areas.

Natural gas development project—all activities necessary for the development, extraction and transportation of natural gas including but not limited to well pad, gas collection and transmission infrastructure (e.g., pipelines, compression stations,) associated access road construction, air rotary/mud rotary natural gas exploratory or production well drilling, natural gas exploratory and production well construction and testing, support vehicle tire cleaning, dust control on access roads, storage of fresh water, hydraulic fracturing well stimulation, hydraulic fracturing chemical storage, final site reclamation, and the storage, reuse, transport and disposal of all domestic and non-domestic wastewaters, including flowback and production water.

Non-domestic wastewater—liquid wastes, treated or untreated, from sources other than domestic sanitary and gray water, including brines, production water, flowback and any water containing brines, drilling muds, hydraulic fracturing fluids, flowback, well servicing fluids, oil, production water or drilling fluids, and cement mixer or cement truck washout water.

Non-point source pollution control plan (NPSPCP)—a written plan describing the proposed erosion and sedimentation controls and pre- and post-construction stormwater management. An approved NPSPCP is required for all projects in the drainage area of the DRBC Special Protection Waters regardless of the amount of area disturbed.

Normal process for Commission review and approval of projects—a procedure involving application by the project sponsor, technical review by Commission staff, publication of a draft docket, and a public hearing followed by Commission action at a public meeting.

Pass-by flow requirement—a prescribed quantity of flow that must be allowed to pass surface water intake when withdrawal is occurring. Pass-by requirements also specify low-flow conditions during which no water can be withdrawn.

Person—any natural person, corporation, partnership, association, trust, agency, authority or other entity, public or private.

Pipeline—a temporary or permanent conduit used to convey liquids and/or gasses from one site to another. Pipelines may include, but are not limited to natural gas gathering and transmission lines, fresh water transmission lines, lines that convey flowback or production water

from a well, well pad, impoundment or centralized wastewater storage facility to another well, well pad, impoundment or centralized wastewater storage facility.

Pollutants—any substance which when introduced into surface water or groundwater degrades natural water quality, including but not limited to: dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, sediment, cellar dirt and industrial, municipal or agricultural waste.

Potable water—water suitable for human consumption.

Post Hydraulic Fracturing Report—a report listing the volumes and sources of water, wastewater, and flowback and the volume and amounts of all chemicals and additives used during the hydraulic fracturing of a natural gas well. Also included in the report are the total volume of flowback recovered from the well within 45 days of the completion of hydraulic fracturing, and the amounts and destinations of any flowback removed from the site for disposal or reuse.

Practicable—an activity capable of being done, effected, or put into practice, with available and reasonable means.

Production water—water and other fluids brought to the surface during production of oil or gas.

Project sponsor—any person proposing a project for Commission approval.

Protected area permit—a permit approved by the Executive Director in accordance with the Delaware River Basin Commission's Southeast Pennsylvania Ground Water Protected Area Regulations.

Private water supply well—See Domestic Well.

Proppant or propping agent—a granular substance (sand grains, aluminum pellets, or other material) that is carried in suspension by the hydraulic fracturing fluid, and that serves to keep the induced fractures open when hydraulic fracturing fluid is withdrawn after a hydraulic fracturing treatment.

Public water supply—a source of drinking water for a public or community water supply system.

Public water supply well—a well that serves a community, transient non-community or non-transient non-community water system that provides water to the public for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Public water system—a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if the system has at least 15 service connections or regularly serves at least 25 individuals (U. S. Code, Title 42, Section 300f(4)(A)).

Rules of Practice and Procedure (RPP)—DRBC Administrative Manual—Rules of Practice and Procedure.

Setback—minimum distance required between a well pad and other zones, boundaries, or natural or constructed landscape features such as wetlands, streams, or buildings.

Substantial funds—financial resources sufficient to demonstrate to the Commission that the approved project is active and viable and that completion is anticipated in a reasonable time.

Siting—the process of identifying and selecting the place where a well pad and ancillary facilities are planned to be located.

Special Protection Waters (SPW)—waters of the mainstem Delaware River located between Hancock, NY and Trenton, NJ and select tributary reaches classified by the Commission as Outstanding Basin Waters or Significant Resource Waters. (*DRBC Water Quality Regulations 3.10.3 A.2.*)

Spring—a place where groundwater naturally flows from rock or soil onto land or into a body of surface water.

State orthophotography—official aerial images established for counties in the basin by the states of Delaware, New Jersey and New York and the Commonwealth of Pennsylvania.

Stimulation—act of increasing production of natural gas by artificial means such as hydraulic fracturing.

Stormwater—water that originates from precipitation that washes over the land surface or any structures or improvements located on the land surface.

Structure—any assembly of material above or below the surface of land or water, including but not limited to, buildings, dams, fills, levees, bulkheads, dikes, impoundments, jetties, embankments, causeways, culverts, roads, railroads and bridges.

Surface casing—a string of casing used to isolate the well bore from fresh groundwater and to prevent the escape or migration of gas oil and other fluids from the well bore into fresh groundwater. The surface casing is also commonly referred to as the water string, water casing, or water protection casing.

Water Code—DRBC Water Code—18 CFR Part 410.

Wastewater—liquids to which pollutant(s) have been introduced and are proposed to be discharged to the ground, groundwater, or surface water, transported to storage or wastewater treatment facilities, beneficially reused or discharges to ground, groundwater or surface water after treatment. Wastewater includes both domestic and non-domestic wastewater.

Wastewater records—a record of all wastewater produced, stored, or reused at a project site on a daily basis, and the amounts and destination of all wastewaters transported offsite by individual trucks and/or pipelines.

Wastewater treatment facility—any facility storing, intercepting, transporting, treating, or discharging wastewater.

Water body—a natural or constructed landscape feature containing or conveying surface water on a permanent, seasonal, or intermittent basis, including 1) depressional features such as reservoirs, lakes, ponds, and embayments; 2) natural or constructed channels that convey flowing water such as streams, canals, ditches, and similar drainageways, and 3) wetlands.

Water for use for natural gas development—Any water intended for application in natural gas development projects, including surface water, groundwater, mine drainage, recovered flowback or production water, non-contact cooling water, or treated wastewater.

Water user—any person, who uses, takes, withdraws or diverts waters of the Delaware River Basin.

Wellbore—A borehole; the hole drilled by the bit. A wellbore may have casing in it or it may be open (uncased); or part of it may be cased, and part of it may be open. Also called a borehole or hole.

Well pad—a site constructed, prepared, leveled, or cleared in order to perform the activities and stage the equipment necessary to drill a natural gas exploratory or production well.

Wetlands—those areas which are inundated by surface or groundwater with a frequency sufficient to support a prevalence of vegetative or aquatic life that requires saturated soil conditions for growth and reproduction, or are delineated as wetlands by a signatory party.

Section 7.3. Administration.

(a) Types of Natural Gas Development Projects. For purposes of applications by project sponsors and reviews by the Commission in accordance with Section 3.8 of the Compact, each of the following types of projects require individual review unless the Executive Director approves otherwise:

(1) Water withdrawals and water use for natural gas development as described in Section 7.4.

(2) Natural Gas Development Plans (NGDP) as described in Section 7.5.

(3) Well pads for natural gas development as described in Section 7.5.

(4) Treatment and/or discharge of wastewater that was generated or reused for natural gas development as described in Section 7.6.

(b) Types of Review and Approval. Commission approvals may take the form of dockets, Southeastern Pennsylvania Groundwater Protected Area permits (protected area permits), or approvals by rule (ABR).

(1) Dockets are granted, denied or conditioned by the full Commission after public notice and hearing.

(2) Protected area permits are granted, denied or conditioned by the Executive Director and the Pennsylvania Commissioner.

(3) ABRs are granted, denied or conditioned by the Executive Director for projects that meet the requirements for an ABR in accordance with these regulations.

(c) Approval by Rule for Natural Gas Development Projects. An ABR is one way to request approval of certain defined water supply and well pad activities if prescribed conditions are met.

(1) Eligible Projects: An Approval by Rule (ABR) may be issued by the Executive Director in accordance with this section for the following types of natural gas development projects:

(i) Water Withdrawal. Refer to Section 7.4 for eligible water withdrawal projects.

(ii) Natural Gas Well Pad Projects. Refer to Section 7.5 for eligible well pad projects.

(2) Form of approval. The form of an approval in accordance with this section will be an ABR which may modify a previously issued docket or a protected area permit by establishing the conditions under which an unused portion of the previously approved allocation may be used for natural gas development for previously approved projects or an ABR with conditions as defined in Sections 7.4 and 7.5.

(3) Project sponsors for water withdrawal and well pad projects that do not meet the criteria for an ABR may apply for a docket.

(d) Appeal. An appeal from a determination of the Executive Director issued in accordance with this section

may be made in accordance with Article 6 of the Commission's Rules of Practice and Procedure.

(e) Duration of an Approval.

(1) Approvals of water withdrawals and water uses for natural gas development approvals may have terms of up to 10 years.

(2) Approvals of Natural Gas Development Plans (NGDP) may have terms of up to 10 years. NGDPs may be extended for an additional 10 years by the Executive Director when the Executive Director determines there is no substantial change to the docketed NGDP and applicable Commission regulations.

(3) Approvals of well pads for natural gas development may have terms of up to 10 years. Well pad approvals may be extended for an additional 10 years by the Executive Director when the Executive Director determines there is no substantial change to the well pad approval and applicable Commission regulations.

(4) Approvals for well pads that are used exclusively for the development of exploratory wells or low volume hydraulically fractured wells may have terms that are equal to that of the host state natural gas well construction permit. If the host state permit expires, the project sponsor must notify the Executive Director. If the host state permit is renewed or extended, the project sponsor must notify the Executive Director for continued approval.

(5) Approvals for wastewater treatment and disposal/discharge may have terms of up to 5 years.

(f) *Expiration.* If by the third anniversary of the date of approval of a natural gas project by the Commission, neither construction nor operation of the project has commenced, the approval will be deemed expired. An extension may be granted if in advance of the three-year anniversary of the approval, the project sponsor furnishes the Executive Director with a request for extension, supported by a showing that since the approval date substantial funds (in relation to the project cost) have been expended toward construction and/or operation. Upon such a showing, the Executive Director may approve an extension of time to initiate construction of the project. Such approval will not extend beyond the expiration date in the approval. Project sponsors must submit a renewal application at least one year before the expiration date in order to qualify for an administrative continuance of the approval.

(g) *Name Changes and Transfers.* A project sponsor may apply for and the Executive Director may grant approval transferring a project or changing the name of a project sponsor in accordance with Resolution No. 87-15. Resolution No. 87-15 relates to changes of ownership of water resources projects approved by the Commission under Section 3.8, Article 10 and/or Article 11 of the Delaware River Basin Compact.

(h) *Docket, protected area permit and ABR modification or suspension by Director.* The Executive Director may modify or suspend an 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. In addition, the Executive Director may approve modifications to the docket, protected area permit or ABR conditions involving reports (e.g. operation plans, monitoring requirements, etc.) and construction schedules required in the approved docket, protected area permit or ABR.

(i) *Public Notice Procedure.* The sponsor of a natural gas project is responsible for issuing notices as follows:

(1) Concurrent with the submission of an application to the Commission, the project sponsor must notify the appropriate agency of the host state, each municipality in which the project is located, the county planning agency of each county in which the project is located, each adjacent property owner and any other property owner within 2,000 ft of the well pad of such application. In addition the project sponsor must demonstrate that at least 10 days prior to the date of application submission, notice in at least once in a newspaper of general circulation serving the area in which the project is located was published. All notices required under this section must contain a description of the project, its purpose, and the address, electronic mail address, and phone number of both the project sponsor and the Delaware River Basin Commission.

(2) The project sponsor must provide the Commission with a copy of the United States Postal Service return receipt for the notifications to agencies of the host state, municipalities and county planning agencies required by the preceding paragraph. The project sponsor must also provide certification on a form provided by the Commission that it has issued the notices to adjacent property owners and that notice was published in the newspapers required by the preceding paragraph, if applicable. Until these items are provided to the Commission, review of the application will not proceed. The project sponsor must maintain all proofs of notice required hereunder for the duration of the corresponding approval if granted.

(j) *Site Access.*

(1) The project sponsor must allow any authorized representative of the Commission, at reasonable times and upon the presentation of proper credentials, to:

(i) enter any part of the approved facility for purposes of inspection, sampling, monitoring, observation or photography; and

(ii) inspect and or photocopy any records that must be kept as a condition of the approval or which demonstrate the status of compliance with the approval.

(2) Reasonable times include any hour during which the facility is operational and staffed. For unstaffed facilities, access must be provided within two hours of an entry request made during reasonable times for the office controlling the unstaffed site.

(3) The project sponsor or site operator must provide Commission representatives with an escort knowledgeable about site operating procedures as well as any specialized personal safety equipment (PSE) and site safety training upon entering the site.

(4) Facility records are required to be kept at the project site, unless approved otherwise by the Commission or Executive Director. Facility records not stored at the facility must be made available to Commission representatives within two working days of the Commission's request.

(5) Specialized PSE means any required PSE other than a long sleeve shirt, long pants, hard hat, safety shoes, hearing protection and safety glasses.

(k) *Financial Assurance Requirements.*

(1) The project sponsor must provide financial assurance for the plugging and abandonment, and restoration of the natural gas well, well pad site and associated equipment and structures, and for restoring land distur-

bances caused by the natural gas well project as required by Section 7.5(h)(1)(vi). The financial assurance required by this subsection must remain continuously in force until the Executive Director determines that closure and restoration are complete.

(2) The project sponsor must provide financial assurance for the mitigation and remediation of any release or threatened release of substances, pollutants or contaminants as required by Section 7.5(h)(1)(vi). The financial assurance required by this subsection must remain continuously in force until the Executive Director determines that any necessary remediation is complete.

(3) The financial assurance provided under this section does not limit the duty or liability of the project sponsor to close the natural gas well, well pad site and associated equipment and structures, or to restore land disturbances caused by the natural gas well project.

(4) The financial assurance provided under this section does not limit the duty or liability of the project sponsor to remediate any release or threatened release of hazardous substances, pollutants or contaminants at or from the natural gas well, well pad site or associated equipment and structures, and from any materials or wastewater transported to or from the well pad site.

