



March 29, 2018

Pamela Bush, Esquire
Commission Secretary and Assistant General Counsel
Delaware River Basin Commission
25 Cosey Road
P.O. Box 7360
West Trenton, NJ 08628-0360

Re: Delaware River Basin Commission Administrative Manual and Special Regulations
Regarding Natural Gas Development Activities; Additional Clarifying Amendments [18
CFR Parts 401 and 440]
Submitted via: <http://dockets.drbc.commentinput.com/>

Dear Ms. Bush:

The Marcellus Shale Coalition (MSC) was formed in 2008 and is comprised of approximately 220 natural gas producing, midstream, transmission, and supply chain members who are fully committed to working with local, county, state, and federal government officials and regulators, to facilitate the development of the natural gas resources in the Marcellus, Utica, and related geological formations. Our members represent many of the largest and most active companies in the natural gas industry, as well as the suppliers and contractors who work with the industry.

The MSC appreciates the opportunity to comment on the Delaware River Basin Commission's (DRBC or Commission) Administrative Manual and Special Regulations Regarding Natural Gas Development Activities; Additional Clarifying Amendments Proposed Rulemaking (Rulemaking) published in the January 12, 2018 Federal Register.

Introduction

The MSC, its member companies, and the thousands of Pennsylvanians who work for these companies support responsible, safe development of natural gas within the Delaware River Basin. To prohibit the development of this critical energy resource, as the Commission seeks to do, defies common sense, sound science, responsible policymaking, and perhaps most importantly the authority of the Commission and the United States Constitution. It improperly infringes on the property rights of thousands of property owners within the basin and relegates them to second-class citizens while depriving their families and communities of the economic opportunities that rightfully belong to them. The Commission's action is motivated by political considerations and calculations that mock the rule of law while undermining the credibility and integrity of the commissioners elected to serve the public.

Responsible development of oil and natural gas from unconventional formations¹, such as shale, presents an unprecedented opportunity to provide sustainable and broad-based economic benefits to our region and the nation. Pennsylvania has become the second largest producer of natural gas in the United States, with over 8,000 producing unconventional wells amounting to 5.36 trillion cubic feet in 2017². Pennsylvania is responsible for almost 20% of the country's total natural gas production and at least 33 of Pennsylvania's 67 counties have at least one producing unconventional gas well. Citizens of the Commonwealth have realized significant economic benefits from this development, including:

- Over 100,000 Pennsylvanians directly and indirectly working in industry-related jobs, directly supporting hundreds of thousands of their family members;
- Significant consumer savings, exceeding on average \$1,500 annually per household, and exponentially more for businesses and manufacturers, from lower natural gas supply and wholesale electricity costs;
- Nearly \$1.5 Billion in tax revenue paid by unconventional natural gas producers through Pennsylvania's unique Impact Fee;
- Over \$400 Million of Impact Fee dollars invested in statewide environmental initiatives;
- Over \$3 Billion in other business, corporate and income taxes generated by the natural gas industry;
- Over \$1 Billion in additional money paid directly to the Commonwealth for the leasing and development of natural gas resources underlying publicly-owned lands; and
- Over \$1 Billion in road infrastructure improvements funded by the industry.
- Approximately \$10 Billion in royalty and bonus payments to Pennsylvania leaseholders.

Equally important to these economic benefits are the environmental benefits attributable to the increased production and use of natural gas. Pennsylvania has helped lead the United States in the reduction of climate change emissions, thanks to increased use of natural gas in the power generation and transportation sectors. Air quality has improved substantially, and by historic proportions, due to this increased utilization of natural gas. For example, according to the Pennsylvania Department of Environmental Protection (PA DEP), just between 2014 and 2015, sulfur dioxide emissions declined by 25%, particulate matter emissions declined by 23%, and nitrogen oxide emissions declined by 19%³. Additionally, according to U.S. Environmental Protection Agency, carbon emissions are near twenty-five year lows. These reductions are contributing to significant declines in respiratory ailments, while reducing historic environmental challenges, such as acid rain, that have plagued the Commonwealth and the Mid-Atlantic region.

¹ Pennsylvania law defines an "unconventional formation" as "A geologic shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore." 58 Pa.C.S. §3203

² PA Department of Environmental Protection – unconventional natural gas production:

<https://www.paoilandgasreporting.state.pa.us/publicreports/Modules/Welcome/Welcome.aspx>

³ PA Department of Environmental Protection – Overview of the Stationary Source Emission Inventory from 2012-2015:

http://files.dep.state.pa.us/PublicParticipation/Citizens%20Advisory%20Council/CACPortalFiles/Meetings/2018_01/Stationary%20Emission%20Inventory%20for%20CAC%20_%20COMMS_Policy.pdf



The ability to develop this resource further and deliver it to additional domestic markets will translate to increased environmental and economic benefits for the entire nation and the world.

These tremendous opportunities come with a collective responsibility to protect the environment in a manner firmly grounded in the law and sound science. It is for this reason that the MSC's members have already spent hundreds of millions of dollars on industry-specific environmental and responsible practices to ensure that their operations meet or exceed stringent regulations already imposed by state and federal agencies. With an environmental compliance rate of nearly 97%⁴, operating under some of the most stringent and rigorous environmental standards in the nation, Pennsylvania's unconventional shale gas industry has a demonstrated track record of operating in a manner that protects our shared environment.

Pennsylvania Oversight of Shale Gas Development

While the DRBC has failed to take any action over the past eight years to finalize a regulatory framework for shale gas development⁵, Pennsylvania has taken significant actions to create a world-class program to develop these resources safely. The following identify just several of the critical policy advancements adopted in Pennsylvania:

- **2009:** Permit fee increase to expand PA DEP oversight and inspection staff. (*25 PaCode Ch. 78*)⁶
- **2011:** Finalization of casing, cementing and other regulatory requirements related to subsurface activities of shale gas development. (*25 PaCode Ch. 78*)⁷
- **2011:** MSC member companies and other unconventional natural gas industry operators voluntarily discontinued taking flowback and produced water to wastewater treatment facilities that discharged to public waterways; this voluntary action was later codified in the operating permits of the wastewater treatment facilities.
- **2012:** Enactment of Act 9⁸, which established obligations for operators related to emergency response plan development and implementation for unconventional shale gas sites.
- **2012:** Enactment of Act 13⁹, a comprehensive re-write of Pennsylvania's Oil and Gas

⁴ Marcellus Shale Coalition – evaluation of PA Department of Environmental Protection inspection, violation and enforcement data (2017)

⁵ June 2010 – DRBC stated intention to finalize drilling rules within six to twelve months:

<http://www.worldoil.com/news/2010/6/15/delaware-river-panel-extends-drilling-ban>

⁶ PA Bulletin – October 24, 2009: <https://www.pabulletin.com/secure/data/vol39/39-43/1987.html>

⁷ PA Bulletin – February 5, 2011: <https://www.pabulletin.com/secure/data/vol41/41-6/239.html>

⁸ Act 9 of 2012:

<http://www.legis.state.pa.us/CFDOCS/LEGIS/LI/uconsCheck.cfm?txtType=HTM&yr=2012&sessInd=0&smthLwInd=0&act=0009>



Act, and the implementation of over 30 environmental protection enhancements recommended by the Governor's Marcellus Shale Advisory Commission¹⁰. Examples of new standards include: notification of landowners and municipalities; setbacks from streams, waterways, water wells, and occupied buildings; enhanced protection of public resources, including drinking water sources; expansion of the Commonwealth's "rebuttable presumption" standard to protect drinking water supplies; disclosure of hydraulic fracturing components; and preparation and approval of water management plans.

