PROPOSED RULEMAKING

DELAWARE RIVER BASIN COMMISSION

[ 25 PA. CODE CH. 901—903 ]

Proposed Amendments to the Administrative Manual and Special Regulations Regarding Natural Gas Development Activities; Additional Clarifying Amendments; Public Hearing

Summary: The Commission will hold public hearings and accept written comment on a proposal to amend its Special Regulations by the addition of a section on hydraulic fracturing in shale and other rock formations, including: the prohibition of high volume hydraulic fracturing in such formations; provisions related to water use for hydraulic fracturing; and provisions related to the management of produced water from hydraulic fracturing. The Commission also proposes to amend its Administrative Manual—Rules of Practice and Procedure by the addition of project review classifications and fees related to the management of produced water from hydraulic fracturing of hydrocarbon bearing rock formations. Minor amendments to the project review classifications unrelated to hydraulic fracturing are also proposed.

Dates:

Written comments: Written comments will be accepted through 5 p.m. on March 30, 2018.

Public hearings:

1. January 23, 2018, 1 p.m. to 4:30 p.m., Waymart, Wayne County, PA
2. January 23, 2018, 6 p.m. to as late as 9:30 p.m., Waymart, Wayne County, PA
3. January 25, 2018, 1 p.m. to 4:30 p.m., Philadelphia, PA
4. January 25, 2018, 6 p.m. to as late as 9:30 p.m., Philadelphia, PA
5. February 22, 2018, 3 p.m. to as late as 7 p.m., Schnecksville, PA
6. March 6, 2018, 1:30 p.m. to 3:30 p.m., via telephone.

Registration to attend hearings: Online registration to attend hearings will remain open until 5 p.m. the day prior to the hearing. (On-site registration will also be available at in-person venues.) Registrants will be afforded opportunities to request speaking time.

Addresses:

Written submissions: Written comments will be accepted through the Commission's online public comment collection system at: http://dockets.drbc.commentinput.com. To request an exception to use of the online system based on lack of access to the Internet, please contact: Commission Secretary, DRBC, P.O. Box 7360, West Trenton, NJ 08628.

See SUPPLEMENTARY INFORMATION—Public Process, below, for important additional information concerning the submission of written comments.

The hearing locations are:

1. Ladore Camp, Retreat and Conference Center, 287 Owego Turnpike, Waymart, PA 18472 (Jan. 23)
2. DoubleTree by Hilton Hotel Philadelphia Airport, 4509 Island Avenue, Philadelphia, PA 19153 (Jan. 25)
3. LCCC Community Services Center, 4525 Education Park Drive, Schnecksville, PA 18078 (Feb. 22)
4. By telephone, 866-831-8713 (Mar. 6)

Where to register: To reduce uncertainty on the part of attendees about whether they will have a seat and an opportunity to speak at a public hearing, and to provide for a safe and orderly process, the Commission is requiring registration online or on-site to attend each public hearing. Use of the online, web-based registration system is encouraged, as this system will track and publish in real time the available capacity for each hearing. Key elements of the registration procedure are as follows:

• Online or on-site registration is required to attend each public hearing.
• Online registration to attend will remain open until 5 p.m. the day prior to each hearing.
• On-site registration will be available at all in-person hearing venues.
• Available capacity for each in-person hearing will be posted on the web-based registration system. When users access the system, they will see the number of seats still available or if the venue is at capacity.
• If capacity has been reached for a specific hearing, online registrants will be placed on a waiting list.
• Those who do not register to attend a hearing in advance are advised to check the availability of seats BEFORE planning travel to a hearing.
• Public hearing registrants will be afforded opportunities to request speaking time.
• If more people request to speak than time allows, those not assigned time will be placed on a waiting list.
• If fewer people request to speak than time allows, additional opportunities to request time will be provided on or before the hearing date.
• Elected government officials and their staff will have the opportunity to identify themselves when registering to attend a hearing.
• Written and oral comment will receive equal consideration.

The Commission appreciates the public's participation and input on this important matter. In order to provide as many individuals who wish to speak as possible with an opportunity to do so, each person will be limited to one time slot at one hearing location. Depending on the number who wish to be heard, speakers will be limited to two or three minutes. To ensure that scheduled public hearings meet the objectives of the Commission and the public in a safe and orderly process, it is essential that public hearing procedures are understood and followed. Participants are asked to review all DRBC public hearing procedures at: http://www.state.nj.us/drbc/library/documents/procedures_public-hearings050317.pdf. The Commission's policies related to speaker conduct, audience conduct, safety, security, signs, placards and banners will be in effect at these public hearings.

Updates or changes. Additional opportunities for comment or changes to the public input process will be published on the Commission’s website, drbc.net and PENNSYLVANIA BULLETIN, VOL. 48, NO. 2, JANUARY 13, 2018
through its Twitter account. Members of the public also may sign up through the Commission’s website to receive direct notice via email of additions or changes to the information provided in this notice.

See SUPPLEMENTARY INFORMATION—Public Process for additional details concerning the subjects on which the Commission particularly seeks input and the form of written comments.

Supplementary Information:

The Delaware River Basin Commission (DRBC or “Commission”) is a regional interstate and federal agency formed by concurrent compact legislation of the four basin states and the federal government in 1961 to manage the water resources of the Delaware River Basin without regard to political boundaries. Its members are, ex officio, the governors of the basin states (Delaware, New Jersey, New York, and Pennsylvania) and the commander of the U.S. Army Corps of Engineers North Atlantic Division, who represents the federal government. Most actions of the Commission, including the adoption of rules to effectuate, apply and enforce the compact, require a majority vote of the Commission’s five members.

Background

On September 13, 2017, the Commissioners by a Resolution for the Minutes directed the Executive Director to prepare and publish for public comment a revised set of draft regulations, to include: “(a) prohibitions relating to the production of natural gas utilizing horizontal drilling and hydraulic fracturing within the basin; (b) provisions for ensuring the safe and protective storage, treatment, disposal and/or discharge of wastewater within the basin associated with horizontal drilling and hydraulic fracturing for the production of natural gas where permitted; and (c) regulation of the inter-basin transfer of water and wastewater for purposes of natural gas development where permitted.”

In accordance with the Commissioners’ September 13 directive, the Commission is proposing amendments to its regulations and comprehensive plan to better provide for the planning, conservation, utilization, development, management and control of the basin’s water resources in connection with the hydraulic fracturing of shale and other hydrocarbon bearing formations to produce oil and gas. The Commission proposes to prohibit high volume hydraulic fracturing within the basin to effectuate the comprehensive plan for the immediate and long term development and use of the water resources of the basin, and to conserve, preserve and protect the quality and quantity of the basin’s water resources for uses in accordance with the comprehensive plan.