(5) If necessary, the Commission may aggregate the funds of the financial assurance instruments provided by a project sponsor throughout the basin to finance the closure or response actions described in Sections 7.3(k)(1) & (2) at any one of that project sponsor's wells or pad sites.

(6) Use of Funds. After determining that the project sponsor has failed to adequately perform the closure activities specified by Section 7.5(h)(1)(vi) and Subsection (17) below, or remediation of a release or threatened release of hazardous substance, pollutants or contaminants as specified in Section 7.5(h)(1)(vi) and Subsection (17) below, the Executive Director may use the funds established by the financial instruments under these provisions to perform or finish the specified tasks.

(7) The project sponsor must satisfy the financial assurance requirements in this Section 7.3 (l) by one or a combination of the following:

(i) A surety bond satisfying the requirements of Section 7.3(k)(12).

(ii) A letter of credit satisfying the requirements of Section 7.3(k)(13).

(iii) A trust fund satisfying the requirements of Section 7.3(k)(14).

(iv) Such other manner of financial assurance as may be provided by natural gas well regulations of the state in which the well is located, provided that the amount of financial assurance is no less than the amounts specified in Section 7.3(k)(8), the coverage of the instrument or other means of assurance is at least as broad as in Section 7.3(k)(1) and (2), and the proceeds are available to the Commission to perform the closure and remediation required by in Section 7.3(k)(1) and (2).

(8) The financial assurance required by this Section must be in the amount of \$125,000 per natural gas well. The financial assurance must cover all wells on a well pad. A single instrument may cover multiple well pads provided that the amount of financial assurance in the aggregate is no less than the sum of the amounts required for each well pad if separate financial assurance instruments were obtained. If the project sponsor receives

approval for a natural gas development plan pursuant to Section 7.5(c) of these regulations, the Executive Director may reduce the financial assurance requirement by an amount of up to 25% upon a showing by the project sponsor that the amount of financial assurance remaining will be sufficient to pay for the closure and remediation activities required by Section 7.3(k)(1) and (2) above for the entire area covered by the plan. The Commission may, after public notice and hearing, amend the amount of financial assurance required to adjust for inflation or differing actual costs.

(9) The financial assurance required by this Section is separate from any financial assurance provided to the host state in accordance with state regulations.

(10) The Executive Director may approve replacing part or all of the requirements of this Section 7.3(k) with alternative requirements for financial assurance when the Executive Director determines that the alternative requirements will be at least as protective of water resources of the Basin as this Section 7.3(k). The Executive Director may incorporate his or her recommendation into a proposed docket which will become effective upon approval by the Commissioners or into a proposed ABR which will become effective upon approval of the Executive Director.

(11) The project sponsor must report the status of financial assurance to the Commission annually. The report is due on the anniversary of the date the docket, or ABR was approved.

(12) The project sponsor may satisfy the financial assurance requirements of this Section 7.3(k) by obtaining a surety bond that complies with Sections 7.3(k) 1 through 8, inclusive, above and with this Section 7.3(k) (12).

(i) The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in the latest Circular 570 of the U.S. Department of the Treasury.

(ii) The surety company must be authorized to do business in the state in which the natural gas development plans or well pad is located.

(iii) The Commission will retain, during the term of the bond, and upon forfeiture of the bond, a property interest in the surety's guarantee of payment under the bond which is not affected by the bankruptcy, insolvency or other financial incapacity of the operator or principal on the bond.

(iv) The surety must give written notice to the Executive Director, if permissible under the law and to the principal within ten days of a notice received or action filed by or with a regulatory agency or court having jurisdiction over the surety while lodging one of the following:

(A) The insolvency or bankruptcy of the surety.

(B) A violation of regulatory requirements applicable to the surety, when as a result of the violation suspension or revocation of the surety's license to do business in any jurisdiction is under consideration by a regulatory agency.

(v) The bond must be substantially in one of the forms provided in Section (i) of the Appendix.

(vi) The bond, if in the form of a payment bond, must be accompanied by a standby trust substantially in the form of Section (iii) of the Appendix.

(vii) The project sponsor must submit the bond and standby trust agreement, if any, to the Executive Director

at least 60 days before the project sponsor commences any site preparation activities at the well pad site.

(13) The project sponsor may satisfy the financial assurance requirements of this Section by submitting an irrevocable stand-by letter of credit to the Commission that complies with Sections 7.3(k) 1 through 8, inclusive, above and with this Section 7.3(k)(13).

(i) The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal agency.

(ii) The letter of credit must be irrevocable and must be so designated. However, the Executive Director may accept a letter of credit for which a limited time period is stated if the following conditions are met and are stated in the letter:

(A) The letter of credit is automatically renewable for additional time periods unless the financial institution gives at least ninety (90) days prior written notice to both the Commission and the sponsor of its intent terminate the credit at the end of the current time period.

(B) The Executive Director has the right to draw upon the credit before the end of its time period if the sponsor fails to replace the letter of credit with other acceptable means of compliance with this Section within 30 days of the financial institutions notice to terminate the credit.

(iii) Letters of credit must name the Commission and the Executive Director as the beneficiary and be payable to the Commission, upon demand, in part or in full, upon presentation of the Commission's drafts at sight. The Commission's right to draw upon the letter of credit does not require documentary or other proof by the Commission that the customer has violated the conditions of the bond, the docket or other requirements.

(iv) The letter of credit will be subject to the Uniform Commercial Code and the latest revision of the International Chamber of Commerce Uniform Customs and Practices for Documentary Credits.

(v) The financial institution issuing the letter of credit may not have failed, refused or unduly delayed to pay, in full, on the letter of credit or a certificate of deposit previously submitted as collateral to the Commission.

(vi) The issuing financial institution must waive rights of set off or liens which it has or might have against the letter of credit.

(vii) The letter of credit must be substantially in the form provided in Section (ii) of the Appendix. The letter of credit must be accompanied by a standby trust substantially in the form of Section (iii) of the Appendix

(viii) The project sponsor must submit the letter of credit and standby trust agreement to the Executive Director at least 60 days before the project sponsor commences any site preparation activities at the well pad site.

(14) The project sponsor may satisfy the financial assurance requirements of this Section by establishing a trust fund that complies with Sections 7.3(k) 1 through 8, inclusive, and with this Section 7.3(k)(14).

(i) The trust fund must be funded for the full required amount specified in Section 7.3(k)(8), or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining required coverage.

(ii) The trustee must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal agency or an agency of the state in which the natural gas well is located.

(iii) If other financial assurance as specified in this Section 7.3(k) is substituted for all or part of the trust fund, the project sponsor may submit a written request to the Executive Director for release of the excess.

(iv) The wording of the trust agreement must be identical to that set forth in Section (iii) of the Appendix.

(v) The project sponsor must submit the trust agreement to the Executive Director at least 60 days before the project sponsor commences site preparation activities at the well pad site.

(15) The project sponsor may at its option reduce the amount of the initial financial assurance required by Section 7.3(k)(8) by [75%] upon receiving written approval for such reduction from the Executive Director based upon the project sponsor's certification of the following:

(i) The wellbore and associated well casing have been successfully installed;

(ii) The initial hydraulic fracturing of the well, if any, is complete and no further hydraulic fracturing of the well is planned;

(iii) At least one year has elapsed following the dates of the events specified in subsections (i) and (ii), and to the best of the project sponsor's knowledge, information and belief, no harm to water resources has occurred or been alleged, or alternatively, any actual or alleged harm does not require maintaining the full amount of financial assurance. In the event that the certification of no harm is qualified in any manner, the Executive Director may require the project sponsor to submit supplemental information in order to determine whether a reduction of the initial financial assurance limits is appropriate;

(iv) The project sponsor has obtained excess financial assurance for any undiscovered existing or future harm to water resources in accordance with the provisions of Section 7.3(k)(16).

(16) To satisfy the excess financial assurance requirements of paragraph 7.3(k)(15), the project sponsor must alone or in combination with other sponsors of natural gas well projects within the Delaware River Basin procure excess financial assurance meeting the following conditions:

(i) The excess financial assurance shall be in the amount of [\$67,500] for each natural gas well covered by the financial assurance instrument until the proceeds available from the financial assurance reach an aggregate amount of [\$25] million for all sponsors of all natural gas wells covered by the financial assurance instrument and located within the Delaware River Basin;

(ii) The full aggregate amount of the excess financial assurance instrument must be available to respond to any and all costs specified in Section 7.3(k)(1) and (k)(2) after exhaustion of the primary financial assurance instrument provided by the project sponsor of the natural gas well causing the costs to be incurred.

(iii) All natural gas exploratory and production wells in the Delaware River Basin from any project sponsor participating in the excess financial assurance instrument must be covered by that instrument, except for those wells that have been released from financial assurance in accordance with Section 7.3(k)(17) and except for those wells for which the full amount of financial assurance

required by Section 7.3(k)(8) is maintained. Once a well is covered by the excess financial assurance instrument, the approval of the Executive Director is required for the removal of such well from coverage by that instrument.

(iv) Project sponsors may form an association or other entity for the purpose of purchasing the excess financial assurance required to comply with this section.

(v) The project sponsors purchasing excess financial assurance must immediately obtain additional excess financial assurance to meet the requirements of Section 7.3(k)(16)(i) if as a result of payment of claims or otherwise the total amount of financial assurance falls below the limits specified in Section 7.3(k)(16)(i).

(vi) The financial assurance required by this Section 7.3(k)(16) is excess of the financial assurance required by Section 7.3(k)(8). The financial assurance provided under this Section 7.3(k)(16) may not be used unless the primary financial assurance required under Section 7.3(k)(8) as adjusted under the provisions of Section 7.3(k)(15) has been exhausted or otherwise determined by the Executive Director to be unavailable.

(vii) The excess financial assurance may be in the form of a surety bond, letter of credit or trust as provided in Section 7.3(k)(7), or may be in the form of an excess insurance policy, indemnity or guarantee in a form acceptable to the Executive Director. The financial assurance instrument must provide excess coverage for plugging and abandonment, and restoration at least as broad as required by Sections 7.3(k)(1) and (2) and 7.5(h)(1)(vi) and allow for use of the funds by the Executive Director as provided in Section 7.3(k)(6).

(viii) The excess financial assurance must be of a form that remains in effect until released in accordance with Section 7.3(k)(17) unless substitute financial assurance acceptable to the Executive Director is obtained and in effect.

(ix) If the project sponsor intends to hydraulically fracture a natural gas well subject to excess financial assurance, the project sponsor must first increase its primary financial assurance limits to the full initial amount specified in Section 7.3(k)(8) without reducing the excess coverage in effect.

(17) Release from Financial Assurance.

(i) Upon completion of final restoration activities, the project sponsor must submit a statement to the Executive Director, signed by the docket holder's engineer or other responsible agent, advising the Commission that site restoration has been completed in compliance with host state regulations. The statement must include the date restoration was completed, the types, amounts and sources of materials used, and a site map showing final elevations and the types and amounts of vegetation used.

(ii) Successful restoration of well sites and access roads may only be considered complete after observations over two growing seasons indicate no significant impact on hydrologic resources and there are no outstanding compliance issues. The release from the Section 7.3(l) financial assurance requirements is dependent on the Executive Director's final determination that the final site restoration requirements contained in this subsection, 7.3(k)(17) have been fulfilled.

(1) *Project Review Fees*

(1) *Fee Schedule*

The Delaware River Basin Commission requires payment of non-refundable review fees, water charges and

other fees as set forth in TABLE 7.3.1: APPLICATION FEES AND WATER CHARGES ASSOCIATED WITH NATURAL GAS EXPLORATION AND DEVELOPMENT PROJECTS for the following:

(i) Docket or protected area permit application for Water Withdrawal not eligible for Approval by Rule (Docket)—Industrial, Commercial, Private or Public

(ii) Application for Water Withdrawal eligible for Approval by Rule (ABR)—Industrial, Commercial, Private or Public

(iii) Application for Water Use at Well Pad (where well pad approval is deferred to State)—(ABR)

(iv) ABR or docket application for Individual Well Pad in the absence of a Natural Gas Development Plan Approval

(v) Docket application for Natural Gas Development Plan

(vi) ABR application for the Addition of Well Pad to an Approved NGDP

(vii) ABR for exploratory or low volume hydraulically fractured wells

(viii) Docket application for Industrial, Commercial, Private or Public Wastewater Discharge Involving Treatment and /or Disposal of Natural Gas Wastewaters

(ix) Change in ownership of an approved project

(x) Change in name of owner of an approved project. If change in name occurs concurrently with change in ownership, only the change in ownership fee is charged.

(xi) Application for Renewal of Project Approval

(xii) Natural Diversity Index Assessment

(xiii) Modification of Approvals Not Specified Above

(xiv) Consumptive Water Use Charge

(xv) Application Fee Adjustment for any project resulting in an out-of-basin diversion of water or wastewater.

(2) *Fee payable for each project category.* If a project involves components in more than one category, a separate fee in accordance with Table 7.3.1 is required for each component.

(3) *Fees non-refundable.* Application fees are non-refundable. No portion of a fee will be credited to the project sponsor if the Commission's approval authorizes a rate of withdrawal, quantity of water, or number of wells or well pads other than that requested by the project sponsor, or if the application is withdrawn during the review process or if the application is denied.

(4) *Application fee worksheet.* Project sponsors must complete and submit the Natural Gas Project Application Fee Worksheet posted on the Commission's web site, along with their fee payment and application.

(5) *Alternative fee based on actual cost of review.* When a fixed fee or fee calculated in accordance with a formula set forth in Table 7.3.1 below is deemed by the Executive Director to be insufficient to cover costs associated with review of an application or submission made by a project sponsor consistent with the conditions of a project approval, the Executive Director may impose a fee in the amount of up to 100% of the Commission's actual cost.

(6) *Payment of fee with application.* The appropriate review fee must be submitted to the Commission with the project application. Failure to submit payment of the fee or submission of an insufficient fee may result in return of the application to the project sponsor or, at the

discretion of the Executive Director, issuance of an invoice for the balance owed. Refunds will be issued for any portion of a fee payment that exceeds the appropriate amount. The Executive Director or Commission may choose to take no action on a project application until all applicable fees are paid or may condition the approval on the payment of fees.