The Act also authorized the imposition of a unique Impact Fee¹¹, which has generated nearly \$1.5 Billion in new revenue for allocation to local communities, statewide environmental protection programs, and recurring revenue for state oversight agencies, such as PA DEP, PA Emergency Management Agency, Public Utility Commission, county conservation districts, and other agencies.

- **2013:** Adoption of operating permits and operating criteria related to air quality for unconventional midstream and production facilities. (*General Permit 5 and Air Quality Permit Exemption Criteria 38*)¹²
- **2014:** Permit fee increase to expand PA DEP oversight and inspection staff further. This expansion has led to nearly 17,000 annual inspections conducted of shale gas development sites while tripling PA DEP oversight staff from 64 to 190. (*25 PaCode Ch. 78*)¹³
- **2016:** Finalization of comprehensive re-write and expansion of regulatory requirements related to surface activities of shale gas development, as well as enhanced subsurface review and response requirements increasing groundwater protections. (*25 PaCode Ch. 78a*)¹⁴

On multiple occasions, Pennsylvania's oil and gas oversight program has been independently reviewed by the State Review of Oil and Natural Gas Environmental Regulations (STRONGER)¹⁵ organization. Each review has been accompanied by high marks regarding the efficacy of the Commonwealth's oversight of oil and natural gas development, and indeed many

⁹ Act 13 of 2012:

<http://www.legis.state.pa.us/CFDOCS/LEGIS/LI/uconsCheck.cfm?txtType=HTM&yr=2012&sessInd=0&smthLwInd=0&act=0013>.

¹⁰ Governor's Marcellus Shale Advisory Commission – July 2011:

http://files.dep.state.pa.us/PublicParticipation/MarcellusShaleAdvisoryCommission/MarcellusShaleAdvisoryPortalFiles/MSAC_Final_Report.pdf

¹¹ PA Public Utility Commission – Overview of Impact Fee:

http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/act_13_impact_fee.aspx

¹² Final General Plan Approval and/or General Operating Permit for Natural Gas Compression and/or Processing Facilities (BAQ-GPA/GP-5): <https://www.pabulletin.com/secure/data/vol43/43-5/184.html>

¹³ PA Bulletin – June 14, 2014: <https://www.pabulletin.com/secure/data/vol44/44-24/1245.html>

¹⁴ PA Bulletin – October 8, 2016: <https://www.pabulletin.com/secure/data/vol46/46-41/1757.html>

¹⁵ State Review of Oil and Natural Gas Environmental Regulations: <http://www.strongerinc.org/state-reviews/>



jurisdictions throughout the nation – and around the world – have modeled their standards after those of Pennsylvania. It is critical to note that any activity within Pennsylvania’s portion of the Delaware River Basin would be subject to adherence to all Pennsylvania statutes and regulations.

Lack of Authority

The DRBC has no authority to prohibit so-called High Volume Hydraulic Fracturing (HVHF) permanently in the basin. Not only does the plain meaning of the Compact preclude finding that DRBC has such authority, but the long-standing history and negotiations of the Compact offer clear evidence that neither Congress nor the DRBC Compact States intended for the DRBC to have the authority to ban any industrial, commercial or residential use of land in the basin.

Furthermore, despite DRBC’s erroneous assertion otherwise, Article 5 of the Compact does not provide the DRBC with the authority to ban so-called HVHF permanently simply because of the perceived risks of spills. Indeed, the authority found under Article 5 is limited, and whether read individually or collectively, the various sections cannot be manipulated into authorizing the DRBC to impose a permanent ban. To do so, in fact, would not only interfere with each individual state’s sovereignty, but it ultimately would render various other provisions of the Compact meaningless.

Violation of the U.S. Constitution

Setting aside DRBC’s lack of authority, the proposed permanent ban on so-called HVHF will violate the U.S. Constitution. Such a ban would effectuate a categorical regulatory taking of the property interests of gas-only property owners, and would also effectuate a regulatory taking of property from individuals who own both the gas and the surface estate. For each of these categories of owners, neither of which would be justly compensated, the proposed permanent ban would represent the epitome of an illegal taking. The proposed permanent ban, in addition, would violate both the due process and equal protection principles of the Fifth Amendment.

Lack of a Deliberative Process

The intention of any public comment and hearing process is, presumably, to solicit and thoughtfully consider input from a wide array of stakeholders on a proposed policy or rulemaking, and to withhold final judgment until all of the facts are in and the comments received have been fully evaluated and considered. Yet, that is not what is happening with this proceeding. It is clear that a majority of commissioners have already made up their political minds on this matter. Indeed, while DRBC staff stressed publicly several times that no final decision or action had yet been taken by hosting multiple public meetings and extending the public comment period, it is noteworthy that on September 13, 2017 a majority of the commissioners issued a press release¹⁶ congratulating themselves on banning natural gas

¹⁶ Governor Cuomo, Governor Carney and Governor Wolf Approve Resolution To Permanently Ban Fracking in Delaware River Basin: <https://www.governor.ny.gov/news/governor-cuomo-governor-carney-and-governor-wolf-approve-resolution-permanently-ban-fracking>



development within the watershed and depriving their own citizens of their fundamental private property rights.

Pennsylvania Governor Tom Wolf demonstrated the blatant political motivation of this rulemaking by stating that he “*supported this resolution since [he] was a candidate for Governor of Pennsylvania.*” Such a statement renders consideration of any actual science and data moot, while relegating the public comment period to a charade. Ironically, Governor Wolf recently extended an agreement¹⁷ with the state governments of Ohio and West Virginia to enhance regional cooperation and further the development of natural gas within the Appalachian Basin.

In the MSC’s view, the DRBC is legally obligated to review and consider fairly the comments submitted to it, without harboring prejudice. Public statements by commissioners of the DRBC that a ban of hydraulic fracturing is a foregone conclusion demonstrate that this rulemaking is not undergoing a deliberative process, open to modification or withdrawal, as required under the rulemaking procedures of the Commission.

Equally troubling, this situation evinces an inherent lack of faith in the women and men of Pennsylvania’s regulatory agencies, including the PA DEP, to oversee this activity and protect Pennsylvania’s water and other natural resources.

Enclosures

As part of its formal comments, the MSC encloses the following and requests that they be considered as part of the public comment process: a detailed analysis of how the proposed permanent ban on so-called HVHF does not conform with the Compact or constitutional principles, technical comments on specific sections of the proposed rulemaking and a compilation of scientific studies and analyses that the MSC requests DRBC consider related to the development of natural gas resources.

Concurring Support

The MSC also expresses its support for the comments submitted by the American Petroleum Institute as well as the Pennsylvania Independent Oil and Gas Association.