Through a series of policies and regulations establishing and amending its comprehensive plan, the Commission over the past half-century has established in-stream water quality standards throughout the basin, prohibited degradation of groundwater, and provided special protection to the non-tidal segment of the Delaware River to preserve its exceptionally high water quality and water supply values. As the agency through which the five signatory parties to the Compact collectively manage the basin’s water resources on a regional basis, the Commission has taken these steps to meet public and private needs for, among other things, drinking water, recreation, power generation, and industrial activity, and to accommodate large out-of-basin diversions by the City of New York and the State of New Jersey that are authorized by the 1954 decree of the U.S. Supreme Court in the matter of New Jersey v. New York.²

Portions of Pennsylvania and New York comprising about 40 percent of the basin’s geographic area are underlain by the Marcellus and Utica shales, geologic strata known to contain natural gas. Although the presence of commercially viable natural gas from these formations within the basin is not known, in regions of Pennsylvania west of the basin divide, oil and natural gas are extracted from the Marcellus and Utica formations by means of directional drilling and hydraulic fracturing using large volumes of water in a process referred to commonly in the region as “high volume hydraulic fracturing” (HVHF). After the South Newark basin formation, which underlies portions of Pennsylvania and New Jersey, may also contain oil and gas deposits capable of development by HVHF. All of the basin areas underlain by the Marcellus and Utica shales, with the exception of a small area of Schuylkill County, Pennsylvania, drain to waters that the Commission has designated as “High Value Waters”, due to their exceptionally high scenic, recreational, ecological, and/or water supply values. The Commission’s water quality management policy objective for Special Protection Waters is “that there be no measurable change in the quality of these waters except toward natural conditions.”³

During hydraulic fracturing, hydraulic fracturing fluid consisting primarily of water and recycled wastewater mixed with chemicals is injected through a well bore into the target rock formation under pressures great enough to fracture the rock. The fracturing fluid typically includes proppants (usually sand), which hold open the newly created fractures, allowing the gas to flow back through them and up the well to the surface. After a well is “stimulated” through hydraulic fracturing, much of the injected fracturing fluid, together with brines that were trapped within the target formation, is conveyed to the surface, where these fluids are collected and managed. The returned fluids, known as “flowback” and “produced water,” contain chemicals used in the fracturing mixture, as well as salts, metals, radionuclides, and hydrocarbons from the target rock formation. As discussed in greater detail below, in the Marcellus region in Pennsylvania, the median quantity of water required to stimulate a natural gas well exceeds 4 million gallons for each fracturing event.⁴ A single well may be fractured in multiple stages and/or multiple times,⁵ and as many as twelve wells may be installed on a single well pad.⁶ The volume of water

⁵ United States Environmental Protection Agency, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States, Dec. 2016 (EPA-600-R-16-236Fa) (hereinafter, “EPA HF Study 2016”), Exec. Sum., p. 25, n.3 (explaining that in a multi-stage hydraulic fracturing operation, specific parts of the cycle will be repeated and until the total desired length of the well has been hydraulically fractured.) Available at: https://water.epa.gov/groundwater/safewater/documents/HF_Cycle_Report.pdf
⁶ United States Environmental Protection Agency, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States, Dec. 2016 (EPA-600-R-16-236Fa) (hereinafter, “EPA HF Study 2016”), Exec. Sum., p. 25, n.3 (explaining that in a multi-stage hydraulic fracturing operation, specific parts of the cycle will be repeated and until the total desired length of the well has been hydraulically fractured.) Available at: https://water.epa.gov/groundwater/safewater/documents/HF_Cycle_Report.pdf
⁸ See, e.g., Alex K. Manda et al., Evolution of multi-well pad development and influence of well pads on environmental violations and wastewater volumes in the

5 United States Environmental Protection Agency, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States, Dec. 2016 (EPA-600-R-16-236Fa) (hereinafter, “EPA HF Study 2016”), Exec. Sum., p. 25, n.3 (explaining that in a multi-stage hydraulic fracturing operation, specific parts of the cycle will be repeated and until the total desired length of the well has been hydraulically fractured.) Available at: https://water.epa.gov/groundwater/safewater/documents/HF_Cycle_Report.pdf
6 United States Environmental Protection Agency, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States, Dec. 2016 (EPA-600-R-16-236Fa) (hereinafter, “EPA HF Study 2016”), Exec. Sum., p. 25, n.3 (explaining that in a multi-stage hydraulic fracturing operation, specific parts of the cycle will be repeated and until the total desired length of the well has been hydraulically fractured.) Available at: https://water.epa.gov/groundwater/safewater/documents/HF_Cycle_Report.pdf
7 See generally, New York State Department of Environmental Conservation, Final Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program—Regulatory Program for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reserves, May 2015 (hereinafter, NYS Final SGEIS). Available at: http://www.dec.ny.gov/energy/75370.html
8 See, e.g., Alex K. Manda et al., Evolution of multi-well pad development and influence of well pads on environmental violations and wastewater volumes in the
and wastewater involved is thus significant.

The use of HVHF to extract oil and natural gas from tight shale formations presents risks, vulnerabilities and impacts to the quality and quantity of surface and ground water resources that have been documented extensively, including in comprehensive reports by the New York State Department of Environmental Conservation (NYSDepC) and the United States Environmental Protection Agency (EPA), among others. These reports identify the risks to water resources associated with each of the steps in the "hydraulic fracturing water cycle," as summarized below. At times, these steps or portions thereof may be identified by the Commission as separate projects. In addition, an EPA technical background document describes industry processes, pollutants generated, risks, and available treatment technologies for produced water from oil and gas extraction. A significant number of data points in this document are provided for the Marcellus formation.

**Water acquisition.** The acquisition of water for use in HVHF may result in modifications to groundwater levels, surface water levels, and stream flows. The Susquehanna River Basin Commission (SRBC) has reported that for the period 2008 through 2013 an average of 4.3 million gallons of water were injected per fracturing event in natural gas wells within the Susquehanna basin. During the same period, 84 percent of injected water was "fresh" water from surface water and groundwater sources, and the remaining 16 percent was recycled produced water or flowback water. According to EPA, the median volume of water used per well fracturing event in Pennsylvania between January 2011 and February 2013 was 4.18 million gallons. EPA further reports that in at least 10 percent of cases, the water use in Pennsylvania during the same period was over 6.6 million gallons per well. EPA has reported that in the Marcellus formation in Pennsylvania, 82 to 90 percent of the base fluid used for hydraulic fracturing is fresh water that is naturally occurring and that the remaining base fluids (10 to 18 percent) are reused and recycled produced water. Advances in horizontal drilling technology are leading to longer drill paths and the need for more fracturing fluid volumes for each path. According to SRBC, when the industry began lengthening its lateral well bores in 2013, the average amount of water used per fracturing event increased to approximately 5.1 to 6.5 million gallons per fracturing event.

Withdrawals from surface and ground water in the amounts required for HVHF may adversely affect aquatic ecosystems and river channel and riparian resources downstream, including wetlands, and may diminish the quantity of water stored in an aquifer or a stream's capacity to assimilate pollutants. Because HVHF operations may significantly increase the volume of water withdrawn in a localized area, they may ultimately upset the balance between the demand on water resources and the availability of those resources for uses protected by the Commission's comprehensive plan, particularly during periods of low precipitation or drought.