(7) *Water supply charge.* The holder of a natural gas well pad approval, whether or not the well pad is part of a NGDP is required to pay a water supply charge for consumptive use as specified in Table 7.3.1. Water supply charges apply to all groundwater and surface water used to support natural gas development projects. One hundred percent of water used by a natural gas extraction and development project is considered to be consumptive for the purpose of calculating the water supply charge due to the Commission. The water charge rate applied to all water used for natural gas well projects will be equivalent to the consumptive use rate charged for surface water usage set forth Table 7.3.1 (n). This rate applies to all water used for natural gas development projects and will be paid by the user of the water. Consumptive use water supply charges are to be paid on a quarterly basis by the project sponsor of the natural gas well pad. Payments must be received by the Commission within 30 calendar days of the end of each quarter. Late payments will be subject to an interest charge of 1% per month from the end of the month during which the payment was due. This applies to all natural gas well pads applied for and approved as docket, ABRs and those included in NGDP dockets (see Table 7.3.1 (c), (d), (e), and (g)).

(8) *ABR for well pads added to an approved NGDP.* One or more additional well pad(s) may be added to an approved NGDP by means of an ABR as provided in Section 7.5(g), provided that each well pad conforms to the conditions of the NGDP approval. The fee in item (g)

of Table 7.3.1 shall apply to each well pad. If the Executive Director determines that a proposed well pad does not conform to the approval conditions, the application as to that well pad will be ineligible for an ABR and shall be processed as a docket application upon request of the project sponsor and submittal of applicable fees. Any well pad that receives an ABR will be incorporated into the NGDP, including for purposes of any subsequent renewal or modification of the NGDP.

(9) *Additional wells added to approved well pads.* A project sponsor may apply for the addition of an individual well or wells to an approved well pad with no application fee, provided that the notification requirements and conditions provided in the well pad docket, NGDP docket or ABR are satisfied. If the Executive Director determines that any additional well does not conform to the conditions of the well pad docket, NGDP docket or ABR, the request will be processed as a modification of the approval and the project sponsor will be charged the modification fee provided in item (m) Table 7.3.1. In such cases the application may be processed as an ABR or a docket, at the discretion of the Executive Director.

(10) *Annual compliance and monitoring fee.* In addition to the application fee, an annual compliance and monitoring fee of \$2,000 will apply to all projects approved in accordance with these regulations. A separate fee will be charged for each water withdrawal docket or ABR, each individual well pad, and each well pad approved as part of a NGDP. The annual compliance and monitoring fee will be prorated for the first year and will be due by January 31 of the following year. For each year thereafter, the fee will be due by January 31 of the following year. Annual compliance and monitoring fees not received by the Commission by January 31 will be subject to interest charges of 1% per month from January 31 until the date of receipt by the Commission.

TABLE 7.3.1: APPLICATION FEES AND WATER CHARGES ASSOCIATED WITH NATURAL GAS EXPLORATION AND DEVELOPMENT PROJECTS IN THE DELAWARE BASIN

	<i>Project Category</i>	<i>Fee Calculation Formula</i>	<i>Standard Fee</i>
(a)	Water Withdrawal (Docket or protected area permit)—Industrial, Commercial, Private or Public	The higher of total project cost formula or actual review cost or the minimum fees for public and private projects respectively will apply.	The greater of 0.4 % of total project cost up to \$10M, plus 0.12 % of total project cost over \$10M, not to exceed \$75,000, or actual review cost. ^{(1) (2)} or the minimum fee of \$500 (public projects) and \$1,000 (private projects).
(b)	Water Withdrawal (ABR)—Industrial, Commercial, Private or Public	Fixed fee	\$5,000 ⁽²⁾
(c)	Approval of Water Use at Well Pad (ABR) (where well pad approvals are deferred to State)	Fixed fee	\$10,000 ⁽²⁾
(d)	Individual Well Pad in the absence of NGDP	Fixed fee or actual review cost.	
	ABR		\$20,000 ⁽²⁾
	Docket		\$30,000 or actual cost of review ^{(1) (2)}

	<i>Project Category</i>	<i>Fee Calculation Formula</i>	<i>Standard Fee</i>
(e)	Natural Gas Development Plan (NGDP) (Docket)	Fixed fee or actual review cost. up to 5,000 acres over 5,000 acres	Fixed fee of \$50,000 or actual review cost ⁽¹⁾ plus the per well pad fee in item (f) or (g) below. Fixed fee of \$75,000 or actual review cost ⁽¹⁾ plus the per well pad fee in item (f) or (g) below.
(f)	ABR for exploratory or low volume hydraulically fractured wells	Fixed fee	\$3,000 per well pad.
(g)	Addition of Well Pad(s) in an Approved NGDP by ABR	Fixed fee per well pad	\$15,000 per well pad.
(h)	Industrial, Commercial, Private or Public Wastewater Discharge Involving Treatment and/or Disposal of Natural Gas Wastewaters (Docket)	The higher of the fee based on total project cost formula or actual review cost or minimum fees for public and private projects respectively will apply.	The greater of 0.4 % of total project cost up to \$10M, plus 0.12 % of total project cost over \$10 M, not to exceed \$75,000, or actual review costs ⁽¹⁾⁽²⁾ or the minimum fee of \$500 (public projects) and \$1,000 (private projects).
(i)	Change in ownership of: a-g above	Fixed fee	\$1,000
(j)	Change in name of project owner or sponsor of: a-g above	Fixed fee	\$500
(k)	Renewal of Approval of: a-g above	Fixed fee Minimum fee, fixed fee or actual review cost as provided. Renewals involving no changes (e.g., increase in water allocation or addition of well pads or wells).	a & g—see a & g above ⁽²⁾ b & c—\$1,000 ⁽²⁾ d—\$5,000 or actual review cost. ^{(1) (2)} e—\$10,000 or actual review cost. ⁽¹⁾ f—\$3,000 or actual review cost. ⁽¹⁾⁽²⁾
(l)	Natural Diversity Index Assessment	If performed by the Commission: Fixed fee or actual review cost.	a—g—\$15,000 or actual review cost. ⁽¹⁾
(m)	Modification of an approval by the Commission or the Executive Director not listed above	Fixed fee or actual review cost.	\$5,000 or actual review cost. ⁽¹⁾
(n)	Consumptive Water Use Charge	Consumptive water use charge.	\$0.08 per 1,000 gallons used (\$80 per million gallons) ⁽³⁾
(o)	Any project regulated by this Article 7 resulting in an out-of-basin water or wastewater diversion.		See note below. ⁽²⁾
(p)	Annual Monitoring and Compliance fee	Fixed fee	\$ 2,000 ⁽⁴⁾

⁽¹⁾ See Section 7.3(m) (concerning alternative fee based on actual cost of review).

⁽²⁾ Twice the calculated fee calculated by the “Standard Fee” column will be charged for any project, except for applications filed under item (e) NGDP above resulting in an out of basin diversion of water or wastewater.

⁽³⁾ All water (surface, ground or wastewater other than flowback or production water) delivered, withdrawn or used at a well pad site is deemed to be consumptively used.

⁽⁴⁾ See Section 7.3 (m)(10).

(m) *Reporting Violations.*

(1) The project sponsor must report in writing to the Commission any violation of these rules, the requirements of its approval including but not limited to, docket, ABR, protected area permit, or approved operations or other plans, or any circumstances that may reasonably lead to a finding of violation, within 48-hours of the occurrence or upon the project sponsor becoming aware of the violation or circumstance. In addition, the project sponsor must notify the Commission by telephone immediately upon learning of any violation, occurrence or condition that may cause a significant harm to water resources. The project sponsor must also provide a written explanation of the causes of the violation, occurrence or condition for which written or telephone notice is required by this subpart 7.3(m)(1) within 30 days of the violation, occurrence or condition and must set forth the action(s) the project sponsor has taken to correct and address the consequences of the violation, occurrence or condition and protect against a future violation.

(2) If the monitoring required herein, or any other data or information demonstrates that the operation of this project significantly affects or interferes with any designated uses of ground or surface water, or if the project sponsor receives a complaint regarding this project, the project sponsor must immediately notify the Executive Director of such condition or complaint and unless excused by the Executive Director, must investigate such condition or complaint. The project sponsor must direct phone call notifications of complaints involving water resources to the DRBC. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the project sponsor must provide written notification to all potentially impacted users of wells or surface water users of the project sponsor's responsibilities under this condition. Any ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished as a result of the project sponsor's project withdrawal, must be repaired, replaced or otherwise mitigated at the expense of the project sponsor. A report of investigation and/or mitigation plan prepared by a qualified professional must be submitted to the Executive Director as soon as practicable or within the time frame directed by the Executive Director. The Executive Director will consult with the host state prior to making a final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

(n) *Enforcement.*(1) *Suspension of Activities and Correction of Water Resources Impacts.*

(i) Authority. Upon a determination by the Executive Director that a practice, operation, or activity of a project sponsor violates applicable Commission regulations or approvals, or poses a threat to the water resources of the basin, the Executive Director, with the approval of the Chair of the Commission, may order any such practice, operation, or activity to cease or be corrected, mitigated and/or remediated immediately or according to a schedule detailed in the order. Such order will remain in effect until the earlier of the expiration date stated in the order or a determination by the Commission in accordance with Commission rules, unless the recipient of the order determines not to request a hearing or the Executive Director revokes or modifies the order.

(ii) Notification and Appeal Process. Any order issued by the Executive Director under this section will state the

practices, operations, or activities affected, a summary of the basis for the Executive Director's determination, and the project sponsor's right to object and appeal in accordance with Article 5 or Article 6 of the *Rules of Practice and Procedure*. Upon appeal, the Commission may continue, modify or vacate the order, and with notice to the project sponsor may also invoke its authority under Section 7.3(n)(2) to suspend, modify or terminate Commission approval. The authority granted the Executive Director to issue an order pursuant to this Section 7.3(n)(1) is in addition to and does not limit the authority of the Executive Director or Commission to invoke other remedies.

(2) *Suspension, Modification or Termination of Commission Approval.*

(i) Authority. The Executive Director or the Commission, pursuant to Sections 3.6(h) and 3.8 of the *Compact*, may suspend, modify or terminate an approval or any condition thereof, in the event of serious, continuing or repeated violations of Commission regulations or of the conditions of approval, or when in the judgment of the Executive Director or Commission, such action is necessary to protect the water resources of the basin or to effectuate the Comprehensive Plan.

(ii) Notification and Appeal Process. The Executive Director or the Commission will issue in writing to the project sponsor holding the ABR, protected area permit or docket an order suspending, modifying or terminating an approval issued in accordance with this Article 7, setting forth the basis for the decision and advising the recipient of the right to appeal such decision under Article 5 or Article 6 of the *Rules of Practice and Procedure*. The order of suspension, modification or termination will not become effective until a final determination is issued following an administrative hearing by the Commission unless the project sponsor does not file an appeal within the time limits set forth in the *Rules of Practice and Procedure* or unless the Executive Director or Commission find that an earlier effective date of the order is necessary to prevent, mitigate or remediate an adverse effect on the water resources of the basin. The authority granted the Executive Director and Commission to issue an order pursuant to this Section 7.3(n)(2) is in addition to and does not limit the authority of the Executive Director or Commission to invoke other remedies.

(iii) Reinstatement. The Commission may reinstate the suspended or terminated ABR, protected area permit, or docket upon a showing demonstrating to the satisfaction of the Commission that the violation or condition upon which the suspension or termination or modification is based is corrected so as to bring all natural gas development by the project sponsor into full compliance with this Article and that procedures have been implemented to prevent a recurrence of the violation or condition.

(3) *Penalties.* Any person who violates or attempts to violate these regulations shall be subject to penalties as provided in Section 14.17 of the *Compact*.

Section 7.4. Water Sources for Uses Related to Natural Gas Well Development.

Natural gas development project sponsors may only use water from Commission approved sources.

(a) *Types of water sources.* The following types of water sources may be approved for uses related to natural gas well development:

(1) *Previously approved sources.* Surface and groundwater withdrawals, discharges of treated wastewater and

discharges of non-contact cooling water, in each instance operating in accordance with a previously issued and valid Commission approval.

(2) *New withdrawals.* Withdrawals of surface water or groundwater within the Delaware River Basin that have not previously received Commission approval.

(3) *New withdrawals of treated wastewater and non-contact cooling water.* The use of treated effluent or non-contact cooling waters that are approved after the effective date of these regulations may include or be amended to approve the use of such water for natural gas development projects.

(4) *Imported water.* Water imported from sources outside the Delaware River Basin.

(5) *Mine drainage water (MDW)* from within or imported to the Delaware River Basin.

(6) *Recovered flowback and production water.* Recovered flowback or production water from natural gas development projects located within or imported to the Delaware River Basin.

(b) *Preliminary determinations.*

(1) *Substantial effect.* Due to advances in horizontal drilling and hydraulic fracturing technologies, thousands of natural gas development projects are expected to be proposed for the Delaware River Basin. Each will involve land disturbance for such appurtenances as roads, well pads, pipelines, impoundments, and compressor stations; and most will entail the withdrawal, diversion, importation into or exportation out of the basin of surface water, ground water, non-contact cooling water, mine drainage water, and/or treated wastewater. These uses may have a substantial effect, either individually or cumulatively, on the surface water and groundwater resources of the basin.

(2) *Rules of Practice and Procedure (RPP) thresholds not applicable.* Natural gas well development within the Delaware River Basin will encompass thousands of drilling sites, many of them proximate to headwater streams in the sparsely populated upper portion of the Delaware Basin that comprises the drainage area of the Commission's Special Protection Waters. Estimates of the quantity of water needed to develop these wells and perform hydraulic fracturing range from 3 to 5 million gallons per well. Although some of the water used at a well can be recovered and reused at other wells, much of the water used at each well will come from the other sources identified in this Section 7.4. Because the water uses associated with natural gas development are almost entirely consumptive in nature, little if any of the water withdrawn or diverted for these purposes will be returned to streams and aquifers in the vicinity of the sources. Flows and assimilative capacities in aquifers and water bodies in the vicinity of the sources will be commensurately reduced. For this combination of reasons, the water uses associated with natural gas development are unlike those for the stationary industrial, commercial and domestic projects contemplated by the Commission's *Rules of Practice and Procedure* (RPP). The thresholds established by the RPP for the review of projects under Section 3.8 of the Delaware River Basin Compact do not adequately protect the water resources of the basin from the effects of natural gas development. Accordingly, these thresholds are not applicable to water withdrawals and diversions to be used in natural gas well development. Instead, sponsors of natural gas development projects within the Delaware River Basin must obtain Commission approval for all sources of water.