Conclusion

One of the core principles contained in the Pennsylvania General Assembly’s enactment of the Compact¹⁸ states that its purpose is to “*apply the principle of equal and uniform treatment of all water users... without regard for established political boundaries.*” The Commission’s proposed action with this rulemaking is anything but equal or uniform.

¹⁷ Governor Wolf announces Extension of Tri-State Shale Coalition Agreement:

<https://dced.pa.gov/newsroom/governor-wolf-announces-extension-tri-state-shale-coalition-agreement-maximize-benefits-natural-gas-resources/>

¹⁸ Act 268 of 1961:

<http://www.legis.state.pa.us/cfdocs/Legis/LI/uconsCheck.cfm?txtType=HTM&yr=1961&sessInd=0&smthLwInd=0&act=0268>.



The Commission has failed in its most fundamental responsibility: to allow reasoned science and the interests of the citizens it represents to guide its actions and decisions. The Commission unlawfully and permanently seeks to take the property owned by landowners in Pennsylvania and neighboring states without due process or just compensation. It substitutes the political interests of elected politicians for the inherent rights of the citizens they represent by asserting falsely and without justification that natural gas cannot be developed safely within the watershed.

On behalf of the Marcellus Shale Coalition, its member companies, their employees, and all Pennsylvanians who value sound science, the rule of law, respect for property rights, domestic energy security, and the environmental and economic benefits that emanate from natural gas development, I urge you to withdraw this rulemaking and initiate a new rulemaking forthwith that establishes fair, reasonable and legally defensible standards consistent with the Commission's lawful authority. To do otherwise would be a dereliction of duty on your part and an assault upon the citizens of the Commonwealth and their fundamental rights guaranteed to them under both the U.S. Constitution and the Pennsylvania Constitution.

Respectfully,



David J. Spigelmyer
President



**Delaware River Basin Commission Administrative Manual and Special Regulations
Regarding Natural Gas Development Activities**

Legal Comments of the Marcellus Shale Coalition

The Marcellus Shale Coalition (“MSC”) is a regional trade association with national membership. The MSC was formed in 2008 and is comprised of approximately 300 natural gas production and supply chain members who are fully committed to working with government officials to facilitate the development of the natural gas resources in the Marcellus Shale, Utica Shale, and other geological formations – while ensuring that, in the process, the natural environment is protected. The MSC’s members include many of the country’s largest and most active natural gas production and transmission companies, along with the suppliers and contractors who service the industry.

On November 30, 2017, the Delaware River Basin Commission (“DRBC” or “Commission”) released draft regulations regarding oil and gas activities in the Delaware River Basin (“Basin”). The DRBC also released a document, titled “Administrative Manual and Special Regulations Regarding Natural Gas Development Activities; Additional Clarifying Amendments” (“Explanatory Document”), in which it explains the draft regulations. *See also* 83 Fed. Reg. 1586 (Jan. 12, 2018) (same). One of the draft regulations, which the DRBC proposes to adopt and codify at 8 C.F.R. § 440.3(b) (“Proposed Permanent Ban”), provides that “[h]igh volume hydraulic fracturing in hydrocarbon bearing rock formations is prohibited within the Delaware River Basin.” The Proposed Permanent Ban, in other words, would fully and permanently prohibit anyone from using hydraulic fracturing to recover gas in the Basin. Because Pennsylvania is the only Basin state that contains significant gas reserves and does not otherwise prohibit hydraulic fracturing activities, the Proposed Permanent Ban would essentially impact it alone.

The MSC appreciates this opportunity to provide the DRBC with comments on the draft regulations, with a focus on the Proposed Permanent Ban, in particular. As explained below, the DRBC lacks the authority to adopt the Proposed Permanent Ban. The Proposed Permanent Ban, in addition, would effectuate Fifth Amendment “takings” of property, violate substantive due process principles, run afoul of equal protection principles, and constitute a rulemaking that is arbitrary, capricious, an abuse of discretion, or not supported by substantial evidence. As a result, the DRBC should not adopt it.

I. INTRODUCTION

Although it offers additional purported justifications for the proposal, the DRBC's Proposed Permanent Ban on high volume hydraulic fracturing ("HVHF"), in actuality, is premised entirely upon *perceived risks of inadvertent spills and releases* from HVHF activities. As otherwise explained below and in accompanying comments, the perceived risks of inadvertent spills and releases from HVHF activities are unwarranted and do not justify a ban.

Invoking Section 5.2 of the Delaware River Basin Compact ("Compact"), the DRBC asserts that "controlling future pollution" by "prohibiting" HVHF 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." See Proposed 18 C.F.R. § 440.3. This assertion is premised upon the DRBC's "determination" that HVHF poses "significant immediate and long-term risks to the development, conservation, utilization, management, and preservation of the water resources of the [Basin] and to Special Protection Waters of the Basin...." *Id.*

The DRBC identifies the alleged "significant immediate and long-term risks" underlying its Proposed Permanent Ban through what it calls the "steps in the hydraulic fracturing water cycle." 83 Fed. Reg. at 1587. According to the Commission, those steps are "Water acquisition," "Consumptive use," "Chemical use," "Well drilling and construction," "Waste handling and disposal," and "Siting and Landscapes." *Id.* at 1587-89.

As the DRBC is well aware, its limited authority with respect to "Water acquisition," "Consumptive use," and "Siting and Landscapes" is specifically addressed by provisions of the Compact *other than* Section 5.2, which is the *sole* provision that it invokes in support of its Proposed Permanent Ban. See 83 Fed. Reg. at 1590, n.46. "Water acquisition" and "Consumptive use" are addressed by Article 10 of the Compact, which governs the regulation and control of withdrawals and diversions from surface waters and ground waters of the Basin. The DRBC's limited authority under Article 10, while empowering it to limit certain diversions and withdrawals during declared drought emergencies, cannot reasonably be read to authorize the Proposed Permanent Ban. "Siting and Landscapes" is, likewise, addressed by the DRBC's limited authority regarding "flood plain zoning" in Article 6 and watershed management in Article 7. The provisions of Articles 6 and 7, like Article 10, cannot reasonably be read to authorize the DRBC to ban HVHF.

An examination of the remaining "steps" in the "hydraulic fracturing water cycle" reveals that the DRBC's Proposed Permanent Ban, and invocation of Section 5.2 of the Compact, is premised entirely upon perceived risks of inadvertent spills and releases from HVHF activities:



- “[T]he combinations 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”
- “A well with *insufficient mechanical integrity* can increase the risk of impacts and allow *unintended* fluid movement, including into drinking water aquifers”
- “The disposal of produced water poses a significant risk to the water resources of the Basin if the wastewater is *not properly managed*”

83 Fed. Reg. at 1588-89.

These perceived risks of inadvertent spills and releases are no different than those that are associated with countless residential, commercial, and industrial uses in the Basin and, consequently, cannot be invoked to support a *ban* on HVHF. There is no rational basis, let alone any appropriate scientific basis, on which the DRBC, based on the perceived risks of spills and releases, can ban HVHF but allow refineries, nuclear and other energy plants, chemical plants, pharmaceutical manufacturers, landfills, paper mills, technology companies, commercial farms, municipal and industrial sewage and wastewater treatment plants, commercial and retail developments and sprawling residential subdivisions to exist in the Basin.