**Consumptive use.** In contrast with most domestic and commercial water use, most water used for HVHF is used "consumptively," meaning it is not returned to the basin's usable ground or surface waters. According to the EPA, water accounts for 90 to 97 percent of all hydraulic fracturing fluids injected into a well for the purpose of extracting natural gas. EPA reports further that produced water, or water that flows from and through oil and gas wells to the surface as a by-product of oil and gas production over a ten-year operations period, makes up only 10 to 30 percent of the fluid injected. Accordingly, EPA estimates that 70 to 90 percent of the water used in high volume hydraulic fracturing is permanently removed from the water cycle. The SRBC's estimate is higher. SRBC reports that approximately 96 percent of water withdrawn by the natural gas industry is consumptively used in the hydraulic fracturing process and that the balance of the water is consumptively used for other activities at the drilling pads, such as well drilling, preparation of fracturing fluids and grout, dust control, maintenance operations, and site reclamation. In contrast, the DRBC estimates that 90 percent of water withdrawn for domestic and commercial uses in the Delaware River Basin is returned to basins, either by infiltration into aquifers or by discharge to surface waters after treatment at a wastewater treatment facility.

**Chemical use.** Although chemical additives generally make up the smallest proportion of the overall composition of hydraulic fracturing fluids, they pose a comparatively high risk to ground and surface water quality relative to proppants and base fluids. Additives, which can be a single chemical or a mixture of chemicals, are combined with the base fluid to change its properties, including, for example, to adjust pH, increase fluid thickness, reduce friction, or limit bacterial growth. The EPA has identified 1,085 chemicals reported to be added to hydraulic fracturing fluids between 2005 and 2013. The choice of which additives to use depends on the characteristics of the targeted rock formation, and in some cases chemical information is considered Confidential Business Information and not disclosed by the fracturing operator. Based upon EPA's analysis, the combination of activities and factors more likely than others to result in more frequent or more severe impacts to water resources are spills during the management of hydraulic fracturing fluids and chemicals that result in large volumes or high concentrations of chemicals reaching groundwater resources. In May 2015, an EPA study compiled data on and characterized 457 hydraulic fracturing related spills that occurred between January 2006 and April 2012 in eleven states. The study attributed these to equipment failure, human error, failure of con-
Wastewater handling and disposal. “Produced water” (including “flowback” water) refers to any water or fluid returned to the surface through the production well as a waste product of hydraulic fracturing. This material may be stored in tanks or other containers on the pad site before it is transferred for off-site treatment and/or disposal. The composition of produced water depends on the composition of the injected hydraulic fracturing fluid and the composition of the target formation. In the Marcellus region, produced water is generated in large quantities and often contains high concentrations of total dissolved solids (TDS or “salts”) and constituents that may be harmful to human health and the environment. Produced water from HVHF in the Marcellus formation has been found to contain:

- Salts, including chloride, bromide, sulfate, sodium, magnesium, and calcium;
- Metals, including barium, manganese, iron, and strontium;
- Naturally-occurring organic compounds, including benzene, toluene, ethylbenzene, xylenes (BTEX), and oil and grease;
- Radioactive materials, including radium; and
- Hydraulic fracturing chemicals and their chemical transformation products.

The EPA since 1979 has required zero discharge of pollutants to waters of the United States from onshore oil and gas extraction wastewater. In 2016 EPA finalized a rule establishing pretreatment standards for discharges of wastewater from onshore unconventional oil and gas extraction facilities to municipal sewage treatment plants (also known as “publicly owned treatment works” or POTWs). The recent EPA rule will protect POTWs from disruptions in their operations that can be caused by these wastewaters. However, the rule does not extend to commercially owned treatment works that primarily treat domestic and commercial wastewater, and it does not address the discharge to POTWs of produced water that has been partially treated at centralized waste treatment facilities. Thus, significant risks associated with the treatment and discharge of produced water remain outside the scope of current federal regulations.

Siting and Landscapes. Certain water resources in the basin have high water resource value because of their...
excellent water quality or their exceptional ability to perform water supply, ecological, recreational or other water-related functions. The Commission has classified certain of these waters as Special Protection Waters through provisions of its Water Code incorporated in the comprehensive plan.37 The Water Code seeks to maintain or improve the condition of these water resources through regulatory requirements such as prevention of measurable change to existing water quality, evaluation of natural wastewater treatment system alternatives, conditions or limitations on wastewater treatment facilities and control of non-point sources.38

Many high value water resources are associated with and dependent on their surrounding landscapes. Special Protection Waters are located in the upper portion of the basin where forested headwater areas and riparian buffers slow the rate and volume of stormwater runoff, replenish groundwater that serves as a source of drinking water and sustains stream flow, and control the introduction of pollutants into streams. These landscape features are particularly effective at controlling non-point source pollution that may occur following precipitation events.

High volume hydraulic fracturing and the related alteration of landscapes required to support that activity pose risk to high value water resources. It is expected that practically all of the development and related disturbances from high volume hydraulic fracturing would occur in the drainage area of Special Protection Waters.39

Approximately 70 percent of the basin area underlain by the Marcellus and Utica shales (largely in the drainage area of Special Protection Waters) is forested. The average total disturbance associated with a single well pad, including associated access roads and utility corridors, is estimated at 7.7 acres.40 Off-site facilities such as gathering lines involve additional disturbances. These landscape changes will reduce vegetated areas and potentially increase non-point source pollution, decrease groundwater infiltration, and risk adversely affecting water quality and quantity in surface and groundwater. Because high volume hydraulic fracturing would most likely occur in headwater areas in the drainage area to Special Protection Waters, the risks of degrading water resources and impairing the effectuation of the comprehensive plan are of particular concern.

**Uncertainty.** The comprehensive EPA and New York DEC studies cited above report multiple instances of damage to water resources associated with all stages of the natural gas development process, and importantly, both sources emphasize the degree of uncertainty regarding potential future effects. The EPA report states:

"Cases of impacts were identified for all stages of the hydraulic fracturing water cycle. Identified impacts generally occurred near hydraulically fractured oil and gas production wells and ranged in severity, from temporary changes in water quality to contamination that made private drinking water wells unusable...."41

However, significant data gaps and uncertainties in the available data prevented us from calculating or estimating the national frequency of impacts on drinking water resources from activities in the hydraulic fracturing water cycle. The data gaps and uncertainties described in this report also precluded a full characterization of the severity of impacts."42

The New York State DEC study asserts:

"...a broad range of experts from academia, industry, environmental organizations, municipalities, and the medical and public health professions commented and/or provided their analyses of high-volume hydraulic fracturing. The comments referenced an increasing number of ongoing scientific studies across a wide range of professional disciplines. These studies and expert comments evidence that significant uncertainty remains regarding the level of risk to public health and the environment that would result from permitting high-volume hydraulic fracturing in New York, and regarding the degree of effectiveness of proposed mitigation measures. In fact, the uncertainty regarding the potential significant adverse environmental and public health impacts has been growing over time.