(c) *Conditions.*

(1) *Water sources for natural gas projects.* Based upon the preliminary determinations set forth in the preceding Section 7.4(b), no water may be used for natural gas well development activities within the Delaware River Basin except from sources that have been approved by the Commission for such uses in accordance with this Section 7.4.

(2) *Importations and exportation of water and wastewater for natural gas development.* Importation and exportation of water and wastewater to support natural gas development projects are regulated in accordance with Article 2, Section 2.30 of the Water Code. Importation of water and/or wastewater and the exportation of water to support natural gas development projects require a docket and are not eligible for an ABR. Exportation of non-domestic wastewater from natural gas development projects are regulated in accordance with Section 7.6 and may be approved by means of an ABR.

(3) *Alternate review and approval process for sources previously approved by the Commission.* Multiple approved water sources, including surface and groundwater withdrawals and discharges of treated wastewater and non-contact cooling water, currently operate in accordance with Commission approvals that have been designed to protect the basin's water resources. Because a full review by the Commission already occurred for these sources, this Section 7.4 among other things sets forth conditions under which bulk sales by the owner or operator of a withdrawal or discharge project previously approved by the Commission may be eligible for Approval by Rule (ABR) to supply water for natural gas projects. In addition, the use of recovered flowback and production water and new water sources located within the physical boundaries of an approved NGDP may also be approved by means of an ABR.

(4) *Normal review process.* A withdrawal or diversion of water, treated wastewater, non-contact cooling water, recovered flowback and production water and mine drainage water for uses related to natural gas well development also may be approved through the Commission's normal process for the review and approval of projects in accordance with Section 3.8 of the Delaware River Basin Compact, involving an application, technical review, publication of a draft docket, public hearing, and Commission action at a public meeting.

(d) *Approval by Rule of previously approved sources to supply water for natural gas development.*

(1) *Approved withdrawals.* An existing ground or surface water withdrawal is eligible for ABR to provide water for uses related to natural gas development if no increase in the withdrawal is required and the project sponsor meets the conditions set forth below. If an increase in allocation is requested, the project is not eligible for an ABR and must file an application for a docket amendment using the normal review process (defined at Section 7.4(c)(4) above) must be used.

(i) the withdrawal is operated in accordance with a valid docket approval or protected area permit issued by the Commission and if applicable, a valid permit issued by the state in which the withdrawal is located;

(ii) the docket or protected area permit holder is in compliance with all terms of its Commission and state approvals;

(iii) the natural gas well project(s) for which the water will be used are located within the Delaware River Basin;

(iv) the project sponsor demonstrates to the satisfaction of the Executive Director that the allocation previously approved by the Commission and where applicable, the state, is adequate to meet the projected needs of the area served as defined in the Commission and state approvals and to supply the proposed natural gas related uses through the term of the contract of sale for such uses;

(v) for a water source that consists entirely or in part of a groundwater withdrawal allocation, the docket or permit holder demonstrates that any increase in an individual well allocation (even though not increasing the total allocation) needed to accommodate the proposed sale will not adversely affect other wells or surface water flows.

(vi) because no portion of the water used for natural gas well projects will be returned to a drinking water aquifer or surface water in the vicinity of the withdrawal point, the applicant must demonstrate that removal of one hundred percent of the water proposed to be purchased for uses related to natural gas development will not adversely affect streamflow in the vicinity of the withdrawal point or in the vicinity of the point of discharge of treated wastewater that is normally associated with the withdrawal; provided, however, that this requirement does not apply to a withdrawal for which a Commission-imposed pass-by requirement is already in effect;

(vii) the bulk water sale agreement between the seller and the natural gas well—related user includes the following:

(A) a condition providing that if at any time all or any incremental portion of the supplier's allocation is needed to meet demand associated with the uses for which the docket or protected area permit was approved, including uses or areas identified in the "Area Served" section of the docket or protected area permit (collectively, "approved uses"), such that at its approved allocation the docket or protected area permit holder cannot fully serve the approved uses and also meet its bulk sale target for natural gas-related uses, the quantity sold for natural gas-related uses must be reduced to the extent necessary to fully meet the demand associated with the approved uses;

(B) a condition providing, "Purchasers of water for uses related to natural gas well projects are advised that such projects may be commenced within the Delaware Basin only after the project sponsor has obtained, in addition to any permits required by the host state, the approval of the Delaware River Basin Commission for development and operation of a well pad site or sites."

(C) a condition providing, "Water from sources within the Delaware River Basin may not be exported for use outside the Delaware River Basin without the express approval of the Delaware River Basin Commission."

(viii) Metering and recording of withdrawals and transfers. Water withdrawals must be metered and recorded by means of an automatic continuous recording device, or flow meter, and measured to within 5% of actual flow. Any withdrawal in excess of the daily allocation approved by the Commission must be reported to the Commission within 48 hours of the exceedance. Withdrawn water for natural gas development must be conveyed directly to water storage tanks before it is transferred to hauling vehicles or pipelines unless otherwise approved in writing by the Executive Director. Total withdrawals must be recorded on a daily basis. Likewise, the volume and destination of each transfer of water from the withdrawal

site must be recorded by truck load or pipeline transmission and a daily total maintained. For a period of ten (10) years following the withdrawal, all water withdrawal and transfer records must be available for inspection at the withdrawal site. The project sponsor must institute a system for recording the date, amount, carrier, vehicle and destination of each tank-load of water sold (or an equivalent tracking mechanism for delivery by pipeline), and provides this information in a Commission-specified electronic format to the Commission at the request of the Executive Director.

(ix) *Reporting of withdrawals and transfers.* The project sponsor will provide a quarterly report to the Executive Director that provides the monthly total of water that was provided for natural gas development projects and the destinations the water was sent to for the reporting quarter. The reporting format will be prescribed by the Executive Director.

(x) *Invasive species control plan.* If determined by the Commission to be necessary, the project sponsor must develop and implement an Invasive Species Control Plan (ISCP). The ISCP must include the management and treatment program that the project sponsor will implement to ensure that all water withdrawn from the withdrawal site is managed or treated prior to its distribution to transportation vehicles to prevent potentially invasive, harmful, or nuisance species from entering other watersheds in the basin. The management and treatment program must also address the significance of all moveable project equipment as pathways for the rapid movement of invasive species from one project site to another and the methods that will be used to prevent this type of mechanical transmission of problematic species. An ISCP may be approved by the Commission as part of a docket or it may be approved (or modified) by the Executive Director after the Commission has issued a docket approval. The provisions of this plan will be incorporated by reference into the docket.

(xi) *Pass-by flow requirement.* The project withdrawal may not cause the stream flow below the point of withdrawal to be less than the Q7-10 flow, or a more stringent value recommended by the appropriate host state agency. If the withdrawal is located in shared waters, a more stringent requirement applied by either state may be considered. Whenever the streamflow below the point of withdrawal is less than the minimum pass-by amount, no withdrawal may be made and the entire natural streamflow must be allowed to pass. Pass-by conditions also may include conditions intended to minimize short-term swings in surface flow volumes. The withdrawal site operations plan submitted with an application for a new surface water withdrawal must include the method and equipment to be used to demonstrate compliance with applicable pass-by requirements. No withdrawal may be initiated until the method and equipment to be used to demonstrate compliance with the pass-by requirement are operational and thereafter no withdrawal may be made during any period during which the method and equipment are not operational.

(2) *Approved discharge as water supply source.* The project sponsor of a facility discharging treated wastewater or non-contact cooling water in accordance with a valid Commission approval (i.e., a discharge docket) may apply for an ABR under these regulations to be an approved source of water for natural gas well projects. If the project sponsor meets the conditions set forth below. The project sponsor may also elect to use the normal review process or the Executive Director or the commission may require the normal review process to be used.

(i) the discharge is operated in accordance with a valid docket issued by the Commission and a valid NPDES permit issued by the state and the discharger is in compliance with all terms of its Commission and state approvals;

(ii) the natural gas well project(s) for which the water will be used are located within the Delaware Basin;

(iii) if the discharge is to surface water, the proposed diversion will not adversely affect upstream or downstream dischargers (due to loss of assimilative capacity), downstream withdrawers, or aquatic life;

(iv) if the discharge is to groundwater, the proposed diversion will not adversely affect groundwater levels or streamflows in the vicinity of the discharge;

(v) the bulk water sale agreement between the seller and the natural gas well-related user includes the following:

(A) a condition stating, "Purchasers of water for uses related to natural gas well projects are advised that such projects may be commenced within the Delaware Basin only after the project sponsor has obtained, in addition to any permits required by the host state, the approval of the Delaware River Basin Commission for development and operation of a well pad site or sites."

(B) a condition stating, "Water from sources within the Delaware Basin may not be exported for use outside the Delaware Basin without the express approval of the Delaware River Basin Commission."

(vi) the project sponsor institutes a system for recording the date, amount, carrier, vehicle and destination of each tank-load of water sold (or an equivalent tracking mechanism for delivery by pipeline). The project sponsor must also obtain written confirmation that the transferred wastewater was received by the intended destination facility. The project sponsor must provide this information to the Commission upon request by the Executive Director.

(e) *New water sources for uses related to natural gas development*

(1) *General provisions.*

(i) *Docket approval required.* A new surface or groundwater water withdrawal or the diversion of mine drainage water for uses related to natural gas development activities may be made only in accordance with a docket issued by the Commission following the normal process for Commission review and approval of projects, involving an application, technical review, publication of a draft docket, public hearing, and Commission action at a public meeting. A new water source located within the physical boundaries of an approved NGDP may be approved for uses within the NGDP by means of an ABR. Such new water sources are subject to all of the requirements in this section and those set forth in Section 7.4(e)(2), (3), and (4).

(ii) *Substantive requirements.* New water sources approved for uses related to natural gas development activities will be subject to the conditions set forth below as well as to any additional conditions that the Commission deems necessary to protect the water resources of the Basin in accordance with the Commission's Comprehensive Plan.

(2) *Conditions* applicable to new water sources for uses related to natural gas development activities are set forth below:

(i) *Non-point source pollution control plan.* If the source is located within the drainage area of a portion of the Delaware River classified by the Commission as Special Protection Waters (SPW), the applicant must demonstrate compliance with Section 3.10.3A.2.e. of the Commission's Water Quality Regulations, providing for development and implementation of a Non-Point Source Pollution Control Plan (NPSPCP). The NPSPCP must be consistent with the more stringent of Commission and state requirements for erosion and sedimentation controls to be implemented at the site of the withdrawal or diversion facility, including measures to control stormwater both during and after construction. The post-construction portion of the plan must describe the final site conditions, including a pre- and post-construction project hydrograph analysis, permanent facilities, equipment, access roads, and all stormwater control structures that may be necessary after final site restoration has been completed. No site clearing or construction work at the withdrawal site may be initiated until the NPSPCP has been approved by the Commission, or by the host State in accordance with an Administrative Agreement between the Commission and the host State.

(ii) *Natural diversity inventory assessment.* Project sponsors are required to submit as part of the project application the results of a natural diversity inventory assessment (NDIA) for the water withdrawal site. The Commission reserves the right to prepare a separate NDIA at the expense of the project sponsor if it determines that a separate assessment is required.

(iii) *Metering and recording of withdrawals and transfers.* Water withdrawals must be metered and recorded by means of an automatic continuous recording device, or flow meter, and measured to within 5% of actual flow. Any withdrawal in excess of the daily allocation approved by the Commission must be reported to the Commission within 48 hours of the exceedance. Withdrawn water must be conveyed directly to water storage tanks before it is transferred to hauling vehicles or pipelines unless otherwise approved in writing by the Executive Director. Total withdrawals must be recorded on a daily basis. Likewise, the volume and destination of each transfer of water from the withdrawal site must be recorded by truck load or pipeline transmission and a daily total maintained. For a period of ten (10) years following the withdrawal, all water withdrawal and transfer records must be available for inspection at the withdrawal site and furnished promptly at the request of the Executive Director or a designated member of the Commission staff. The docket or protected area permit holder must institute a system for recording the date, amount, carrier, vehicle and destination of each tank-load of water sold (or an equivalent tracking mechanism for delivery by pipeline), and provide this information in a Commission specified electronic format to the Commission upon request by the Executive Director.

(iv) *Reporting of withdrawals and transfers.* The operator of a withdrawal for uses related to natural gas development must submit to the Commission on a quarterly basis reports indicating monthly and daily total withdrawals and daily total volumes transferred to individual natural gas well sites in a format prescribed by the Executive Director.

(v) *Water withdrawal site plan.* A preliminary site plan for the proposed withdrawal site must accompany an application for Commission approval of a withdrawal. The preliminary plan must include a description of the site, the facilities to be installed on the site and a map

indicating the location of the all facilities on the site. Final construction plans and specifications may be submitted with the application or after the Commission has issued an approval. No site clearing, site preparation, construction, or water withdrawal may commence at the site until final construction plans and specifications have been approved by the Executive Director.

(vi) *Water withdrawal site operations plan.* The site operations plan for a new surface water withdrawal at a minimum must include: specific procedures for metering, recording, and reporting the pass-by flow and complying with the pass-by flow requirements; procedures for monitoring, reporting and recording the usage, transport, and destination of all water withdrawn at the site; and all other procedures required to ensure compliance with the conditions set forth in the approval (see (iii) above). No construction may be initiated until the Commission has approved the docket and the Executive Direction has approved the site operations plan.

(vii) *Notice of construction start and completion.* The project sponsor must notify the Executive Director of the initiation of construction. Within 30 days of completion of construction of the approved project, the project sponsor must submit a statement to the Commission, signed by the project sponsor's engineer or other responsible agent, advising the Commission that construction of the project has been completed consistent with the approved plans, and stating the final construction cost of the project and the date the project was or is scheduled to be placed in operation.