The perceived risks of inadvertent spills and releases are, likewise, no different than those that the DRBC identified when it previously proposed, and then *vigorously defended* before U.S. District Court for the Eastern District of New York in 2012 (Case 1:11-cv-03780-NGG-CLP), a rulemaking package that would have *authorized* HVHF in the Basin.¹ Indeed, in a declaration that the DRBC submitted to the court, its then-Deputy Executive Director Robert Tudor stated under penalty of perjury that:

¹ The DRBC’s prior rulemaking package, like its current proposed ban, exceeded its authority under the Compact, unnecessarily duplicated and interfered with member state regulatory programs, invaded member state jurisdiction, and unnecessarily stifled responsible natural gas development in the Basin. See Marcellus Shale Coalition Comments on Draft Natural Gas Development Regulations, Feb. & April 2011, available at:

<http://www.state.nj.us/drbc/library/documents/NGC/IndustryOG/MSK-Klaber.pdf>

<http://www.state.nj.us/drbc/library/documents/NGC/IndustryOG/MSK-Seif.pdf>



27. The draft rule may yet undergo changes to enhance its effectiveness and administration. The regulations will never be perfect and I fully expect that these rules will continue to evolve with continued input from all stakeholders. However, the draft natural gas rule now under consideration by the Commissioners is designed to provide for responsible management of water resources from withdrawal to discharge and to establish standards of planning and design to protect landscape features essential to maintaining existing high water quality in the non-tidal river.

See Declaration of Robert Tudor;² *see also* DRBC Draft Natural Gas Development Regulations § 7.1(a) (Rev. Nov. 8, 2011) (“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.”). The DRBC’s defense of its prior proposed rule, moreover, included a number of declarations from representatives of the Pennsylvania Department of Environmental Protection. Pointing to those declarations, the DRBC explained to the court how Pennsylvania’s robust and comprehensive regulatory program eliminates, reduces, and minimizes the very same perceived risks that it now asserts to justify banning HVHF. *See, e.g.*, Declaration of Scott Perry.

More importantly, as explained below, Section 5.2 of the Compact, which is the sole provision that the DRBC invokes in support of its Proposed Permanent Ban, does not provide the agency with authority to “control[] future pollution” by “prohibiting” HVHF in the Basin, *regardless* of the perceived risks of spills and releases from such activity. While the DRBC also cites to its own regulations and resolutions as authority for the Proposed Permanent Ban, those regulations and resolutions cannot expand its authority under the Compact. As a creature of the Compact, the DRBC has only those powers that are conferred upon it, through that agreement, by Congress and the signatory states. *Cf. Louisiana Pub. Serv. Comm’n v. FCC*, 476 U.S. 355, 374 (1986) (“To permit an agency to expand its power in the face of a congressional limitation on its jurisdiction would be to grant to the agency power to override Congress”); *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001) (“axiomatic” that administrative agency’s power to promulgate legislative regulations must be exercised within scope of authority that Congress delegated to it). Like a federal agency, therefore, the DRBC cannot expand its congressionally mandated authority by regulation. *See CAB v. Delta Air Lines, Inc.*, 367 U.S. 316, 322 (1961) (“The determinative question is not what the [federal agency] thinks it should do but what Congress has said it can do.”); *see also id.* at 334 (holding that a federal agency “cannot rely on their own notions of implied powers in the enabling

² The Tudor Declaration and other materials referenced herein are included with the documents submitted in support of these comments.

act.”); *Adams Fruit Co., Inc. v. Barrett*, 494 U.S. 638, 650 (1990) (“[A]n agency may not bootstrap itself into an area in which it has no jurisdiction.”).

II. THE DRBC LACKS THE AUTHORITY TO ADOPT THE PROPOSED PERMANENT BAN

The sole provision of the Compact that the DRBC invokes in support of its proposed ban, Section 5.2, does not provide it with the authority to “control[] future pollution” by “prohibiting” HVHF in the Basin, regardless of the perceived risks of spills and releases from such activity.

A. Principles of Compact Interpretation

“Interstate compacts are construed as contracts under principles of contract law. So, as with any contract, we begin by examining the express terms of the Compact as the best indication of the intent of the parties.” *Tarrant Regional Water District v. Hermann*, 133 S. Ct. 2120, 2130 (2013). Background and context are essential, however, because compacts do not exist in a vacuum but rather reflect the circumstances from which they sprung. *See Tarrant*, 133 S. Ct. at 2125; *see also Oklahoma v. New Mexico*, 501 U.S. 221, 223-25 (1991); *Texas v. New Mexico*, 462 U.S. 554, 556-62 (1983); *Arizona v. California*, 373 U.S. 546, 552 (1963).

When a compact is reasonably susceptible to different interpretations, it “is appropriate to turn to other interpretive tools to shed light on the intent of the Compact’s drafters.” *Tarrant*, 133 S. Ct. at 2132. “The background notion that a State does not easily cede its sovereignty has informed our interpretation of interstate compacts.” *Id.* In the absence of a clear statement to the contrary in the compact, the controlling inference is “that each State was left to regulate the activities of her own citizens.” *Id.* (citations omitted). That is, a surrender of state sovereignty “should be treated with great care, and the Supreme Court has stated that courts should not find a surrender unless it has been ‘expressed in terms too plain to be mistaken.’” *International Union of Operating Engineers v. Delaware River Joint Toll Bridge Comm’n*, 311 F.3d 273, 276 (3d Cir. 2002) (quoting *Jefferson Branch Bank v. Skelly*, 66 U.S. 436, 446 (1861)).

Similarly, because Congress ratifies compacts like the Compact, and the United States joins in them, courts must look for clear notice of an intent to empower the implementing agency (here, the Commission) to exercise jurisdiction. *See Rapanos v. United States*, 547 U.S. 715 (2006). In *Rapanos*, when the Supreme Court rejected the U.S. Army Corps of Engineers’ assertion of jurisdiction over certain wetlands, the plurality offered the following discerning observations:

[T]he Government’s expansive interpretation would result in a significant impingement of the State’s traditional primary power over



land and water use. Regulation of land use, as through the issuance of development permits . . . is a quintessential state and local power. The extensive federal jurisdiction urged by the Government would authorize the Corps to function as a de facto regulator of immense stretches of intrastate land – an authority the agency has shown its willingness to exercise with the scope of discretion that would befit a local zoning board. We ordinarily expect a clear and manifest statement from Congress to authorize an unprecedented intrusion into traditional state authority.

Rapanos, 547 U.S. at 738 (citations omitted). See also *Pennhurst State School & Hosp. v. Halderman*, 451 U.S. 1, 25 (1981) (imposition of conditions on states' receipt of federal funds must be explicit and obvious so that states can make informed choice about whether to receive them).