..."43

"Potential significant adverse impacts on water resources exist with regard to potential degradation of drinking water supplies; impacts to surface and underground water resources due to large water withdrawals for high-volume hydraulic fracturing; cumulative impacts; stormwater runoff; surface spills, leaks and pit or surface impoundment failures; groundwater impacts associated with well drilling and construction and seismic activity; and waste disposal. ..."44

Additional detail regarding damages to water resources and the risks, vulnerabilities and impacts to surface and ground water resources associated with HVHF can be found in the cited reports.

**Related Statutory and Regulatory Provisions**

The proposed rules regarding hydraulic fracturing arise from the following provisions, among others, of the Commission's organic statute, the Delaware River Basin Compact ("Compact"),45 and determinations that have been codified in the Delaware River Basin Water Code and incorporated into the Commission's comprehensive plan:

- "The signatory parties [to the Compact] recognize the water and related resources of the Delaware River Basin as regional assets vested with local, state, and national interests, for which they have a joint responsibility."46
- "Approximately 15 million people "...of the United States... [rely on water] from the Delaware River Basin... and the...economic development of the entire region and the health, safety, and general welfare of its population are and will continue to be vitally affected by the use, conservation, management, and control of the water and related resources of the Delaware River Basin."47
- "The commission may assume jurisdiction to control future pollution and abate existing pollution in the waters of the basin, whenever it determines after investigation and public hearing upon due notice that the effectuation of the comprehensive plan so requires."48

42 NYS Final SGEIS 2016, pp. 1, 13.
44 Id., Part I, 1st Whereas clause.
45 Id., 8th Whereas clause.
46 Id., § 5.2.
• “The waters of the Delaware River Basin are limited in quantity and the basin is frequently subject to drought warnings and drought declarations due to limited water supply and streamflow during dry periods. Therefore, it shall be the policy of the Commission to discourage the exportation of water from the Delaware River Basin.”

• “[T]he basin waters have limited assimilative capacity and limited capacity to accept conservative substances without significant impacts. Accordingly, it also shall be the policy of the Commission to discourage the importation of wastewater into the Delaware River Basin that would significantly reduce the assimilative capacity of the receiving stream on the basis that the ability of Delaware River Basin streams to accept wastewater discharges should be reserved for users within the basin.”

• “It is the policy of the Commission that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values. Waters with exceptional values may be classified by the Commission as either Outstanding basin Waters or Significant Resource Waters.”

• “It is the policy of the Commission to give no credit toward meeting wastewater treatment requirements for wastewater imported into the Delaware basin.”

• “The underground water resources of the basin shall be used, conserved, developed, managed, and controlled in view of the need of present and future generations, and in view of the resources available to them. To that end, interference, impairment, penetration, or artificial recharge shall be subject to review and evaluation under the Compact.”

• No substances or properties which are in harmful or toxic concentrations or that produce color, taste, or odor of the water shall be permitted or induced by the activities of man to become ground water.”

• “[T]he Commission may establish requirements, conditions, or prohibitions which, in its judgment, are necessary to protect ground water quality.”

• “The Commission has determined that allocations of the waste assimilative capacity of the Delaware River Estuary are necessary to maintain stream quality objectives in Zones 2, 3, 4 and 5 for the following pollutants: (a) acute toxicity; and (b) chronic toxicity.”

• “The Commission has determined that allocations of the waste assimilative capacity of the Delaware River Estuary are necessary to maintain stream quality objectives in Zones 2 and 3 for the following pollutants: (a) 1, 2 dichloroethane; (b) tetrachloroethane”.

Summary of Proposed Rules

Prohibition. Section 5.2 of the Compact authorizes the Commission to “assume jurisdiction to control future pollution...in the waters of the basin, whenever it determines after investigation and public hearing upon due notice that the effectuation of the comprehensive plan so requires.” It further authorizes the Commission to control pollution from industrial or other waste originating within a basin state so that the pollution does not “injuriously affect the waters of the basin as contemplated by the comprehensive plan.” The Commission may also adopt rules, regulations and standards to control future pollution. Considering the totality of the risks that HVHFs poses to basin water resources, the Commission proposes in Section 440.3(b) of the draft rule to determine that controlling pollution by prohibiting high volume hydraulic fracturing in the basin is required to effectuate the comprehensive plan, avoid injury to the waters of the basin as contemplated by the comprehensive plan and protect the public health and preserve the waters of the basin for uses in accordance with the comprehensive plan.

Water exports. The transfer of surface water, groundwater, treated wastewater or mine drainage water, at any rate or volume, for utilization in hydraulic fracturing to produce oil and gas outside the Delaware River Basin is proposed to require Commission approval. Currently, exports of water from the basin of less than the daily average quantity of 100,000 gallons are deemed to have no substantial effect on the basin’s water resources and are thus not reviewed by the Commission under section 3.8 of the Compact. The Commission has a longstanding policy of discouraging exportations of water on the grounds that the availability of water to meet in-basin needs is limited and low-flow and drought conditions are frequent. Unlike regulated withdrawals for domestic, commercial and industrial water supplies, withdrawals of large quantities of water for hydraulic fracturing to produce oil and gas have the potential, if unregulated, to occur through de-centralized, periodic and transient means and thus to adversely affect headwater streams and minimum flows of surface and groundwater, and to impair uses protected by the Commission’s comprehensive plan. The proposed rule will make all proposed exports of water for oil and gas extraction subject to the requirement that alternatives involving no exportation be analyzed and that the water resource, economic and social impacts of the proposal be evaluated.

Wastewater. As set forth above, the data available on produced water (including flowback) from hydraulically fractured wells in the Delaware River Basin is limited. In that the material in this waste stream is unlike other industrial and domestic waste streams treated and discharged in the Delaware River Basin, and that it poses significant risks to human health and the environment if improperly handled. Under the proposed rules, the “produced water” from the hydrocarbon-bearing strata during oil and gas extraction is broadly defined to include untreated produced water, diluted produced water, and produced water mixed with other wastes. The rule provides that this material may not be transferred to, treated by or discharged from or to a new or existing wastewater treatment facility located within the Delaware River Basin, at any volume or rate, except in accordance with an approval in the form of a docket issued by the Commission to the owner or operator of the wastewater treatment facility or in accordance with a state permit issued pursuant to a duly adopted administrative agreement between the Commission and the host state. The rule further provides that produced water may not be treated within the basin except at a centralized waste treatment facility (CWT) as that term is defined by the EPA in 40 CFR part 437 and may not be discharged within the basin without treatment at a CWT. Because current EPA regulations governing treatment by CWTs do not include limitations for pollutants commonly found in produced water, such as total dissolved solids,
barium, bromide, radium and strontium,56 the proposed rule also places conditions on the treatment and discharge of wastewater or effluent resulting from the treatment of produced water by a CWT ("CWT wastewater") before the CWT wastewater can be discharged to basin waters or to another treatment facility within the basin.

The Commission already has in place a policy to discourage the importation of wastewater into the basin due to the limited capacity of the basin’s waters to assimilate waste. Proposals to import produced water and CWT wastewater into the basin will be subject to this policy and to the requirements that alternatives involving no importation be analyzed and that the water resource, economic and social impacts of the proposal be evaluated.