(viii) *Expiration of approval.* An approval by the Commission expires three years from the approval date unless prior thereto the holder of the approval has commenced operation of the project or unless the Executive Director extends the approval for up to one year upon a showing by the project sponsor that substantial funds in relation to the cost of the project have been expended in reliance on the approval.

(ix) *Approval limited to withdrawal.* Commission approval of a water withdrawal does not constitute approval or permission to commence natural gas development in the Delaware River Basin, including but not limited to: preparing a natural gas well site, drilling a natural gas well, stimulating a natural gas well, or storing, transporting, or disposing of hydraulic fracturing or flowback fluid.

(x) *Restricted access and operations.* Access to the withdrawal site must be restricted through use of fencing, signage or other similar means. In addition, the withdrawal site location must be restricted to operations associated with the function of water withdrawal. These areas may not be used as staging areas for the addition of chemicals (except as required by an Invasive Species Control Plan) or fuel in excess of the quantity needed to run an emergency generator if one is used.

(xi) *Other approvals.* Commission approval does not exempt the owner or operator of a water source from obtaining all necessary permits and/or approvals from other state, federal or local government agencies with jurisdiction over the water withdrawal or diversion project or associated activities.

(xii) *Floodplain regulations.* Project sites that are located in the Flood Hazard Area (defined as the 100-year floodplain in the Commission's Administrative Manual—Part III Basin Regulations—Flood Plain Regulations) must comply with the Commission's Flood Plain Regulations (FPR).

(xiii) *Drought emergency plan.* For the duration of any drought emergency declared by the Governor of the state in which the water withdrawal is located or by the Commission, water withdrawals by the project sponsor in accordance with this approval shall be subject to any prohibition by the Governor, the state emergency management agency, the state environmental protection agency, or the state drought coordinator to the extent applicable, and to any emergency resolutions or orders issued by the Commission. The project sponsor must submit as part of its application a Drought Emergency Plan, including drought contingency notice to all users and providing for cessation of operations in the event required by state or Commission authorities. The provisions of this plan will be incorporated by reference into the docket.

(3) *Additional submittals and conditions applicable to new surface water withdrawals approved by ABR, docket, or protected area permit.*

(i) *Invasive species control plan.* If determined by the Commission to be necessary, the project sponsor must develop and implement an Invasive Species Control Plan (ISCP). The ISCP must include the management and treatment program that the project sponsor will implement to ensure that all water withdrawn from the withdrawal site is managed or treated prior to its distribution to transportation vehicles to prevent potentially invasive, harmful, or nuisance species from entering other watersheds in the basin. The management and treatment program must also address the significance of all moveable project equipment as pathways for the rapid movement of invasive species from one project site to another and the methods that will be used to prevent this type of mechanical transmission of problematic species. An ISCP may be approved by the Commission as part of a docket or it may be approved (or modified) by the Executive Director after the Commission has issued a docket approval. The provisions of this plan will be incorporated by reference into the docket.

(ii) *Pass-by flow requirement.* The project withdrawal may not cause the stream flow below the point of withdrawal to be less than the Q7-10 flow, or a more stringent value recommended by the appropriate host state agency. If the withdrawal is located in shared waters, a more stringent requirement applied by either state may be considered. Whenever the streamflow below the point of withdrawal is less than the minimum pass-by amount, no withdrawal may be made and the entire natural streamflow must be allowed to pass. Pass-by conditions also may include conditions intended to minimize short-term swings in surface flow volumes. The withdrawal site operations plan submitted with an application for a new surface water withdrawal must include the method and equipment to be used to demonstrate compliance with applicable pass-by requirements. No withdrawal may be initiated until the method and equipment to be used to demonstrate compliance with the pass-by requirement are operational and thereafter no withdrawal may be made during any period during which the method and equipment are not operational.

(4) *Additional submittals, conditions applicable to new groundwater withdrawals.*

(i) *Hydrogeologic report.* For all groundwater well sources, a Final Hydrogeologic Report detailing extended pumping test procedures, results and analyses must be provided with the application. The Final Hydrogeologic Report must include a discussion of field procedures, a listing of all data gathered, an analysis of the data and an evaluation of the impact of the proposed withdrawal

on the aquifer and on other groundwater and surface water users in the vicinity. All relevant data, including but not limited to a geologic map, well log, water level charts, tables and graphs for the pumped well, monitoring wells, and nearby perennial streams, wetlands and other sensitive hydrologic features must be submitted. The pumping test may be of not less than 48 hours pumping duration, unless approved in writing by the Executive Director or in the Commission approval, at an uninterrupted, constant withdrawal rate of not less than the proposed pumping rate. Information to be collected must include, but is not limited to the following:

(A) Date and time of all static, pumping, and recovery water level measurements

(B) Record of pumping rate measured frequently throughout the test

(C) Sufficient static water level measurements in all wells and at all monitoring points to determine trends in water level changes prior to start of pumping

(D) Pumping and recovery measurements in the pumped well and observation wells

(E) Monitoring of wells sufficient to determine all possible interference

(F) Records of precipitation, measurements or observations of nearby streamflows, and weather conditions throughout the test

(G) A map identifying all nearby wells owned by others that could be affected by pumping of the new well(s) and the following information for each if available:

Name of Well Owner
 Telephone No. of Well Owner
 Address of Well Owner
 State Well ID No.
 Type of Use
 Date Drilled
 Depth Drilled (feet)
 Borehole Diameter (inches)
 Casing Diameter (inches)
 Casing Depth (feet below ground surface)
 Top of Well Screen Depth (feet),
 Bottom of Well Screen Depth (feet)
 Pump Type
 Estimated Pump Capacity (gpm)
 Intake Setting Depth (feet)
 Approximate Location of Well on Property.
 Latitude of Well in DMS, North
 Longitude of Well in DMS, West

(ii) *Obligations relating to interference.*

If the monitoring required herein, or any other data or information demonstrates that the operation of this project significantly affects or interferes with any designated uses of ground or surface water, or if the project sponsor receives a complaint regarding this project, the project sponsor must immediately notify the Executive Director of any complaints and unless excused by the Executive Director, will investigate such complaints. The project sponsor must direct phone call notifications of complaints involving water resources to the DRBC. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the project sponsor must provide written notification to all potentially impacted users of wells or surface water users of the project sponsor's responsibilities under this condition. Any ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished as a result of the docket holder's project withdrawal, must be repaired, replaced or otherwise mitigated at the ex-

pense of the project sponsor. A report of investigation and/or mitigation plan prepared by a hydrologist must be submitted to the Executive Director as soon as practicable or within the time frame directed by the Executive Director. The Executive Director will make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

(f) *Importation of water for uses related to natural gas development.*

Commission determinations regarding applications for the importation of water for uses related to natural gas development will be made in accordance with Section 2.30 of the Commission's Water Code.

(g) *Use of recovered flowback and production water.*

(1) *General.* Recovered flowback and production water may be recycled for use in natural gas well stimulation activities at the project sponsor's Commission-approved well pads in accordance with conditions of the well pad dockets or ABRs. Any reuse must be reported to the Commission in accordance with the requirements set forth in the docket or ABR. Flowback and production water may be used only as expressly approved by the docket or ABR.

(2) *Conditions of Use.* In addition to the storage requirements set forth in Section 7.5(h)(2)(iv), an approval for reuse of recovered flowback and production water will be subject to conditions including but not limited to transport, sampling, and tracking requirements that are necessary in the view of the Commission to protect the water resources of the basin.

(3) *Storage of recovered flowback and production water.* The storage of recovered flowback and production water must be in accordance with Section 7.5 (h)(2)(iv).

Section 7.5. Well pads for Natural Gas Activities.

(a) *Purpose and Applicability.*

(1) The headwaters and groundwater of the Delaware River Basin are critically important to the supply of clean water to satisfy basin needs for drinking water, aquatic life, recreation, and other designated uses. Over 15 million people (approximately five percent of the nation's population) rely on the waters of the Delaware River Basin for drinking, agricultural, and industrial use, but the watershed drains only four-tenths of one percent of the total continental U.S. land area. The 15 million figure includes about seven million people in New York City and northern New Jersey who live outside the basin. New York City gets roughly half its water from three large reservoirs located on tributaries to the Delaware. The ground waters of the Basin are protected and regulated under Article 2, Section 2.20 and Article 3, Section 3.40 of the Water Code. Protecting and managing areas in source watersheds is essential to maintaining the high water quality of the National Scenic and Recreational Delaware River and the River's tributary systems. Protecting the high value landscapes of forests and water resources implements and is consistent with Goal 3.2 of the Water Resources Plan for the Delaware River Basin (Resolution 2004-BP) and with the anti-degradation program codified in the Commission's Special Protection Waters program, DRBC Water Quality Regulations, 18 C.F.R. Part 410, Article 3.10.3.A.2 et seq.

(2) The siting and operation of natural gas well pads within the Delaware River Basin may have a substantial impact on the water resources of the Basin. To allow for the development of natural gas resources while minimizing adverse impact to water resources, all natural gas

well pads to be located within the Delaware River Basin are subject to the siting, design and operational criteria of this Section 7.5. All natural gas well pad projects in the Delaware River Basin require Commission approval. As provided for in Section 7.1(i), DRBC is relying on the Commonwealth of Pennsylvania and State of New York (PADEP and NYSDEC, respectively) regarding the construction and operation of natural gas well pads except as specified in this section.

(b) *Administration.* Applications for review and approval of well pads must be filed with and approved by the DRBC prior to the initiation of construction at any well pad site.

(1) *Types of review and approval.*

- (i) Natural Gas Development Plan Docket
- (ii) Well Pad docket
- (iii) Well Pad ABR

(2) *Public Notice Provisions.* The project sponsor of a natural gas project under Sections 7.5(b)(1) is responsible for complying with the public notice provisions in Section 7.3(i).

(3) *Siting Restrictions.* A well pad may not be sited:

(i) In the Flood Hazard Area (defined as the 100-year floodplain in the Commission's Administrative Manual—Part III Basin Regulations—Flood Plain Regulations) of any waterway in the Delaware River Basin.

(ii) On a slope with a pre-alteration grade of 20% or greater.

(iii) In an area that serves as a critical habitat for a federal or state designated threatened or endangered species unless host state/federal mitigation measures have been approved.

(4) *Setbacks.* All natural gas well pad sites must adhere to the following minimum setback requirements:

- (i) Water body: 500 ft
- (ii) Wetlands: 500 ft
- (iii) Occupied Homes: defer to host state
- (iv) Public Buildings: defer to host state
- (v) Public Roads: defer to host state
- (vi) Surface water supply intake: 500 ft
- (vii) Water supply reservoir: 500 ft
- (viii) Public water supply well defer to host state
- (ix) Domestic water supply well defer to host state

(5) *Spacing.* All wellbores must adhere to the applicable unitization/spacing requirements of the host state.

(6) *De minimis Change.* A project sponsor may modify the location of an individual well pad by up to 100 feet without applying for a modification to the well pad approval or NGDP approval as long as the new location does not result in a violation of any of the siting restrictions contained in Section 7.5(b)(3), the minimum setbacks contained in Section 7.5(b)(4) or any provision of the approval. The project sponsor must notify the Commission at least thirty (30) calendar days before commencing construction at the new location.

(7) *Inspection.* The well pad site, natural gas well, and operational records for property owned or leased by the project sponsor, or to which the project sponsor otherwise

has legal access, for natural gas development activities, must be available for inspection as provided in Section 7.3(j).

(8) *Timing.* The project sponsor may not commence or conduct clearing of land for access or for well pad construction unless the project sponsor has first obtained a well pad approval and the applicable Executive Director approvals or acknowledgements required in Section 7.5.

(9) *Variations.*

(i) A project sponsor may request the Executive Director to grant a variance to the provisions of Sections 7.5(b)(3) and 7.5 (b)(4) of this rule. No variances shall be granted to the restriction against locating well pads in a floodway as provided in the Commission's Administrative Manual—Part III Basin Regulations—Flood Plain Regulations.

(ii) The Executive Director, after determining whether the requirements of Section 7.5(b)(9)(iii) below are met, may approve the variance, deny the variance, or recommend a public hearing and decision by the Commission. For a variance to be considered, the project sponsor must demonstrate that:

(A) application of the requirements in Sections 7.5(b)(3) and 7.5(b)(4) would result in an undue burden for the project sponsor because of reasons affecting the leaseholding; and

(B) the requested siting conditions would be equally or more protective of water resources of the basin, taking into consideration mitigation measures relating to, among other factors, spill control, containment, berms, enhanced erosion and sediment controls, project timing restrictions to avoid affecting threatened or endangered species, and/or vegetated buffers.

(iii) Before any request for a variance will be considered, the project sponsor must provide the Executive Director with evidence that it has notified the property and the mineral rights owners in writing of the intent to request a variance.

(iv) The Executive Director may approve a variance subject to additional conditions to protect the water resources of the basin.

(c) *Natural Gas Development Plans.*

(1) *Applicability.* Natural Gas Drilling Plans (NGDP) are intended to identify foreseeable natural gas development in a defined geographic area, facilitate analysis of potential water resource impacts and identify measures to minimize these impacts. In accordance with these regulations, a Commission approved NGDP is required of all project sponsors that have:

(i) natural gas well pad leaseholds in the Delaware River Basin (basin) encompassing a total of over 3,200 acres; or,

(ii) the intention to construct more than five (5) natural gas well pads in the basin.

If the project sponsor is required to submit a NGDP, within 3 months of filing its first well pad application, they must submit a NGDP application, which should contain the landscape map and the constraints analysis map as described in Section 7.5(c)(3)(ii) and (iii) above for its entire basin leaseholds or specified leasehold unit. Within 12 months of filing the first well pad application, the project sponsor must supplement their NGDP application with the circulation plan as described in 7.5(c)(3)(iv) above for the entire basin leaseholds or specified leasehold unit.