In addition, it is appropriate to “look[] to legislative history and other extrinsic material when required to interpret a statute which is ambiguous.” *Oklahoma*, 501 U.S. at 235, n.5 (internal citations omitted). The Supreme Court has examined “evidence regarding the negotiating history of other interstate compacts.” *Id.* (citing *Texas*, 462 U.S. at 568, n.14; *Arizona v. California*, 292 U.S. 341, 359-60 (1934)). “Thus, resort to extrinsic evidence of the compact negotiations . . . is entirely appropriate” here if the Compact language is ambiguous. *Oklahoma*, 501 U.S. at 235. Moreover, “[e]xamination of purpose is a staple of statutory interpretation that makes up the daily fare of every appellate court in the country. . . .” *McCreary Cnty., Ky. v. Am. Civil Liberties Union of Ky.*, 545 U.S. 844, 865 (2005) (citing *Gen. Dynamics Land Sys., Inc. v. Cline*, 540 U.S. 581, 600 (2004) (interpreting federal statute in light of its “text, structure, purpose, and history”)).

Evidence of course of performance, or conduct, under the Compact, can also be “highly significant” and so, too, can evidence of the “usage of the trade,” *i.e.*, the terms of other interstate compacts. *Tarrant*, 133 S. Ct. at 2133 & 2135; *New Jersey v. Delaware*, 552 U.S. 597, 618-19 (2008) (considering history of compact and “course of conduct” of signatory states); *Alabama v. North Carolina*, 560 U.S. 330, 341-42, 344 & 353 (2010) (considering terms of other compacts); see also *Texas*, 462 U.S. at 565 (compact lacked features of other compacts and court not free to rewrite it).

As explained in the sections that follow, the DRBC’s cursory analysis, and conclusion that it can “prohibit” HVHF under Section 5.2 of the Compact, cannot stand when the foregoing analytical framework is applied to it. The plain meaning of the Compact precludes a finding that the DRBC has the authority to ban HVHF in the Basin. Beyond its plain terms, the history and negotiation of the Compact evidence that Congress and the Basin States never intended for the DRBC to have authority to ban HVHF, or any other industrial, commercial, or residential use of



land in the Basin. In addition, and prior to caving to pressure from anti-industry groups who are spreading unfounded hysteria over “fracking,” the DRBC understood the limited reach of its Article 5 jurisdiction. That is why, since its creation in 1961, the DRBC has not attempted to ban refineries, nuclear power plants, chemical plants, pharmaceutical manufacturers, commercial farms, or, until recently, well pads and natural gas wells.

B. The Express Terms Of The Compact Establish That The DRBC Cannot Ban HVHF In The Basin

The DRBC invokes Article 5 of the Compact and, specifically, Section 5.2, as its purported authority for the Proposed Permanent Ban. See 83 Fed. Reg. at 1590, n.46. But the DRBC’s authority under Article 5 is limited, and the plain meaning of the article’s provisions precludes a finding that the DRBC has the authority to ban HVHF in the Basin.

Under Section 5.1 of the Compact, “General Powers,” the DRBC “may undertake investigations and surveys, and acquire, construct, operate and maintain projects and facilities to control potential pollution and abate or dilute existing pollution of the water resources of the basin.” Compact, Art. 5, § 5.1. The DRBC may also, under Section 5.1, “invoke as complainant the power and jurisdiction of water pollution abatement agencies of the signatory parties.” None of these provisions authorize the DRBC to ban HVHF.

Section 5.2 of the Compact, titled “Policy and Standards,” affords the DRBC limited authority that it may exercise only after investigation, public hearing, and notice.

First, the DRBC may “*assume jurisdiction* to control future pollution and abate existing pollution in the *waters of the basin*, whenever it determines . . . that the *effectuation of the comprehensive plan* so requires.”³ The DRBC, thus, cannot “assume jurisdiction” to control future pollution and abate existing pollution in waters of the basin for any reason. Instead, it may only do so following a determination that “effectuation of the comprehensive plan so requires.”⁴ Such a determination, therefore, necessitates a consideration of the scope of the

³ The DRBC’s ability to “assume jurisdiction” to control future pollution and abate existing pollution is limited to “waters of the basin.” It does not extend to “water resources,” which is a term that is defined by the Compact. Compact, Art. 1, § 1.2(i). The Compact makes a clear distinction between “waters of the basin” and “water resources.”

⁴ Contrary to the proposed regulatory text, it is beyond the scope of the DRBC’s authority under Section 5.1 of the Compact to “assume jurisdiction” in order to “avoid injury to the waters of the basin as contemplated by the comprehensive plan” or “to protect the public health and preserve the waters of the basin for uses in accordance with the comprehensive plan.”

comprehensive plan as defined by Section 13.1 of the Compact.⁵ The DRBC's "jurisdiction" to control future pollution and abate existing pollution in the waters of the basin is, if assumed, not unlimited. It is subject to an express standard of control. If the DRBC assumes such jurisdiction, then the "standard of such control shall be that pollution by sewage or industrial or other waste originating within a signatory state shall not injuriously affect waters of the basin as contemplated by the comprehensive plan."

Second, the DRBC, after assuming its limited jurisdiction, may "*classify* the waters of the basin." That is, the DRBC may arrange the waters of the basin into classes or categories according to shared qualities or characteristics.

Third, if the DRBC classifies the waters of the basin, it can then "*establish standards of treatment* of sewage, industrial or other waste, *according to such classes* including allowance for the variable factors of surface and ground waters, such as size of the stream, flow, movement, location, character, self-purification, and usage of the waters affected." So, the DRBC can establish standards of *treatment* for waste that is discharged into waters of the basin, based on each classification of such waters.

Fourth, the DRBC can, again after assuming its limited jurisdiction, "adopt rules, regulations and standards to control such future pollution and abate existing pollution." In doing so, the DRBC cannot exceed the scope of its assumed jurisdiction or the "standard of control" that governs its assumed jurisdiction.

Finally, the DRBC can "require such *treatment* of sewage, industrial or other waste within a time reasonable for the construction of the necessary works, as may be required to protect the public health or to preserve the waters of the basin for uses in accordance with the comprehensive plan."

None of the foregoing provisions of Section 5.2 of the Compact, on their face, and when read individually or collectively, authorize the DRBC to *ban* an otherwise lawful activity, including HVHF, in the Basin. While the DRBC may, after

⁵ For the reasons stated above, the scope and extent of the DRBC's authority is limited by the Compact. The DRBC cannot, therefore, expand its authority under the Compact through the back door by incorporating its "Water Code" and other DRBC regulations, policies, and rules into the comprehensive plan. By Section 13.1 of the Compact, the comprehensive plan "shall include all public and private *projects and facilities* which are required, in the judgment of the commission, for the optimum planning, development, conservation, utilization, management and control of the water resources of the basin to meet present and future needs; provided that the plan shall include any projects required to conform with any present or future decree or judgment of any court of competent jurisdiction." Compact, Art. 13, § 13.1 (emphasis added). The DRBC's loading of the comprehensive plan with statements of policy, criteria, and standards cannot expand its authority under the Compact.

assuming jurisdiction, *classify* waters of the Basin, and establish standards for, and require, *treatment* of wastes that are discharged into those waters, it cannot *ban* an activity or preclude an otherwise lawful use of private property. *See, e.g.,* Ann L. Strong, *et al.*, Delaware River Basin Compact: A Review With Respect to Environmental Quality (April 1971) (prepared pursuant to contract with the DRBC) at 65 (“Article 5 of the Compact sets out the general scheme within which the Commission may regulate water pollution. Section 5.2 authorizes the Commission to adopt (1) *standards of treatment* for the various water of the basin and (2) rules and regulations in accordance with which *adherence to these standards* shall be achieved”) (emphasis added).