Under the proposed rules, projects involving the treatment and discharge of produced water within the basin must meet the more stringent of applicable federal, state and DRBC requirements. Additional effluent limitations are proposed to apply to such projects for TDS, whole effluent toxicity, and a set of “pollutants of concern” identified on the basis of produced water characterizations provided by EPA in a 2016 technical document.57

The majority of the EPA’s primary and secondary drinking water standards are also proposed as treatment levels for produced water discharged to a receiving waterbody designated for use as a public water supply. Treatability studies will be required to ensure that pollutant loads from natural gas wastewater are thoroughly characterized and that treatment ensures these pollutants are effectively reduced or eliminated, such that applicable effluent limits, stream quality objectives, protected uses, and in the case of Special Protection Waters, the “no measurable change” objective, are attained. Because the proposed rule requires treatment to “background concentrations” for pollutants of concern in many instances, the Commission is simultaneously publishing draft guidance on acceptable methods for determining background concentrations of these pollutants.

Other changes. Revisions to the Commission’s thresholds for review set forth at 18 CFR 401.35 are proposed to establish that certain activities relating to hydraulic fracturing in hydrocarbon-bearing formations are deemed to constitute projects having a substantial effect on water resources of the basin and are thus subject to review under Section 3.8 of the Compact. These include: the importation, treatment, or discharge to basin land or water of “produced water” as defined by the rule; and the exportation of water from the basin for uses related to hydraulic fracturing. Although certain additional activities and facilities on a well pad site could be separately identified by the Commission as projects, in light of the proposed prohibition, no changes to existing rules are proposed in this regard at this time. Minor changes are concurrently proposed to existing thresholds for the Commission’s review of leachate discharges and wetlands.

To provide for appropriate fees to cover the cost of reviews of new classes of projects proposed to require the Commission’s approval, changes are also proposed to section 401.43 (regulatory program fees).

Executive Director Determinations

The final regulations relating to natural gas development when adopted will supersede and replace the Executive Director’s Determinations issued on May 19, 2009, June 14, 2010 and July 23, 2010.

Public Process

Key dates and addresses for the public hearings and submission of written comments are set forth at the top of this notice, along with details regarding registration to attend public hearings. Additional information concerning the substance of comments and the format of written comments follows:

Substance of comments. The Commission expressly seeks comment on the effects the proposed rules may have within the basin on: water availability, the control and abatement of water pollution, economic development, the conservation and protection of drinking water supplies, the conservation and protection of aquatic life, the conservation and protection of water quality in Special Protection Waters, and the protection, maintenance and improvement of water quantity and quality basinwide. Comment is also requested on whether use of base fluids other than water for HVHF is practical within the basin and if so, how it should be addressed in these rules, and on any alternatives to the proposed rules that the commenters would like the Commission to consider, as well as on draft guidance published simultaneously with the rules for determining background concentrations of certain pollutants. The Commission welcomes and will consider any other comments that concern the potential effects of the draft rules on the conservation, utilization, development, management and control of the water and related resources of the Delaware River Basin. Comments on matters not within this scope may not be considered.

Submission of written comments. Written comments along with any attachments may be submitted through the Commission's web-based comment system (http://dockets.drbc.commentinput.com) until 5:00 P.M. on March 30, 2018. All materials should be provided in searchable formats, preferably in .pdf searchable text. Non-digitized voluminous materials such as books, journals or collected letters/petitions will not be accepted. Digital submission of these, as well as articles and websites, must be accompanied by a statement containing citations to the specific findings or conclusions the commenter wishes to reference. Notably, a picture scan of a document may not result in searchable text.

Requests for exceptions to the submission of comments using the web-based system will be granted based on lack of access to the Internet and may be addressed to: Commission Secretary, DRBC, P.O. Box 7360, West Trenton, NJ 08628. Comments received through a method other than the designated on-line method, including via email, fax, postal/delivery services or hand delivery, will be included in the rulemaking record if an express exception has been granted.

Additional information

Detailed information about the public process, including links to the proposed rule text and draft guidance are available on the Commission’s website, drbc.net.

For the reasons set forth in the preamble, the Delaware River Basin Commission proposes to amend title 18, chapter III of the Code of Federal Regulations, as set forth below. The amendments to 18 CFR part 401 are proposed to be incorporated by reference in the Pennsylvania Code at 25 Pa. Code Ch. 901. New part 440 is

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57 See EPA TDD 2016, pp. 59—81 (Part C.3).
made no later than 30 days following notification of the Commission of such permit action. The Executive Director, with the approval of the Chairman, may at any time within the 30-day period inform any permit holder, signatory party or other interested party that the Commission will decline to undertake review and action concerning any such project;]

(16) Except as provided at paragraph (b)(19) of this section, [ T]he diversion or transfer of water from the Delaware River Basin (exportation) whenever the design capacity is less than a daily average rate of 100,000 gallons;

(18) Except as provided at paragraph (b)(18) of this section, [ T]he diversion or transfer of wastewater into the Delaware River Basin (importation) whenever the design capacity is less than a daily average rate of 50,000 gallons; and

(19) To the extent allowed in the basin (see prohibition at § 440.3(b) of this title), projects involving hydraulic fracturing, unless no state-level review and permit system is in effect;

(b) * * * *

[ (14) Regional wastewater treatment plans developed pursuant to the Federal Water Pollution Control Act; ]

(14[ 5 ] ) Leachate treatment and disposal projects associated with landfills and solid waste disposal facilities in the basin; [ Landfills and solid waste disposal facilities affecting the water resources of the basin; ]


(16[ 7 ] ) Electric generating or cogenerating facilities designed to consumptively use in excess of 100,000 gallons per day of water during any 30-day period; and

(17[ 8 ] ) Any other project that the [ Executive Director ] Commission may especially direct by notice to the project sponsor or land owner as having a potential substantial water quality impact on waters classified as Special Protection Waters.

(18) The importation, treatment, or discharge to basin land or water of “produced water” or CWT wastewater as those terms are defined in § 440.2 of this chapter.

(19) The transfer, diversion or exportation of water from the basin at any volume or rate for uses related to “hydraulic fracturing” as that term is defined in § 440.2 of this chapter.

(c) Regardless of whether expressly excluded from review by paragraph (a) of this section, any project or class of projects that in the view of the Commission could have a substantial effect on the water resources of the basin may, upon special notice to the project sponsor or landowner, be subject to the requirement for review under section 3.8 of the Compact. [ Whenever a state or federal agency determines that a project falling within an excluded classification (as defined in paragraph (a)
of this section) may have a substantial effect on the water resources of the basin, such project may be referred by the state or federal agency to the Commission for action under these Rules.

(d) Except as otherwise provided by § 401.39 the sponsor shall submit an application for review and approval of a project included under paragraph B. above through the appropriate agency of a signatory party. Such agency will transmit the application or a summary thereof to the Executive Director, pursuant to Administrative Agreement, together with available supporting materials filed in accordance with the practice of the agency of the signatory party.