Entire basin leaseholds includes all leaseholds in the basin in which a project sponsor or its direct or indirect parent, subsidiary or affiliated entities has individual ownership, or common ownership, control or interest with other parties. To the extent that project sponsors obtain rights to conduct natural gas development activities, including but not limited to the extraction of natural gas, through property interests other than or in addition to a leasehold, for purposes of these Natural Gas Development Regulations those rights shall be administered in the same manner and subject to the same restrictions as leaseholds.

The requirement to submit and receive Commission approval of an NGDP applies to all project sponsors of natural gas well pad projects proposed to be constructed after the effective date of these regulations. Project sponsors that are required to prepare an NGDP may apply for approvals of natural gas well pad projects prior to the receipt of NGDP approval in accordance with these regulations. A project sponsor who is required to prepare a NGDP may make an application to the Commission for up to five (5) well pad approvals prior to and during pendency of the NGDP application. These five well pad approvals can be any combination of exploratory well pads, stratigraphic well pads, well pads that do not employ hydraulic fracturing, low volume hydraulically fractured well pads, or high volume hydraulically fractured well pads.

A project sponsor may make an application to the Commission proposing the division of its basin wide leaseholds into separate leasehold units based on the nature, disparate relationship, or geographic separation of the leaseholds. The Commission or the Executive Director may deny, approve, or approve with conditions all or part of the requested division of leaseholds. A project sponsor may also make an application to the Commission requesting an exemption from the preparation of a NGDP where the project sponsor demonstrates that: it will propose five (5) or fewer natural gas well pads despite having leaseholds in excess of 3,200 acres in the basin; and the well pad sites are geographically disparate. Well pads sited in leaseholds that are contiguous, or are located such that the produced natural gas from the well pads will be transmitted through a common collection system do not qualify as geographically disparate for purposes of an exemption to the requirement to prepare an NGDP. The Commission or the Executive Director may deny, approve, or approve with conditions the requested exemption from the requirement to prepare an NGDP.

A project sponsor may also make an application to the Commission for approval of phased development of its leaseholds. Where the project sponsor represents to the Commission that natural gas development activities will not take place on portions of the leasehold within five (5) years of the date of the application submitted for the project sponsor's first natural well pad on a leasehold in the basin, the Commission may consider the phased development request. The Commission or the Executive Director may deny, approve, or approve with conditions all or part of the requested phased developments of the project sponsor's leaseholdings. A project sponsor that receives approval of phased development must file an application with the Commission to modify its existing approved NGDP, or for approval of a new NGDP for each of the succeeding development phases. Commission approval of the amended or new NGDP and well pads must be received before the Project sponsor initiates construction in the unapproved phase of the leasehold. The limitation of up to five (5) total natural gas well pad

dockets in the basin for a project sponsor until the Commission approval of an NGDP applies regardless of the Commission or Executive Director's approval of the division or phasing of a project sponsor's leasehold.

To the extent that project sponsors obtain rights to conduct natural gas development activities, including but not limited to the extraction of natural gas, through property interests other than or in addition to a leasehold, for purposes of these Natural Gas Development Regulations those rights shall be administered in the same manner and subject to the same restrictions as leaseholds.

(2) *Commission Action.* The Commission may grant, deny, approve or approve with conditions, a docket for an NGDP or a natural gas well pad in accordance with this Section 7.5. In addition to the project application review fee specified in item (e) in Table 7.3.1 for the NGDP application, each natural gas well pad that is included in the NGDP application or added to an approved NGDP shall be subject to the project review fee specified in item (g) in Table 7.3.1. The project sponsor will be notified in writing of the Commission's or Executive Director's decision, including any conditions of approval.

(3) *NGDP Application Requirements.*

(i) *Lease Area Map.* A lease area map is a map of all a project sponsor's leaseholds in the basin. The leasehold map(s) must be a United States Geologic Survey (USGS) 7.5 minute or 15 minute series topographic quadrangle if necessary due to size. The map(s) must show development units within the leaseholds that will be developed in 5 year increments.

(ii) *Landscape Map.* A landscape analysis is a series of maps for the basin leaseholds or specified leasehold unit prepared in accordance with the following:

(A) State Orthophotography of the geographic area covered by the Plan and parcels within a 0.5 mile radius of the leasehold.

(B) List of property and mineral rights owners of the leaseholds located within 0.5 mile of any proposed well pad site.

(C) 7.5 minute USGS quad showing (lease area plus a 0.5 mile perimeter around the leasehold): existing roadways, existing rights of way—utility lines, pipelines, transmission lines, existing oil and gas wells, existing water supply wells—community, domestic (within a 0.5 mile radius of any proposed natural gas well pads), and any wellhead protection area prescribed by the state, and existing buildings.

(D) Hydrology Map (or overlay) 7.5 minute quadrangle showing (lease area plus a 0.5 mile perimeter around the leasehold): Watershed boundaries (HUC 12 level), Water bodies—rivers, streams, ponds, springs, reservoirs, lakes, etc., Wetlands (NWI or site specific survey).

(E) Geology Map—including areas of glacial till, fluvial landforms (lease area).

(F) Soils Series Map—with list of hydric and erodible soils (lease area).

(G) Slope Map—Highlighting slopes greater than 15% and greater than 20% (lease area).

(H) Critical Habitat Map—areas designated for a federal or state threatened or endangered species.

(I) Natural Heritage Sites—Map showing areas as designated by federal, state or county agencies (lease area plus 0.5 mile) that include important areas of biodiversity

and unique ecological communities, including management areas of the National Park Service Units.

(J) Map of all forested landscapes (lease area).

(iii) *Constraints Analysis Map.* A constraints analysis map is a composite of maps for the basin leaseholds or specified leasehold unit prepared utilizing the landscape maps generated in Section (ii) above and with the following:

(A) All restricted areas (as defined in Section 7.5 (b)(3)).

(B) All buffers/setbacks (as defined in Section 7.5 (b)(4)).

(iv) *Circulation Plan.* A map and description of existing and proposed roads and rights-of way on the leasehold that will be used for vehicular, pipeline or utility access to and among identified well field development areas, natural gas well pads, compressor stations and other ancillary equipment, within or connecting to areas outside of the geographic area covered by the Plan. Linear infrastructure must be co-located whenever feasible. If there are any proposed changes to the plan, project sponsors may apply to the Executive Director for adjustments to the locations of these sites and routes included in a Commission approved NGDP. The Executive Director may deny, approve or approve with conditions the requested adjustments to the siting.

If any of the proposed infrastructure is proposed to be located in delineated areas of constraints, the project sponsor must include an accompanying report which provides the reasons for the proposed siting.

(v) *Monitoring program.* A compilation and map of all surface and groundwater monitoring locations as required in Section 7.5(h)(2)(i).

(d) *Natural Gas Well Pad Docket Application Requirements.*—The project sponsor must submit a lease area map as described in Section 7.5(c)(3)(i) above for all its leaseholds in the basin as of the date of the application. This map is required to be submitted with the well pad application. The project sponsor must also submit a landscape map, a constraints analysis map, and a circulation plan as described in Sections 7.5(c)(3)(ii)(iii) and (iv) above for the area within 0.5 miles of the well pad sites proposed in the application at submittal.

Project sponsors are also required to submit to the Commission the results of a NDIA. For projects located in the Commonwealth of Pennsylvania, a Pennsylvania Natural Diversity Inventory (PNDI) assessment satisfies this requirement. For projects located in the state of New York, an assessment done in accordance with New York, 6 NYCRR Part 182 satisfies this requirement. The Commission reserves the right to prepare a separate NDIA at the expense of the project sponsor if it determines that a separate assessment is required.

If the project sponsor is required to submit a NGDP, within 3 months of filing its first well pad application, they must submit a NGDP application, which should contain the landscape map and the constraints analysis map as described in Section 7.5(c)(3)(ii) and (iii) above for its entire basin leaseholds or specified leasehold unit. Within 12 months of filing the well pad application, the project sponsor must supplement their NGDP application with the circulation plan as described in 7.5(c)(3)(iv) above for the entire basin leaseholds or specified leasehold unit.

The Commission may grant, deny or condition a Natural Gas Well Pad Docket in accordance with this section.

The project sponsor will be notified in writing of the Commission's decision, including any conditions of approval.

(e) *Approval by Rule (ABR).* The project sponsor must submit a lease area map as described in Section 7.5(c)(3)(i) above for all its leaseholds in the basin as of the date of the application. This map is required to be submitted with the well pad application. The project sponsor must also submit a landscape map, a constraints analysis map, and a circulation plan as described in Sections 7.5(c)(3)(ii)(iii) and (iv) above for the area within 0.5 miles of the well pad sites proposed in the application at submittal. ABRs may only be issued in accordance with this section for a well pad that meets the following criteria:

(1) The project has been identified and is in conformance with an approved NGDP; or meets all of the following:

(2) It must not be located on a forested site, as that term is defined by these regulations; and

(3) It must be located on a site with a pre-alteration slope, as that term is defined by these regulations, not in excess of 15 per cent; and

(4) It must be located outside management areas of the National Park Service (NPS), including the Upper Delaware Scenic and Recreational River (UPDE) and the Delaware Water Gap National Recreation Area (DEWA) and other areas in which the National Park Service or other federal agencies have a management interest; and

(5) It must be located outside of the watersheds that drain to New York City's Delaware River Basin Reservoirs; and

(6) It must meet the applicable siting and design criteria in Section 7.5(b)(3) and 7.5(b)(4).

(7) For exploratory and low volume hydraulically fractured well pads a project sponsor must have a state issued approval for well construction and operation.

(f) *Well Pads added to an approved NGDP.* Project sponsors for well pad projects proposed in accordance with an approved NGDP may apply for an ABR if they meet the following criteria:

(1) The project sponsor must be the holder of the docket approving the NGDP. Transfer from one entity to another of a docket for a NGDP must be completed, including issuance of written approval by the Executive Director, before an application in accordance with this section will be considered; and

(2) The project sponsor must be in compliance with the conditions of the docket approving the NGDP.

The Executive Director may grant, deny or condition an ABR for a well pad in accordance with Sections 7.5 (e) and (f). The project sponsor will be notified in writing of the Executive Director's decision, including any conditions of approval.

(g) *Well Pad Dockets.* A well pad that does not meet the requirements for an ABR may apply for approval by the Commission via docket.

(h) *Well Pad Requirements.* The following describe the applicable requirements for well pads involving high volume hydraulically fractured wells and well pads that are used exclusively for the development of exploratory wells or low volume hydraulically fractured wells.

(1) *Applicable Requirements for all Well Pads.*

(i) *Planning Requirements.* If a project sponsor meets the criteria in Section 7.5(c), it must submit a Lease Area Map in accordance with Section 7.5(c)(3)(i) with its first ABR application. A NGDP must be submitted and approved prior to initiating the development of its sixth well pad in the basin. Upon approval of the NGDP, all subsequent well pads constructed exclusively for exploratory or low volume hydraulically fractured natural gas wells not included in the approved NGDP docket, but within the boundaries of the NGDP, and in accordance with the terms and conditions of the NGDP, are eligible for ABRs.

(ii) *Public notification.* The project sponsor must demonstrate compliance with the applicable requirements of Section 7.3(i).

(iii) *Water Source Requirements.*

(A) The well pad project sponsor may only use water at well pads obtained from DRBC approved sources.

(B) *Proposed Sources.* The well pad project sponsor's application must include the following information relative to any water, flowback water, production water, wastewater, non-contact cooling water, mine drainage water or combination thereof to be used at the well pad site:

(1) Proposed sources of all such waters to be used at the well pad site; and

(2) Source water docket number, protected area permit or ABR number, allocation, and DRBC approval date; and

(3) If the water is imported from outside of the Delaware River Basin, the project sponsor must show compliance with requirements of Article 2, Section 2.30 of the Water Code.

(C) *Water Recording.* Well pad project sponsors must monitor and record the volume of all water delivered to the well pad site from each source used on a daily frequency. The project sponsor must maintain a record of each truck/pipeline delivery and its source. The project sponsor must submit the records in a Commission-specified electronic format to the Commission upon request by the Executive Director.

(D) *Water Reporting.* The well pad sponsor must submit to the Commission on a quarterly basis reports indicating monthly and daily total volumes of water delivered at individual natural gas well sites in a format prescribed by the Executive Director.

(E) *Water supply charge.* The holder of a natural gas well pad approval, whether or not the well pad is part of a Natural Gas Development Plan, is required to pay the Commission's water supply charge for consumptive use based on quarterly water reporting noted above. Water supply charges apply to all groundwater and surface water used to support natural gas development projects. One hundred percent of water used by a natural gas extraction and development project is considered to be consumptive for the purpose of calculating the water supply charge due to the Commission. The water charge rate applied to all water used for natural gas well projects will be equivalent to the consumptive use rate charged for surface water usage set forth as item (n) in Table 7.3.1. This rate applies to all water used for natural gas development projects and will be paid by the user of the water. Consumptive use water supply charges are to be paid on a quarterly basis by the project sponsor of the natural gas well pad. Payments must be received by the

Commission within 30 calendar days of the end of each quarter. Late payments will be subject to an interest charge of 1% per month from the end of the month during which the payment was due. This applies to all natural gas well pads applied for and approved as dockets, ABRs or included in NGDP dockets (see items (c), (d), (e) and (g) in Table 7.3.1). Water use associated with ABR's for exploratory and low volume hydraulically fractured wells is exempt from the water supply charge for consumptive use.

(F) *Water Conservation.* The project sponsor must implement a continuous program to encourage water conservation in all types of use within the facilities served by the Commission's well pad approval. The water conservation program must include the reuse and recycling of flowback and production waters to the greatest extent possible. Applies to all well pad project sponsors, except those approved by an ABR for exploratory or low volume hydraulically fractured wells.

(iv) *Wastewater.* All well pad project sponsors must satisfy the following requirements:

(A) *Disposal.*

(1) Non-domestic wastewater may only be disposed of at a facility;

(i) within the basin only if the Commission has approved it to accept non-domestic wastewater and that has obtained applicable state permits and approvals; or

(ii) outside the basin, if the facility has obtained applicable state permits and approvals and the project sponsor has Commission approval to export non-domestic wastewater.

(2) The well pad project sponsor must submit a copy of the written contractual agreement or permit between the well pad project sponsor and the disposal facility as part of the application.