The remaining provisions of Article 5, likewise, do not authorize the DRBC to impose a ban on HVHF in the Basin. Under Section 5.3, the Compact parties agreed “. . . to prohibit and control pollution of the waters of the basin according to the requirements of [the] compact . . .,” including a commitment to enact legislation that is necessary “. . . to enable each such party to place and maintain the waters of said basin in a satisfactory condition, available for safe and satisfactory use as public and industrial water supplies after reasonable treatment, suitable for recreational usage, capable of maintaining fish and other aquatic life, free from unsightly or malodorous nuisances due to floating solids or sludge deposits and adaptable to such other uses as may be provided by the comprehensive plan.” Compact, Art. 5, § 5.3. Such legislation may impose additional or higher standards or conditions than the ones that the DRBC establishes. *See* Compact, Art. 5, § 5.5. And, under Section 5.4, the DRBC may issue pollution abatement orders or orders to comply with its regulations. *See* Compact, Art. 5, § 5.4. A proper party may appeal a DRBC order concerning pollution or the agency may enforce the order in any court of competent jurisdiction. *Id.* Again, none of the foregoing provisions of Article 5 authorize the DRBC to impose a ban on HVHF.

Not only would the DRBC’s newly-found interpretation of the Compact invade state sovereignty (*see infra*), but it would also render numerous other provisions of the Compact superfluous. *See Astoria Federal Savings & Loan Ass’n v. Solimino*, 501 U.S. 104, 112 (1991) (“But of course we construe statutes, where possible, so as to avoid rendering superfluous any parts thereof.”). The existence of these other provisions, in other words, signals that the DRBC’s interpretation of Article 5 is wrong. Along these lines, if, as the DRBC wrongly contends, it has broad authority under Article 5 to ban HVHF, or any other activity in the Basin, under the guise of “control[ling] future pollution,” then there would be no need for a provision in the Compact authorizing it to invoke (*i.e.*, to borrow) the power and jurisdiction of the signatory states with respect to water pollution abatement. *See* Compact, Art. 5, § 5.1. There would, likewise, be no need for numerous other provisions of the Compact. The DRBC, for example, would not need specific authority to “promote sound practices of watershed management in the basin, including projects and facilities to retard runoff and waterflow and prevent soil

erosion,” and “acquire, sponsor or operate facilities and projects to encourage soil conservation, prevent and control erosion, and to promote land reclamation and sound forestry practices.” Compact, Art. 7, §§ 7.1, 7.2. It could simply use its purported broad authority under Article 5 to ban any human activity that might cause pollution. Article 5, however, cannot be interpreted in a way that renders other provision of the Compact meaningless.

Interpreting Article 5 of the Compact, moreover, to provide the DRBC with purported broad authority to ban any human activity that might cause pollution would render the provision an unconstitutional delegation of legislative authority. Under the U.S. Constitution and the constitutions of the Basin States, when legislative bodies delegate authority to execute or administer laws, they must establish standards and limit the delegation so that the administrative agency that is tasked with executing the laws conducts itself in compliance with the legislative purpose. *See, e.g., A.L.A. Schechter Poultry Corp. v. United States*, 295 U.S. 495 (1935) (nondelegation doctrine); *West Philadelphia Achievement Charter Elem. Sch. v. Sch. Dist. of Phila.*, 132 A.3d 957 (Pa. 2016) (same). Thus, a delegation of legislative authority is constitutional only if the legislative body sets forth the policies that guide the delegation and, likewise, surrounds the delegation with definite standards and limitations. Here, Article 5 of the Compact provides no standards to guide the DRBC’s exercise of its newly-created authority to ban any human activity that might cause pollution. Any such interpretation of Article 5 is therefore unconstitutional.

C. Other Interpretative Tools Further Establish That The Commission Lacks Authority to Ban HVHF In The Basin

1. Protecting state sovereignty and individual rights to liberty and property

The interpretation of the Compact that the DRBC advances is contrary to the “background notion” that States do not easily cede their sovereignty. *See Tarrant*, 133 S. Ct. at 2132. To the extent that the DRBC asserts that the scope of its authority under Section 5.2 is ambiguous, that section cannot be interpreted so as to give the agency the authority to ban HVHF, or any other activity in the Basin, under the guise of “control[ling] future pollution.”

The DRBC is not, and was never intended to be, a regional über-regulator, zoning authority, or environmental ombudsman with absolute veto power over the use of private property and, under the DRBC’s newly discovered Article 5 power, all forms of human activity in the entire Basin. If that were the case, then the DRBC could regulate – and ban the development of – everything from farms to office towers in Center City Philadelphia, because farms and office towers can cause “future pollution.” It could also ban tractor-trailers from using Interstate 80 and



preclude passenger vehicles from crossing the Delaware Memorial Bridge – because accidents and spills will happen. Then, it could ban buses from traveling on roads in Philadelphia, because their fuel tanks might be punctured in an accident. In fact, if Article V of the Compact authorizes a ban on HVHF in the manner that the DRBC suggests, its power would be essentially limitless. Within the Basin, the DRBC would, in effect, have a form of police power that exceeds even the police powers of the Basin States, at least with respect to all human undertakings that could cause “future pollution” – which is virtually every human activity. Under the guise of “control[ing] future pollution,” the DRBC would be able to dictate when, where, and under what conditions *any* human activity can occur in the Basin.

That interpretation, however, is simply not sustainable because, even if Section 5.2 were ambiguous (it is not), “courts should not find a surrender [of state sovereignty] unless it has been ‘expressed in terms too plain to be mistaken.’” *International Union of Operating Engineers*, 311 F.3d at 276 (quoting *Jefferson Branch Bank*, 66 U.S. at 446). Any ambiguity in Section 5.2, in other words, should be resolved in favor of limiting, as opposed to expanding, the scope of the DRBC’s regulatory authority. *Id.*

2. The history of the Compact and the DRBC’s course of performance under it

Consideration of the events that led up to, and the circumstances surrounding, the adoption of the Compact definitively establish that the Basin States never intended for the DRBC to have the authority to ban HVHF, or any other industrial, commercial, or residential use of land in the Basin. So do the DRBC’s own history of actions and statements, which provide additional evidence of the intended, and limited, scope of the DRBC’s jurisdiction under Article 5 of the Compact.

Since the early 1900s, the Basin States have wrestled over the allocation and use of the Delaware River and its tributaries. *See generally* R. Timothy Weston, *The Delaware River Basin: Courts, Compacts and Commissions, in Boundaries and Water: Allocation and Use of a Shared Resource*, Natural. Res. Law Ctr., Univ. of Colo. Sch. of Law (1989) (“Weston”) at 3. The difficulty resulted, primarily, from the fact that New York City was diverting, and continues to divert, millions of gallons of water from the Basin for its use, threatening downstream users, particularly in times of drought. *Id.* at 3-6. For example, low flow in the river resulting from upstream diversions and uses allows salt water to move upstream from the Delaware Bay, jeopardizing the quality of the water in the aquifer that supplies drinking water to large parts of New Jersey. *Id.* at 3. Low flow also impairs the ability of millions of downstream users, including the City of Philadelphia and surrounding suburbs, to rely on the river as a source of water for residential, commercial, and industrial use. *Id.*; *see also Delaware Water Emergency*



Group v. Hansler, 536 F. Supp. 26, 28-31 (E.D. Pa. 1981) (discussing history of Compact), *aff'd without opinion*, 681 F.2d 805 (3d Cir. 1982); *Delaware River Basin Commission v. Bucks County Water & Sewer Auth.*, 545 F. Supp. 138, 140-42 (E.D. Pa. 1982) (same).