§ 401.43 Regulatory program fees.

(b) * * *

(1) [Docket a ] Application fee. Except as set forth in paragraph (b)(1)(iii) of this section, the [docket ] application fee shall apply to:

   * * *

   (ii) Exemptions. The [docket ] application fee shall not apply to:

   * * *

   (2) Annual monitoring and coordination fee.

   (i) Except as provided in paragraph (b)(2)(ii) of this section, an annual monitoring and coordination fee shall apply to each active water allocation or wastewater discharge approval issued pursuant to the Compact and implementing regulations, regardless of whether the approval was issued by the Commission in the form of a docket, permit or other instrument, or by a Signatory Party Agency under the One Permit Program rule (§ 401.42). [The fee shall be based on the amount of a project's approved monthly water allocation and/or approved daily discharge capacity.]

   (3) * * *

   (v) A project involves treatability studies for the discharge of wastewater.

   (4) * * *

   (iii) Modification of a DRBC approval. Following Commission action on a project, each project revision or modification that the Executive Director deems substantial shall require an additional [docket ] application fee calculated in accordance with paragraph (e) of this section and subject to an alternative review fee in accordance with paragraph (b)(3) of this section.

   * * *

(c) Indexed adjustment. On July 1 of every year, beginning July 1, 2017, all fees established by this section will increase commensurate with any increase in the annual April 12-month Consumer Price Index (CPI) for Philadelphia, published by the U.S. Bureau of Labor Statistics during that year.58 In any year in which the April 12-month CPI for Philadelphia declines or shows no change, the [docket ] application fee and annual monitoring and coordination fee will remain unchanged. Following any indexed adjustment made under this paragraph (c), a revised fee schedule will be published in the Federal Register by July 1 and posted on the Commission’s website. Interested parties may also obtain the fee schedule by contacting the Commission directly during business hours.

   * * *

(e) * * *

TABLE 1 TO § 401.43—[DOCKET] APPLICATION [FILING] FEES

<table>
<thead>
<tr>
<th>Project Type</th>
<th>[Docket ] Application Fee</th>
<th>Fee Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Allocation</td>
<td>$405 per million gallons/month of allocation¹, not to exceed $15,190¹. Fee is doubled for any portion to be exported from the basin.</td>
<td>Greater of: $15,1901 or Alternative Review Fee</td>
</tr>
<tr>
<td>Wastewater Discharge</td>
<td>Private projects: $1,013¹ Public projects: $506¹ Projects involving wastewater treatability studies: $5,000¹</td>
<td>Alternative Review Fee</td>
</tr>
<tr>
<td>Other</td>
<td>0.4% of project cost up to $10,000,000 plus 0.12% of project cost above $10,000,000 (if applicable), not to exceed $75,951¹</td>
<td>Greater of: $75,951² or Alternative Review Fee</td>
</tr>
</tbody>
</table>

¹ Subject to an annual adjustment in accordance with paragraph (c) of this section.

TABLE 2 TO § 401.43—ANNUAL MONITORING AND COORDINATION FEE

<table>
<thead>
<tr>
<th>Water Allocation</th>
<th>Annual Fee Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$304 \textsuperscript{1}</td>
<td>&lt; 4.99 mgm</td>
</tr>
<tr>
<td>$456 \textsuperscript{1}</td>
<td>5.00 to 49.99 mgm</td>
</tr>
<tr>
<td>$658 \textsuperscript{1}</td>
<td>50.00 to 499.99 mgm</td>
</tr>
<tr>
<td>$835 \textsuperscript{1}</td>
<td>500.00 to 9,999.99 mgm</td>
</tr>
<tr>
<td>$1,013 \textsuperscript{1}</td>
<td>&gt; or = to 10,000 mgm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wastewater Discharge</th>
<th>Discharge Design Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$304 \textsuperscript{1}</td>
<td>&lt; 0.05 mgd</td>
</tr>
<tr>
<td>$618 \textsuperscript{1}</td>
<td>0.05 to 0.99[1] mgd</td>
</tr>
<tr>
<td>$830 \textsuperscript{1}</td>
<td>1 to 9.99[10] mgd</td>
</tr>
<tr>
<td>$1,013 \textsuperscript{1}</td>
<td>&gt; or = to [&gt;10 mgd</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Subject to annual adjustment in accordance with paragraph (c) of this section.

(Editor's Note: Because all of part 440 comprises new proposed rule text, boldface, brackets and underscore are not used in this part.)

SUBCHAPTER B—SPECIAL REGULATIONS
PART 440—HYDRAULIC FRACTURING IN SHALE AND OTHER FORMATIONS

Sec.
440.1 Purpose, authority and relationship to other requirements
440.2 Definitions
440.3 High volume hydraulic fracturing
440.4 Exportation of water for hydraulic fracturing
440.5 Produced water

§ 440.1 Purpose, authority and relationship to other requirements.

(a) Purpose. The purpose of this part is to protect and conserve the water resources of the Delaware River Basin. To effectuate this purpose, this section establishes standards, requirements, conditions and restrictions to prevent or reduce depletion and degradation of surface and groundwater resources and to promote sound practices of water resource management.

(b) Authority. This part implements Sections 1.5, 3.6(b), 3.8, 4.1, 5.2, 7.1, 13.1 and 14.2(a) of the Delaware River Basin Compact.

(c) Comprehensive plan. The Commission has determined that the provisions of this part are required for the immediate and long range development and use of the water resources of the basin and are therefore incorporated into the Commission's comprehensive plan.

(d) Relationship to other Commission requirements. The provisions of this part are in addition to all applicable requirements in other Commission regulations, docket and permits.

Upon the effective date of this rule, the Executive Director Determinations dated May 19, 2009, June 14, 2010 and July 23, 2010, to the extent not already superseded by the Commission's Resolution dated December 8, 2010, are no longer operative.

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

(f) Coordination and avoidance of duplication. In accordance with and pursuant to section 1.5 of the Delaware River Basin Compact, to the fullest extent it finds feasible and advantageous the Commission may enter into an Administrative Agreement (Agreement) with any basin state or the federal government to coordinate functions and eliminate unnecessary duplication of effort. Such Agreements will be designed to: effectuate intergovernmental cooperation, minimize the efforts and duplication of state and Commission staff resources wherever possible, ensure compliance with Commission-approved requirements, enhance early notification of the general public and other interested parties regarding proposed activities in the basin, indicate where a host state's requirements satisfy the Commission's regulatory objectives 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 6, 7, 10 and 11 of the Compact.

§ 440.2 Definitions.

For purposes of this part, the following terms and phrases have the meanings provided. Some definitions differ from those provided in regulations of one or more agencies of the Commission's member states and the federal government.

Basin—the area of drainage into the Delaware River and its tributaries, including Delaware Bay.

Centralized waste treatment (CWT) facility—as defined by EPA at 40 CFR 437.2(c), any facility that treats (for disposal, recycling or recovery of material) any hazardous or non-hazardous industrial wastes, hazardous or non-hazardous industrial wastewater, and/or used material received from off-site. “CWT facility” includes both a facility that treats waste received exclusively from off-site and a facility that treats wastes generated on-site as well as waste received from off-site.