(3) The well pad project sponsor may also transport and reuse flowback or production water at a Commission and state approved location

(4) Wastewater, recovered flowback and or production water and brines from natural gas well pads may not be applied to any road or other surface within the Delaware River Basin.

(5) Domestic, non-domestic wastewater, unused water, recovered flowback and production water, combination of recovered flowback or production water and fresh waters or fluids approved for use at the well pad, may not be discharged to groundwater or surface waters of the Delaware River Basin without written Commission and appropriate state agency approval.

(B) *Recording.* Well pad project sponsors must record the volume of all non-domestic wastewater produced onsite on a daily frequency. Well pad project sponsors must keep a transportation record of all non-domestic wastewater leaving the well pad. The transportation record must include the volume of non-domestic wastewater shipped offsite by individual trucks and/or pipeline, the name, permit and docket number and destination of the receiving reuse and or treatment and disposal facilities. The project sponsor will also obtain confirmation that the transferred wastewater was received by the facility that received the wastewater and keep records associated with such transfers. The project sponsor must submit the records in a Commission-specified electronic format to the Commission upon request by the Executive Director.

(C) *Reporting.*

(1) Well pad project sponsor must submit a “*DRBC Post Hydraulic Fracturing Report*” to the Commission within 60 days of completion of each hydraulic fracturing event.

(2) The well pad sponsor must submit to the Commission on a quarterly basis reports indicating monthly and daily total volumes of flowback and production water collected and transported offsite from the well pad and results of any flowback/production water samples in a format prescribed by the Executive Director.

(v) *Non-point source pollution control plan.* If the well pad is located within the drainage area of a portion of the Delaware River classified by the Commission as Special Protection Waters (SPW), the project sponsor must demonstrate compliance with section 3.10.3A.2.e. of the Commission’s Water Quality Regulations, providing for development and implementation of a Non-Point Source Pollution Control Plan (NPSPCP). The NPSPCP must be consistent with the more stringent of Commission and state requirements for erosion and sedimentation controls to be implemented at the well pad, including measures to control stormwater both during and after construction. The post-construction portion of the plan must describe the final site conditions, including a pre- and post-construction project hydrograph analysis, permanent facilities, equipment, access roads, and all stormwater control structures that may be necessary after final site restoration has been completed. No site clearing or construction work at the well pad may be initiated until the NPSPCP has been approved by the Commission, or by the host State in accordance with an Administrative Agreement between the Commission and the host State. The Commission will rely upon host state erosion and sediment control plan and post construction stormwater management plan requirements for NPSPCPs for well pads approved by an ABR for exploratory or low volume hydraulically fractured wells.

(vi) *Mitigation, Remediation and Restoration.*

(A) The project sponsor must immediately report to the Executive Director as well as appropriate local, state and federal agencies any release or threatened release to the environment of any substance, pollutant or contaminant at or from the natural gas well, well pad site or from associated equipment and structures, and from any materials or wastewater transported to or from the well pad site that has the potential to reach groundwater or surface water or may cause an adverse impact to water resources of the Delaware River Basin. Oral notification must always be followed up in writing directed to the Executive Director.

(B) The project sponsor must take steps to prevent any threatened release and immediately mitigate and remediate any release. The project sponsor must report as required under Section 7.5(h)(vi)(A). If necessary, the project sponsor must stop all other operations to effectuate the mitigation or remediation of the release or spill.

(C) The project sponsor must also provide written notification to all potentially impacted users of wells or surface water users of the project sponsor’s responsibilities under this condition. Any ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished as a result of the release must be repaired, replaced or otherwise mitigated at the expense of the project sponsor. A report of investigation and/or mitigation plan prepared by a qualified professional must be submitted to the Executive Director as

soon as practicable or within the time frame directed by the Executive Director. The Executive Director will make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

(D) The project sponsor must close the natural gas well, well pad site and associated equipment and structures, and restore land disturbances caused by the natural gas well project according to host state requirements.

(2) *Additional Requirements for all Well Pads Involving High Volume Hydraulically Fractured Wells.*

(i) *Groundwater and Surface Water Monitoring.*

(A) *Pre-alteration Report.* Well pad project sponsors must submit to the Commission’s Executive Director c/o the project review section a pre-alteration groundwater and surface water monitoring study report as part of the well pad application.

(1) The pre-alteration report must include an inventory and the mapped locations of any artificial penetrations including groundwater wells within 2,000 ft of the project well pad. The report must also include the results of groundwater sampling and laboratory analysis of a representative number of groundwater wells within 1,000 ft of the well pad. If the project sponsor or the Executive Director concludes that an insufficient number of existing wells are identified within this distance to adequately characterize the groundwater, the sampling distance must be extended up to 2,000 ft from the gas well pad. If there are no existing groundwater wells or the project sponsor is unable to gain access to any existing groundwater wells within 2,000 ft of the project well pad, the project sponsor will be required to install a monitoring well or wells within 1,000 ft of the project well pad. The well monitoring study report must also identify any of the sampled wells that the project sponsor proposes not to monitor on an annual basis. The Executive Director may approve their exclusion or require these wells to be included in the annual studies required by subparagraph (B) below.

(2) The report must also include the mapped locations and the results of surface water monitoring in the nearest water body(ies) up gradient and down gradient of the well pad for temperature and specific conductivity, water chemistry parameters and benthic macroinvertebrates. At least one upstream and one downstream sampling site is required. Sampling frequency, sample parameters, analytical methods and required detection limits for both the groundwater and surface water monitoring will be specified by the Executive Director.

(3) All monitoring data must also be submitted to the Commission in an Electronic Data Deliverable format specified by the Executive Director. It is recommended that applicants discuss the pre-alteration well monitoring and surface water monitoring study with Commission staff prior to implementation and prior to submittal.

(4) All sampling must be performed by a qualified professional experienced and trained in the collection of environmental samples for physical, chemical and biological analysis. Sample analysis must be conducted by a state certified laboratory for those parameters covered by a basin state program. Project sponsors may propose an alternative analytical method to those specified by the Executive Director, but must demonstrate that the alternative methods will meet the required detection limits and will provide comparable precision and accuracy.

(5) Samples must not be filtered. If a project sponsor can demonstrate matrix interferences, filtration of metals

samples may be allowed, but all pre- and post-drilling comparisons must be made on the same basis (unfiltered or filtered).

(6) If, despite reasonable efforts of the project sponsor, owners of wells do not cooperate with the proposed groundwater program, the Executive Director may approve an alternative program based on monitoring wells established to accomplish this requirement.

(7) Additional sampling and analysis may be required by the Executive Director based on the monitoring results.

(B) *Post Construction Report.* After construction of any well on a well pad, the wells included in the pre-alteration well monitoring study described above, except for those wells identified in the study as proposed for no future monitoring and not required by the Commission to be monitored, must at a minimum be monitored for the same parameters monitored in the pre-alteration monitoring study on an annual basis until all natural gas wells installed at the well pad site are plugged and sealed according to the standards of the state in which the well is located. Surface water monitoring must also continue at the same locations and for the same parameters monitored in the pre-alteration monitoring study on an annual basis or until a reduced frequency is authorized by the Executive Director.

(1) The annual report(s) must be submitted to the Commission by March 1 of each calendar year and include all data collected through at least December 31 of the previous calendar year.

(2) All monitoring data collected through December 31 of the previous calendar year must also be submitted to the Commission in an Electronic Data Deliverable format specified by the Executive Director. A summary of the sampling results must be provided to the sampled well's owner within thirty (30) days of the submission of the report to the Commission or, if the sampling results reveal analytes exceeding drinking water primary or secondary maximum contaminant levels, immediately after receipt of the results. A higher frequency of adjacent well monitoring and/or monitoring for an expanded list of parameters may be required by the Executive Director, based on actual or potential contamination of a particular well.

(ii) *Hydraulic Fracturing.*

(A) Prior to the initiation of hydraulic fracturing of the gas well where flowback reuse is not planned, the project sponsor must submit to the Commission's Executive Director written verification that the wastewater treatment and disposal facilities have all applicable approvals from the host state and DRBC, if located in the Delaware River Basin. The project sponsor must also verify that the approved wastewater treatment and disposal facilities have the capacity and capability to accept the non-domestic wastewater generated from the hydraulic fracturing operation.

(B) Project sponsors must provide notice to the Commission at least 48 hours in advance of the initiation of well stimulation.

(C) Project sponsors must meter the volume of water used for each hydraulic fracturing event at each well. The volume must be metered with an automatic continuous recording device or equivalent that measures to within 5 percent of actual flow. The Executive Director may grant a written exception to the 5 percent performance standard, but no greater than 10 percent, if the project

sponsor presents a demonstration acceptable to the Executive Director that maintenance of the 5 percent performance is not technically feasible or economically practicable.

(D) Project sponsors must maintain a record of the volumes/amounts of all chemicals/additives used for each hydraulic fracturing event. A list of the individual chemicals/additives with Chemical Abstract Services (CAS) registry number and Material Safety Data Sheets (MSDS) as well as amounts used for hydraulic fracturing must be submitted to the Commission in the "DRBC Post Hydraulic Fracturing Report".

(E) Project sponsors must meter the volume of all flowback water and production water with an automatic continuous recording device or equivalent that measures to within 5 percent of actual flow. The Executive Director may grant a written exception to the 5 percent performance standard, but no greater than 10 percent, if the project sponsor presents a demonstration acceptable to the Executive Director that maintenance of the 5 percent performance is not technically feasible or economically practicable. Flowback water volumes must be submitted to the Commission in the "DRBC Post Hydraulic Fracturing Report". Production water volumes must be submitted to the Commission on a quarterly basis in a format prescribed by the Executive Director.

(F) *Sampling.* Project sponsors must collect samples representative of all flowback and production water and analyze each sample for the same parameters monitored in the pre-alteration groundwater and surface water monitoring study. Sampling frequency, sample parameters, analytical methods and required detection limits for the samples will be specified by the Executive Director.

(1) All sampling must be performed by a qualified professional experienced and trained in the collection of environmental samples for physical, chemical and biological analysis. Sample analysis must be conducted by a state certified laboratory for those parameters covered by a basin state program. Project sponsors may propose an alternative analytical method to those specified by the Executive Director, but must demonstrate that the alternative methods will meet the required detection limits and will provide comparable precision and accuracy.

(2) Samples must not be filtered. Filtration of metals samples may be allowed, if the project sponsor can demonstrate matrix interferences and samples collected in the groundwater and surface water study were also filtered.

(3) All monitoring data must be submitted to the Commission in an Electronic Data Deliverable format specified by the Executive Director.

(G) Project sponsors must store flowback and production waters in accordance with Section 7.5(h)(2)(iv) below in water tight tanks for temporary storage on the well pad site or transport it to a treatment and discharge facility that has received applicable approvals from the host state and by the DRBC if located within the Delaware River Basin. Subject to approval, recovered flowback and production water may be reused at subsequent wells on the same well pad, removed from the well pad site for use at another well pad, recycled and/or disposed at a wastewater treatment facility that has received applicable approvals from the host state, or transferred to a centralized wastewater storage facility having applicable approvals from the host state. All recovered flowback must be reused or disposed of within 45 days of the date of well stimulation unless an exten-

sion is approved in writing by the Executive Director or the project sponsor provides the Executive Director with documentation of host state approval.

(H) The project sponsor may not transfer recovered flowback to any other well pad site, or transfer it to a centralized wastewater storage facility unless approved in a docket, ABR, or in writing by the Executive Director.

(iii) *Drilling Fluids and Drill Cuttings from Horizontal Wellbores in the target formation.*

(A) The cuttings and fluids must be properly transported offsite and beneficially reused or disposed of at an appropriate waste disposal facility(s) approved by the host state. All cuttings and liquids must be removed from the site within 45 days from the completion of well drilling or the capping of the well prior to production or the commencement of production.

(B) The project sponsor must notify the Commission within 48 hours of the completion of drilling.

(iv) *Wastewater Storage.*

(A) All wastewaters must be stored in such a manner as to prevent their release to the environment. Storage tanks must be designed and constructed of materials suitable to safely contain the wastewater stored. The storage tanks must be used and maintained according to manufacturer specifications.

(B) Recovered flowback and production water may, subject to approval, be reused at subsequent wells on the same well pad, removed from the well pad for use at another well pad, recycled and/or disposed at treatment facilities that have received applicable approvals by the host state and DRBC (where applicable) or transferred to a centralized storage facility having the applicable approvals from the host state.

(1) All recovered production water must be temporarily stored on-site in water-tight tanks as necessary to safely contain the production water.

(2) No on-site discharge of recovered flowback or production water other than as expressly permitted in the docket is permitted. The volume of all flowback and production water recovered, reused at the site or removed from the site must be recorded and reported to the DRBC in accordance with the recording and reporting conditions of the docket.

(3) Production water that is not approved for reuse must be transported to and treated at an approved treatment and discharge facility.

(4) Under no circumstances may wastewater including flowback and production water be placed into any freshwater impoundment, or discharged to the ground surface at the well pad site.

(v) *Wastewater Treatment and Disposal Plan.* The project sponsor must submit as part of the application, a wastewater treatment and disposal plan.

(A) The treatment and disposal plan must address all domestic and non-domestic wastewater produced at the well pad.

(B) The treatment and disposal plan must identify the treatment and disposal locations, docket number and state permit number if the treatment and disposal facilities are located in the basin.

(C) The treatment and disposal plan must identify the treatment and disposal locations and the state permit number if the treatment and disposal facilities are outside the Basin.

(D) The treatment and disposal plan must include written evidence that the treatment and disposal facilities have all applicable state approvals.

(E) The treatment and disposal plan must include the contractual agreement or permit between the well pad project sponsor and the treatment and disposal facilities.

(F) Disposal at a UIC Program well within the Basin is allowed only if the docket holder of the UIC disposal well first obtains Commission approval pursuant to Section 7.6 below to accept flowback and production water.

Section 7.6. Wastewater Generated by Natural Gas Development.