In the early 1930s, the disagreement over New York City's diversion of water from the Basin resulted in litigation before the Supreme Court. *See Bucks County*, 545 F. Supp. at 140-41. New Jersey sought to block the City's plan to divert additional water, arguing that the proposed out-of-Basin transfer violated downstream users' riparian rights. The Supreme Court rejected New Jersey's argument, concluding that water in the river should be equitably apportioned. As specified in the Court's decree, the City was allowed to divert water, provided that it made compensating releases from its reservoirs as necessary to maintain a specified level of downstream flow. *See New Jersey v. New York*, 283 U.S. 336 (1931); *see also* Weston at 5-6.

The Court's 1931 decree addressed the narrow question of whether and under what conditions New York City could divert water for its purposes, but left unaddressed the need to develop a long-range plan for the development and management of the Basin's water resources. The need for a comprehensive plan was evidenced by a 1934 report that the U.S. Army Corps of Engineers ("Corps") provided to Congress, in which it described current and future needs with respect to navigation, hydroelectric power generation, irrigation, water supply, and flood control. *See* H.R. Doc. No. 179, 73 Cong., 2d Sess. (1934) ("1934 Report") at pp. III – IV (Table of Contents); *see also* Weston at 6.

The Corps adopted a project-orientated approach to the development and management of the waters of the Basin. *See* 1934 Report at pp. III – IV. It identified three project groups, and various combinations of those groups, consisting primarily of dams and reservoirs that would provide hydroelectric power, flood control, and water supply. 1934 Report at 18-21 & 79-81. The Corps also expressly addressed the need for regional planning for, and centralized control over, water projects in the Basin, observing: "Ill-advised and partial developments that would block major and desirable projects, particularly water-supply projects, should not be permitted." 1934 Report at 115, ¶167. The Corps thus recommend:

The proposed projects for the development of the Delaware River are closely interrelated in a technical sense, and at the same time, subject to the divergent business and political interests of New York City, New Jersey, and Pennsylvania. It appears that future major water supply and power developments should be subject to the supervision, coordination, or control of a single interstate agency which might act either in a supervisory capacity or actually make the proposed developments.

1934 Report at 115, ¶169.

Responding to the recognized need for a regional plan, following the issuance of the 1934 Corps report, the Basin States created an advisory body that was known as the Interstate Commission on the Delaware River Basin (“INCODEL”). See Weston at 6-7. INCODEL was tasked with developing a plan for coordinated development of the Basin’s water resources. *Id.* INCODEL concluded that regional development was feasible and advisable and recommended a plan that consisted of eight reservoirs. INCODEL’s plan collapsed, however, when it failed to win unanimous support from the Basin States. *Id.*

Through INCODEL, the first set of interstate water quality standards was adopted in the 1939-1945 period. See Richard C. Albert, Delaware River Basin Commission, *The Historical Context of Water Quality Management for the Delaware Estuary*, Estuaries Vol. 11, No. 2., at 102 (June 1988) (“Albert”). The standards divided the Delaware Estuary into three zones: Zone 2 from Trenton to the northeast section of Philadelphia; Zone 3 from Zone 2 to the junction of the Pennsylvania, New Jersey, and Delaware state boundaries, near Marcus Hook, Pennsylvania; and Zone 4 from Marcus Hook to the Atlantic Ocean. *Id.* Dischargers in Zone 2 were required to remove 85% of the biochemical oxygen demand (“BOD”) (*i.e.*, secondary treatment), and in Zone 4 primary treatment was required, although no BOD removal rate was stated. *Id.* The intent of the INCODEL standards was to restore dissolved oxygen levels to at least 50% of saturation in the worst part of the estuary and achieve at least some level of wastewater treatment at the 100 or so major discharges. *Id.*

In 1952, New York City asked the Supreme Court to amend its 1931 decree to allow the City to divert additional water from the Basin. See Weston at 7-8. Negotiations led to a 1954 consent decree under which the City was permitted to divert additional water, New Jersey was allowed to divert water from the Basin to serve the northern Jersey metropolitan area, and Pennsylvania was allowed to construct a reservoir and diversion dams. See *New Jersey v. New York*, 347 U.S. 995 (1954); see Weston at 8-9.

Although it expressly authorized the Basin States to undertake a handful of projects in the watershed, the 1954 decree did not mandate comprehensive, regional planning. The need for such planning would soon become clear. See *Delaware River Basin Comm’n v. Bucks County Water and Sewer Auth.*, 641 F.2d 1087, 1089 (3d Cir. 1981) (observing that “[c]oherent development of the River’s resources proved impossible when left to the uncoordinated decisions of each of the four riparian states”).

Shortly after the 1954 decree was entered, disastrous flooding occurred in the Basin and, in response, Congress directed the Corps to undertake a comprehensive



survey of the flood control, water supply, and other water related needs of the Basin. See Weston at 9. The Corps, once again employing the project-orientated approach that it followed in the 1930s, evaluated nearly 600 potential water projects for inclusion in a regional plan. See Report on the Comprehensive Survey of the Water Resources of the Delaware River Basin, U.S. Army Corps of Engineers (Dec. 1960, rev. May 1961) (“Corps Report”), Vol. I, Main Report, “Syllabus”. Ultimately, the Corps recommended a regional plan that consisted of “eleven major control projects to be developed for multiple purposes at specified times during the next 50 years, eight major control projects to be developed initially for recreation during the next 50 years as needed, and 39 small control projects to be developed at an early date for flood control purposes under existing authorizations and continuing programs.” Corps Report at 165. As articulated to Congress, the Corps recommend “[t]hat the plan as formulated in this report and consisting of the . . . elements [identified above] be adopted as the Comprehensive Plan for the development and beneficial public use of the water resources of the Delaware River Basin.” Corps Report at 171.

In addition to recommending a Comprehensive Plan that consisted of various control projects, the Corps provided Congress with a blueprint for a compact and a regulatory agency that would be charged with overseeing the planning for, and development of, water projects in the Basin. See A Brief Report on the Study of Governmental Organization for the Water Resources of the Delaware River Basin, Maxwell Graduate School, Syracuse University (1959) (“Syracuse Report”) in Corps Report, Volume XI, Appendix X ; *Bucks County*, 545 F. Supp. at 141 (citing Syracuse Report). The blueprint was the product of a comprehensive study, commissioned by the Delaware River Basin Advisory Committee (“Advisory Committee”), which addressed the “governmental organization needed for water resources planning, development, and operation in the Basin.” The Advisory Committee was formed by the Basin States, who ultimately tasked it with drafting what would become the Compact. Syracuse Report at 5; *Bucks County*, 545 F. Supp. at 141.