Commission—the Delaware River Basin Commission (DRBC) created and constituted by the Delaware River Basin Compact.

Conservative Substances—pollutants that undergo no or minimal transformation or decay in a water body or groundwater, except by dilution.
CWT wastewater—For purposes of this part, “CWT wastewater” means any wastewater or effluent resulting from the treatment of produced water by a CWT.

Docket—a legal instrument issued by the Commission approving, or approving as modified, a project having a substantial effect on water resources of the basin. The approval may modify the project by imposing conditions to prevent the project from substantially impairing or conflicting with the Commission’s comprehensive plan.

Domestic wastewater—liquid waste that contains pollutants produced by a domestic residence or residences or by a non-residential facility that generates wastewater with the same characteristics as residential wastewater.

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

Flowback—Fluids returned to the surface through an oil or gas well once hydraulic fracturing pressure is released. Flowback can also refer to the stage of well completion in which fluids are returned to the surface through the well after fracturing is performed.

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

High-volume hydraulic fracturing (HVHF)—hydraulic fracturing using a combined total of 300,000 or more gallons of water during all stages in a well completion, whether the well is vertical or directional, including horizontal, and whether the water is fresh or recycled and regardless of the chemicals or other additives mixed with the water.

Hydraulic Fracturing—a technique used to stimulate the production of oil and natural gas from a well by injecting fracturing fluids down the wellbore under pressure to create and maintain induced fractures in the hydrocarbon-bearing rock of the target geologic formation.

Fracturing fluid(s)—a mixture of water (whether fresh or recycled) and/or other fluids and chemicals or other additives, which are injected into the subsurface and which may include chemicals used to reduce friction, minimize biofouling of fractures, prevent corrosion of metal pipes or remove drilling mud damage within a wellbore area, and propping agents such as silica sand, which are deposited in the induced fractures.

Person—any natural person, corporation, partnership, association, company, trust, federal, state or local governmental unit, agency, or authority, or other entity, public or private.

Pollutants—any substance which when introduced into water resources, including surface water or groundwater, degrades natural or existing water quality, including but not limited to: dredge spoils, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemicals and chemical wastes, biological materials, radioactive materials, methane, heat, wrecked or discarded equipment, rock, sand, sediment, cellar dirt, and industrial, municipal or agricultural waste as well as any substance defined as a pollutant, contaminant or hazardous substance by any federal or state statute or regulation.

Pollutants of concern—conservative, radioactive, toxic or other substances that are potentially present in produced water, consisting of all parameters listed in the EPA Technical Development Document for the Effluent Limitations Guidelines and Standards for the Oil and Gas Extraction Point Source Category (June 2016), specifically all pollutants for produced water listed in Tables C-11, C-13, C-15, C-17, and C-19.

Produced water—the water that flows out of an oil or gas well, typically including other fluids and pollutants and other substances from the hydrocarbon-bearing strata. Produced water may contain “flowback” fluids, fracturing fluids and any chemicals injected during the stimulation process, formation water, and constituents leached from geologic formations. For purposes of §§ 401.35(b)(18) and 445.5, the term “produced water” encompasses untreated produced water, diluted produced water, and produced water mixed with other wastes.

Wastewater treatment facility—any facility treating and discharging wastewater.

Water resource(s)—water and related natural resources in, on, under, or above the ground, including related uses of land, which are subject to beneficial use, ownership or control within the hydrologic boundary of the Delaware River Basin.

§ 440.3 High volume hydraulic fracturing (HVHF)

(a) Determination. The Commission has determined that high volume hydraulic fracturing poses significant, immediate and long-term risks to the development, conservation, utilization, management, and preservation of the water resources of the Delaware River Basin and to Special Protection Waters of the basin, considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values. Controlling future pollution by prohibiting such activity in the basin is required to effectuate the comprehensive plan, avoid injury to the waters of the basin as contemplated by the comprehensive plan and protect the public health and preserve the waters of the basin for uses in accordance with the comprehensive plan.

(b) Prohibition. High volume hydraulic fracturing in hydrocarbon bearing rock formations is prohibited within the Delaware River Basin.

§ 440.4 Exportation of water for hydraulic fracturing

As set forth in Section 2.30 of the Water Code (incorporated by reference at part 410 of this chapter), it is the policy of the Commission to discourage the exportation of water from the Delaware River Basin. Accordingly, the diversion, transfer or exportation of water from sources within the basin to support hydraulic fracturing outside the basin is discouraged. The transfer of surface water, groundwater, treated wastewater or mine drainage water, at any rate or volume, for utilization in hydraulic fracturing of hydrocarbon bearing rock formations outside the basin requires Commission approval in the form of a docket and shall be subject to the evaluation described by section 2.30.4 of the Water Code.

§ 440.4 Produced water

(a) Related Commission Policies.

(1) It is the policy of the Commission to discourage the importation of wastewater into the basin (see Section 2.30.2 of the Delaware River Basin Water Code, incorporated by reference at part 410 of this chapter).

(2) It is the policy of the Commission to give no credit toward meeting wastewater treatment requirements for wastewater imported into the basin (see Section 2.30.6 of the Delaware River Basin Water Code incorporated by reference at 18 CFR Part 410).

(3) The Commission has determined (see Resolution 2000-4) that allocations of the waste assimilative capacity of the Delaware River Estuary are necessary to maintain stream quality objectives for acute toxicity and chronic
toxicity in Water Quality Zones 2, 3, 4 and 5 and for 1,2
dichloroethane and tetrachloroethene in Water Quality
Zones 2 and 3.

(4) It is the policy of the Commission that there be no measurable change in existing water quality except to-
towards natural conditions in waters considered by the
Commission to have exceptionally high scenic, recrea-
tional, ecological, and/or water supply values. Waters with
exceptional values may be classified by the Commis-
sion as either Outstanding basin Waters or Significant
Resource Waters. (See section 3.10.3.2 of the Delaware
River Basin Water Code, incorporated by reference at
part 410 of this chapter).

(5) Effluents shall not create a menace to public health
or safety at the point of discharge. (See Section 3.10.4 of
the Delaware River Basin Water Code, incorporated by
reference at part 410 of this chapter).

(6) The underground water resources of the basin shall
be used, conserved, developed, managed, and controlled in
view of the needs of present and future generations, and
in view of the resources available to them. To that end,
interference, impairment, penetration, or artificial re-
charge shall be subject to review and evaluation under
the Compact. (See section 2.20.6 of the Delaware
River Basin Water Code, incorporated by reference at part 410
of this chapter).

(b) Approval required. Produced water and CWT wastewa-
ter as defined in this part may not be imported into
the basin except by a new or existing wastewater treat-
ment facility located within the basin, and may not be
transferred to, treated by or discharged from or to a new
or existing wastewater treatment facility located within
the basin, at any volume or rate, except in accordance
with an approval in the form of a docket issued by the
Commission to the owner or operator of the wastewater
treatment facility pursuant to Section 3.8 of the Compact
or in accordance with a state permit issued pursuant to
a duly adopted administrative agreement between the
Commission and the host state.