(a) *Approval Requirements.* Project sponsors of treatment and disposal facilities that propose to accept non-domestic natural gas wastewater at new or existing wastewater treatment facilities located in the Delaware River Basin are required to obtain approval from the Commission pursuant to Section 3.8 of the Compact prior to accepting any such wastewaters. Section 7.6 of these regulations applies to all project sponsors of wastewater treatment and disposal facilities. Sponsors of well pad projects generating natural gas development wastewater must comply with the wastewater requirements in Sections 7.5(h)(1)(iii)(C) and (D) of these regulations, and with Section 7.6, if they are also sponsors of wastewater treatment and disposal facilities.

(b) *Treatability Study.* If the proposed wastewater treatment and disposal facility is located in the Delaware River Basin, the project sponsor of the treatment and disposal facility must submit a treatability study. The treatability study must be prepared by a professional engineer, licensed to practice in the state in which the proposed discharge is located, and must demonstrate that the introduction of the non-domestic wastewater into the receiving treatment facility will not result in any interference in the treatment operations, or sludge treatment and disposal operations. In addition, the treatability study must also demonstrate that the resulting combined effluent will comply with the wastewater discharge and disposal permit requirements of the state in which the wastewater treatment facility is located and the approved docket of the Commission.

(c) *Ensuring non-exceedance of primary and secondary safe drinking water standards.* Consistent with the intent of Section 3.10.3.B.2. of the Commission's Water Quality Regulations (WQRs), all project sponsors, except for those that discharge to Zones 4, 5 & 6 of the Estuary, are required to conduct an analysis that demonstrates their proposed discharge will not result in basin waters being rejected for public water supply. Accordingly, the project sponsor must conduct an analysis that demonstrates the discharge of non-domestic natural gas wastewater does not result in an exceedance of the EPA's Primary & Secondary Standards for the following parameters: Total Dissolved Solids, Chloride, Strontium, Barium, Sulfate, Iron, Nitrite, Fluoride, Manganese, Zinc, Nitrate as N, Aluminum, Copper, Lead, Cyanide-Total, Chromium, Arsenic, Thallium, Selenium, Antimony, Silver, Cadmium, Beryllium, Mercury, gross-alpha, gross beta, pH, radium-226 + radium-228 and uranium. Additional parameters to be included in this analysis may be specified by the Executive Director.

(d) *Effluent limitations and stream quality objectives for discharges to Zones 2-6.* All project sponsors that discharge to Zones 2-6 of the Delaware Estuary are required to submit an analysis that demonstrates their proposed discharge is in compliance with the applicable

basin-wide effluent limitations found in Section 3.10.4, the basin-wide stream quality objectives found in Section 3.10.3.B. and the zone specific stream quality objectives found in Section 3.30 of the WQRs, including the applicable portions of Tables 3, 4, 5, 6 & 7.

(e) *Basin-wide effluent limitations and stream quality objectives.* All project sponsors, except for those that discharge to Zones 2-6, are required to submit an analysis that demonstrates their proposed discharge is in compliance with the applicable basin-wide effluent limitations found in Section 3.10.4, the basin-wide stream quality objectives found in Section 3.10.3.B of the WQRs, and the following stream quality objective:

(1) Toxic Substances.

(i) The toxicity in non-tidal Basin waters must not exceed 0.3 Toxic Units (acute), except in small mixing areas near outfall structures that may be established by the Commission.

(ii) For non-tidal portions of the basin, a mixing zone must meet the following requirements:

(A) The dimension of the mixing area shall be limited to the more stringent of:

(1) A distance of 50 times the discharge length scale in any direction from the outfall structure, or

(2) A distance of 5 times the local water depth in any direction from the outfall structure.

(B) Must not be located in areas which are or could be occupied by a species absent the toxic effect of pollutants; and which have those physical, chemical and biological features which are essential to the conservation and maintenance of the Delaware River Basin population. The Commission will identify and determine such areas. Such determinations shall consider the spatial and temporal requirements of the species including critical life stages. Determinations shall be governed by the Commission's Rules of Practice and Procedure relating to review, hearing and decisions of objections thereto.

(C) Mixing areas will not be established where effluent flows over exposed benthic habitat prior to mixing with the receiving waters.

(D) A zone of passage for free-swimming and drifting organisms equal to 50% of the surface width of the stream at the location of the discharge must be provided.

(E) Upon the request of one or more dischargers, the Executive Director may consider requests for alternatives to the requirements of Subsections (A) through (D) above. Such requests must provide a demonstration that the alternative requested will not adversely impact free-swimming and drifting organisms, and be supported by a sound rationale and substantial scientific data and analysis.

(iii) The toxicity in non-tidal Basin waters must not exceed 1.0 Toxic Units (chronic).

(iv) For the purposes of determining compliance with the requirements of this section for acute and chronic toxicity, the duration of exposure of aquatic organisms must be one hour for acute toxicity and four days for chronic toxicity.

(f) *Basin-wide Total Dissolved Solids (TDS) Stream Quality Objective.* All project sponsors, except for those discharging to Zones 5 & 6 of the Estuary are required to submit an analysis that demonstrates their proposed discharge is in compliance with the TDS stream quality objective.

(1) The concentration of TDS must not exceed 133% of background (Section 3.10.3.B.1.b. of the WQRs), and in no cases may it exceed 500 mg/l (Section 3.10.3.B.2. of the WQRs). This requirement is applied Basin-wide, except for Zones 5 & 6 of the Estuary.

(2) Background TDS must be established by using the observed concentration of TDS during low flow conditions (Q7-10) or, in the absence thereof, an estimate acceptable to the Commission (Section 3.10.6.G. of the WQRs). The Commission has established background conditions for TDS in several locations throughout the Basin. The project sponsor must confirm with Commission staff the appropriate background TDS concentration prior to submittal of a project application.

(g) *Wastewater Imports.* Basin waters have limited assimilative capacity and limited capacity to accept conservative substances without significant impacts. It is the policy of the Commission to discourage the importation of wastewater into the Basin that would significantly reduce the assimilative capacity of the receiving stream on the basis that the ability of Basin streams to accept wastewater discharges should be reserved for users within the Basin (Section 2.30.2 of the Water Code). Non-domestic natural gas wastewater may only be imported into the Basin after approval by the Commission in accordance with Section 2.30 of the Water Code.

(h) *Underground Injection Control.* Any entity proposing to construct an underground injection well, for the disposal of non-domestic natural gas wastewater must obtain Section 3.8 approval from the Commission (Section 3.40 of WQR).

Appendix: Wording of Financial Assurance Instruments

(i) *Surety Bond.*

1. A surety bond guaranteeing payment into a trust fund, as specified in Section 7.3(k)(12), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Financial Guarantee Bond

Date bond executed:

Effective date:

Principal: [legal name and business address of project sponsor]

Type of Organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation:

Surety(ies): [name(s) and business address(es)]

Facilities Covered: [RBC Docket Number, name, address and amount(s) for each facility guaranteed by this bond]:

Total penal sum of bond: \$ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Delaware River Basin Commission (hereinafter "DRBC or Commission), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint

action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability must be the full amount of the penal sum.

Whereas said Principal is required, under the Delaware River Basin Compact and its implementing regulations, to secure DRBC approval in the form of a docket or, if available, an approval by rule (ABR), in order to undertake a project regarding each well pad identified above and all natural gas wells situated or to be situated on such pad, and

Whereas said Principal is required to provide financial assurance for closure, or closure and remediation, as a condition of the docket, or ABR, and

Whereas said Principal must establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of the obligation are such that if the Principal must faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal must provide alternate financial assurance, as specified in Section 7.3(k), and obtain the Executive Director's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Executive Director from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Executive Director or designee that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) must place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Executive Director.

The liability of the Surety(ies) must not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Executive Director, provided, however, that cancellation must not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Executive Director, as evidenced by the return receipts and must not be valid unless the Principal has provided alternate financial assurance as specified in Section 7.3(k) and obtained the Executive Director's written approval of such assurance.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice must become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Executive Director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and remediation amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Executive Director.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in Section 7.3(k) and Section (i) of this Appendix, as such regulations were constituted on the date this bond was executed.

Principal

[Signature(s)] _____

[Name(s)] _____

[Title(s)] _____

[Corporate seal] _____

Corporate Surety(ies)

[Name and address]

State of incorporation: _____

Liability limit: \$ _____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____

2. A surety bond guaranteeing performance of closure and/or remediation, as specified in Section 7.3(k), must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Performance Bond

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of project sponsor]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

Facilities Covered: [DRBC Docket Number, State Permit Number, name, address, and amount(s) for each facility guaranteed by this bond: _____]

Total penal sum of bond: \$ _____

Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Delaware River Basin Commission (hereinafter "DRBC), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and sever-

ally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability must be the full amount of the penal sum.

Whereas said Principal is required under the Delaware River Basin Compact and its implementing regulations to secure DRBC approval in the form of a docket or, if available, an approval by rule (ABR) in order to undertake a project regarding each natural gas well identified above, and

Whereas said Principal is required to provide financial assurance for plugging and abandonment, and restoration of the natural gas well, well pad site and associated equipment and structures, as specified in Section 7.3(k) as a condition of the docket or ABR, and

Whereas said Principal must establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal must faithfully perform closure and remediation, whenever required to do so, of each facility for which this bond guarantees closure or remediation, in accordance with requirements of the docket, or approval by rule (ABR) as such docket, or ABR may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal must provide alternate financial assurance as specified in Section 7.3(k), and obtain the Executive Director's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Executive Director from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Executive Director or designee that the Principal has been found in violation of the requirements of Section 7.3(k), for a facility for which this bond guarantees performance, the Surety(ies) must either perform in accordance with the docket requirements or place the amount guaranteed for the facility into the standby trust fund as directed by the Executive Director.

Upon notification by the Executive Director that the Principal has failed to provide alternate financial assurance as specified in Section 7.3(k), and obtain written approval of such assurance from the Executive Director during the 90 days following receipt by both the Principal and the Executive Director of a notice of cancellation of the bond, the Surety(ies) must place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Executive Director.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, dockets, applicable laws, statutes, rules, and regulations and agrees that

no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) must not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments must amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Executive Director, provided, however, that cancellation must not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Executive Director, as evidenced by the return receipts and shall not be valid unless the Principal has provided alternate financial assurance as specified in Section 7.3(k) and obtained the Executive Director's written approval of such assurance.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Executive Director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Executive Director.

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in Section 7.3(k)(12) and section (i) of this Appendix as such regulation was constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation: _____

Liability limit: \$ _____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____

(ii) *Letter of Credit.*

A letter of credit, as specified in Section 7.3(k)(13) of this Section, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Executive Director

Delaware River Basin Commission

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of [sponsor's name and address] up to the aggregate amount of [in words] U.S. dollars \$ _____, available upon presentation of

(1) your sight draft, bearing reference to this letter of credit no. _____, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Delaware River Basin Compact."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [sponsor's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date and the Principal has provided alternate financial assurance as specified in Section 7.3(k) and obtained the Executive Director's written approval of such assurance. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [project sponsor's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [project sponsor's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in Section 7.3(k)(13) and section (ii) of this Appendix as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," and "the Uniform Commercial Code"].

(iii) *Trust Fund.*

A trust agreement for a trust fund, as specified in Section 7.3(k)(14), must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the

"Grantor," and [name of corporate trustee], [insert "incorporated in the State of _____" or "a national bank"], the "Trustee."

Whereas, the Delaware River Basin Commission (DRBC), a federal interstate compact agency, has established certain regulations applicable to the Grantor, requiring that the sponsor of a natural gas well project must provide assurance that funds will be available when needed for closure of the natural gas well, well pad and associated structures and land disturbance and any required remediation,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the well pads and wells identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the project sponsor who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This Agreement pertains to the facilities identified on attached Schedule A [on Schedule A, for each facility list the number of the state permits and DRBC dockets or approvals by rule approving the facilities and the location of the well pads and wells, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of DRBC. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund must be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by DRBC.

Section 4. Payment for Covered Activities. The Trustee must make payments from the Fund as the Executive Director shall direct, in writing, to provide for the payment of the costs covered by this Agreement. The Trustee must reimburse the Grantor or other persons as specified by the Executive Director from the Fund for covered expenditures in such amounts as the Executive Director shall direct in writing. In addition, the Trustee must refund to the Grantor such amounts as the Executive Director specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund must consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee must invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee must discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (i) Securities or other obligations of the Grantor, or any other sponsor, owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), must not be acquired or held, unless they are securities or other obligations of the Federal or a State government;
- (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and
- (iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (i) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (ii) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to

combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee must at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund must be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee must be paid from the Fund.

Section 10. Annual Valuation. The Trustee must annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the DRBC Executive Director a statement confirming the value of the Trust. Any securities in the Fund must be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the DRBC Executive Director shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee must be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the ap-

pointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee must specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Executive Director, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section must be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee must be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee must be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Executive Director to the Trustee shall be in writing, signed by the Executive Director or her designee(s), and the Trustee must act and must be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee must have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or DRBC hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or DRBC, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee must notify the Grantor and the Executive Director, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Executive Director, or by the Trustee and the Executive Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Executive Director, or by the Trustee and the Executive Director, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, must be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee must not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Executive Director issued in accordance with this Agreement. The Trustee must be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability

to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement must be administered, construed, and enforced according to the laws of the State in which the natural gas well is located.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof, the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in Section 7.3(k)(14) and section (iii) of this Appendix as such regulations were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in Section 7.3(k)(14). State requirements may differ on the proper content of this acknowledgment.

State of _____

County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such A corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

Dated: February 1, 2011

PAMELA M. BUSH,
Secretary

Fiscal Note: Fiscal Note 68-56. No fiscal impact; (8) recommends adoption.

Annex A**TITLE 25. ENVIRONMENTAL PROTECTION****PART V. DELAWARE RIVER BASIN COMMISSION****CHAPTER 901. GENERAL PROVISIONS****§ 901.2. Comprehensive Plan and water quality.**

The Comprehensive Plan regulations as set forth in 18 CFR Part 401, Subpart A ([2008] 2011) and the Water Code and Water Quality Standards as set forth in 18 CFR Part 410 ([2008] 2011) are hereby incorporated by reference and made a part of this title.

[Pa.B. Doc. No. 11-376. Filed for public inspection March 4, 2011, 9:00 a.m.]