(c) Alternatives and impact assessment. Any project
involving the importation of produced water or CWT
wastewater into the basin shall be subject to the require-
ment that alternatives involving no importation must be
analyzed and the water resource, economic and social
impacts of the project evaluated, as described in section
2.30.4 of the Commission's Water Code.

(d) Compliance with existing rules. In addition to the
requirements in this part, all discharges within the basin
of produced water and CWT wastewater as defined in this
part must comply with applicable DRBC Water Quality
Regulations (incorporated by reference at part 410 of
this chapter), state regulations and federal regulations. If a
conflict exists among the applicable regulations, the more
stringent requirement shall apply to these discharges.

(e) Treatment facilities.

(1) Produced water as defined in this part

(i) may not be treated within the basin except at a
centralized waste treatment facility (CWT) as that term
is defined by the U.S. Environmental Protection Agency
in 40 CFR part 437 (to convert it to CWT wastewater);
and pursuant to an approval issued in accordance with
section 440.5(b) of this part.

(ii) may not be discharged within the basin without
treatment at a CWT.

(2) CWT wastewater as defined in this part may be
discharged only:

(i) directly by the CWT pursuant to an approval issued
in accordance with section 440.5(b) of this part; or

(ii) indirectly by a CWT to a wastewater treatment
facility within the basin (via sewer, truck or other means)
pursuant to an approval issued in accordance with section
440.5(b) of this part,

(iii) provided that the discharge meets the require-
ments of sections 440.5(f) through (h) of this part.

(f) Treatability studies. The Commission shall not issue
any required docket or approval for the treatment of
produced water or the discharge of CWT wastewater
unless the project sponsor has identified each proposed
source of the produced water or CWT wastewater and has
submitted to the Commission a treatability study (or
studies) prepared by a professional engineer licensed in
the state(s) in which the treatment and discharge facil-
ities are located, demonstrating that:

(1) an analysis, characterization and quantification of
all pollutants of concern, as that term is defined in
section 440.2 of this part, has been conducted and the
results submitted to the Commission;

(2) the acute and chronic toxicity of the waste, mea-
sured as Whole Effluent Toxicity (WET), have been
evaluated;

(3) the treatment technologies and applicable design
criteria to be used to meet all requirements of section
440.5(g) of this part have been identified;

(4) the produced water (or CWT wastewater) will not
pass through or interfere with the facility's treatment
process, and the resulting effluent will meet all applicable
limits;

(5) the classification, treatment and disposal of residu-
als from the facility, if any, will not be adversely affected;
and

(6) the discharge will not cause or contribute to an
exceedance of applicable water quality criteria or stream
quality objectives or impair the existing or protected use
of the receiving water.

(g) Additional effluent requirements. Except as provided
in paragraph (h) of this section, the following require-
ments shall apply within the basin to effluent resulting
from the treatment of produced water or CWT wastewa-
ter. In any instance in which these requirements are
deemed to conflict, the more stringent shall apply:

(1) For total dissolved solids (TDS):

(i) the effluent shall not exceed background or 500
mg/l, whichever is less,

(ii) provided, however, that in waters that drain to
Delaware River Water Quality Zones 4 through 6, the
resulting effluent shall not exceed 1,000 mg/l, or a
concentration established by the Commission that is
compatible with designated water uses and stream
quality objectives.

(iii) The Commission will publish guidance on accept-
able methods for determining background TDS concen-
trations.

(2) For waters for which the protected or designated
uses include "public water supplies" or "drinking water",
the effluent shall not exceed the more stringent of EPA's
or the host state's

(i) primary drinking water standards for inorganic
chemicals, organic chemicals (excluding acrylamide and
epichlorohydrin) and disinfection byproducts; and
(ii) secondary drinking water standards (excluding color, corrosivity, and odor).

(3) For whole effluent toxicity (WET), the effluent shall not exceed: 0.3 toxic units (acute) and 1.0 toxic units (chronic).

(4) For pollutants of concern as defined in Section 440.2 of this part:

(i) For waters that drain to Special Protection Waters, the effluent shall not exceed the background concentration of each pollutant in the receiving water.

(ii) For waters that do not drain to Special Protection Waters:

(A) If pollutant-specific numeric water quality criteria exist, the effluent concentration for the pollutant shall not exceed the numeric criteria.

(B) If pollutant-specific numeric water quality criteria do not exist, the effluent shall not exceed the background concentration of the pollutant in the receiving water or cause an exceedance or violation of any existing narrative criteria.

(C) The Commission will publish guidance on acceptable methods for determining background concentrations for pollutants of concern.

(5) The Commission may require the discharger to perform such monitoring and reporting as the Commission deems necessary to ensure compliance with established numeric effluent limits and to support the development of additional numeric limits if needed.

(h) Point of compliance.

(1) The effluent limitations are to be met at the point of discharge to basin waters.

(2) To ensure that all conditions, requirements and standards under this rule are met, the Commission may impose additional monitoring requirements or other conditions on any CWT within the basin that discharges CWT wastewater as defined in this part to another wastewater treatment facility in the basin.

(3) A mixing zone may be considered for any pollutant for which a mixing zone is permitted in the Delaware River Estuary by the DRBC Water Quality Regulations for which a mixing zone is permitted in the Delaware River Estuary by the DRBC Water Quality Regulations (incorporated by reference at part 410 of this chapter).

Dated: January 2, 2018

PAMELA M. BUSH, J.D., M.R.P.
Secretary

Fiscal Note: 68-60. No fiscal impact; (8) recommends adoption.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION
PART V. DELAWARE RIVER BASIN COMMISSION
CHAPTER 901. GENERAL PROVISIONS


§ 901.5. [ Groundwater protection area, Southeastern Pennsylvania. ] (Reserved and renumbered).

[ The Basin Regulations, Groundwater Protection, Southeastern Pennsylvania, as set forth at 18 CFR Part 430 (1999), are hereby incorporated by reference and made part of this title. ]

(Editor’s Note: Chapters 902 and 903 are proposed to be added and printed in regular type to enhance readability.)

CHAPTER 902. GROUNDWATER PROTECTION AREAS

Sec. 902.1. Groundwater protection area, Southeastern Pennsylvania.


The basin regulations, groundwater protection, Southeastern Pennsylvania, as set forth in 18 CFR Part 430 (2018), are hereby incorporated by reference and made part of this title.

CHAPTER 903. HYDRAULIC FRACTURING IN SHALE AND OTHER FORMATIONS

Sec. 903.1. Hydraulic fracturing in shale and other formation.

§ 903.1. Hydraulic fracturing in shale and other formation.

The hydraulic fracturing in shale and other formation regulations, as set forth in 18 CFR Part 440 (2018), are hereby incorporated by reference and made part of this title.

[Pa.B. Doc. No. 18-57. Filed for public inspection January 12, 2018, 9:00 a.m.]