The Syracuse Report detailed the history of the Basin States’ attempts to agree on a regional approach to the development and allocation of the Basin’s water resources and, as a solution to the ongoing challenges, recommended the creation of a regional agency that it referred to as the “Delaware River Basin Administration.” Syracuse Report at 7-10 & 21-24. As recommended to Congress, the agency would have authority to, *inter alia*:

...collect data on water quality and maintain a water quality monitoring system; stimulate research where necessary disseminate information on water quality; ***establish reasonable physical, chemical and bacteriological standards*** for various uses of water and with respect to waste effluents; ***classify the basin water***



according to changing uses; and enforce standards with regard to quality control.

Syracuse Report at 22 (emphasis added). To achieve this objective, the report recommended that the new agency's "powers should be exercised in full co-operation with the U.S. Public Health Service, State and local governments, and private industry." *Id.*

Contemporaneous with the Corps' report to Congress, the Advisory Committee, following the recommendations in the Syracuse Report, drafted an interstate compact, which was presented to the Basin States and Congress for consideration. See Hearings Before Subcommittee No. 1 of the Committee on the Judiciary, 87th Cong., 1st Sess., H.J Res. 225 (March 8, 1961). The governors of the Basin States that approved the draft compact submitted a statement to Congress in which they explained:

The compact does not contemplate that the commission will supersede existing operating agencies which are performing necessary functions with proper effectiveness, such as the Corps of Engineers in the construction of dams and reservoirs. It will have broad powers, however, to act where effective action is needed, and may, for example, **set standards** for the control of pollution which might be stronger than any of the States have themselves enacted.

Id. at 75 (emphasis added).

The House Committee on the Judiciary offered similar observations regarding the Commission's authority with respect to pollution control in the Basin:

Article 5 deals with pollution control. It empowers the commission to establish standards to control pollution and abate existing pollution and to enforce such standards subject to judicial review. The commission may also act as a complainant before established health departments and services of the signatory parties.

H. Rep. No. 310, 87th Cong., 1st Sess. (1961) at 16 (emphasis added); see also S. Rep. No. 854, 87th Cong., 1st Sess. 26 (1961) (adopting analysis of House Committee).

In late 1961, following decades of debate and litigation over the development and management of the water resources in the Basin, the Compact, as originally contemplated by the Corps and outlined in the Syracuse Report, was agreed to by the Basin States, ratified by Congress, and signed by the President. As recommended by the Corps in its report to Congress, the DRBC was created and



tasked with planning for, coordinating, and overseeing the development and management of water resources within the Basin. See Compact at § 1.3. The DRBC's core mission was, and remains, to ensure coordinated development of water projects in order to meet the water needs of the millions of residents and businesses in the Basin. *Id.*

With respect to Article 5, and consistent with the Syracuse Report, the DRBC has historically understood that its authority was limited to *classifying waters of the Basin and establishing standards for, and requiring, treatment of wastes that are discharged into those waters*. In comments that he made to an audience of state regulators shortly after the Compact was adopted, the DRBC's first Executive Director observed:

Some concern has been evidenced that the Commission might be trying to undertake work now properly regarded as the province of existing state agencies. . . .

The framers of the compact were acutely aware of the situation and were forthright in establishing a policy that we must follow in our relations with public agencies with whom we have an identity of interest. Any apprehension that the Commission will be doing any jurisdictional poaching should be allayed by [Section 1.5] of the compact. . . . [Section 1.5] is a clear and direct order and there is no intent to depart from it. ...

I would really like to discuss in some detail with you the specific programs that we have planned to undertake for the remainder of this fiscal year and for the next fiscal year. ...

Program No. six (6) contemplates a continuation of the basic purposes of INCODEL, expanded as may be necessary to meet the major legal requirements assigned to the Commission under the compact. *It will encompass familiarization with work carried out by state health departments and federal agencies in the field of stream classifications and quality standards because of the necessity of updating and modernization.* It will, of course, require that close liaison with all federal agencies, particularly Public Health Service and Geological Survey, be maintained to insure full interchange of information on quality conditions. It will require the ordering of all such information into a comprehensive pattern for each of the appropriate reaches or sections of the basin. It will necessitate the integration of water quality and waste disposal plans with other programs for use of water resources within the basin.

James F. Wright, Executive Director, Delaware River Basin Commission, The Interstate Commission on the Delaware River Basin, Organization and Programs of the Delaware River Basin Commission (Oct. 16, 1962) (emphasis added).

Similarly, in a 1965 statement that he gave to Congress in connection with proposed amendments to the Federal Water Pollution Control Act, the DRBC's first Executive Director noted that:

Article 5 of the compact authorizes the Commission to make investigations and surveys, construct, operate and maintain projects to control pollution and abate or dilute existing pollution; authorizes classification and the setting of standards of the waters of the basin by the Commission; authorizes the Commission to require such treatment of sewage, industrial, or other waste as may be necessary to protect the public health or preserve the waters of the basin for uses in accordance with the comprehensive plan.

The Commission already has exercised its *standard-setting powers* by including, on an interim basis, in its comprehensive plan the zone classifications on the main stream which were formulated by the former Interstate Commission on the Delaware River Basin.

Hearings Before Committee on Public Works, House of Representatives, 89th Cong., 1st Sess., H.R. 3988, S.4, and Related Bills (Feb. 18, 19 & 23, 1965) at 197. *See also* Hearing Before Special Subcommittee of the Committee on Public Works, United States Senate, 89th Cong., 1st Sess., S. 4 (Jan. 18, 1965) at 91.

The DRBC's own summary of its "actions on water quality standards and regulations" further confirms that it has historically understood that its Article 5 authority was limited to classifying waters of the Basin and establishing standards for, and requiring, treatment of wastes discharged into those waters:

For reference purposes, following is a summary of Commission actions on water quality standards and regulations to date:

Resolution	Date	Subject
1962-14	July 25, 1962	INCODEL Standards added to Comprehensive Plan.
1965-03	February 24, 1965	Primary treatment required as a minimum. Basinwide.
1967-02	March 2, 1967	Water quality standards for tidal waters.
1967-07	April 26, 1967	Water quality standards for non-tidal interstate streams; Resolution 67-2 recodified and incorporated; Resolution 65-3 repealed; Secondary treatment required as a minimum; Allocation of assimilative capacity policy; INCODEL Standards repealed to the extent inconsistent with this resolution.
1968-02	March 7, 1968	Water quality regulations; Allocation of assimilative capacity procedures; Abatement schedule procedures; Resolution 67-7 incorporated and recodified.
1968-06	July 31, 1968	Regional policy for wastewater management.
1968-08	September 25, 1968	Minor change in regulations on allocation procedure.
1970-03	March 26, 1970	Nondegradation policy; Addition to water quality criteria; Minor changes in definition of secondary treatment.
1970-24	November 24, 1970	Changes in dissolved oxygen and temperature criteria for trout waters.
1972-01	January 26, 1972	Interpretive Guideline No. 1.
1972-14	December 12, 1972	Groundwater quality standards.
1973-04	January 24, 1973	Groundwater quality regulations.
1973-11	October 31, 1973	Abatement schedules transferred to appropriate signatory agencies.
1974-01	February 27, 1974	Amendments primarily to be consistent with Federal Law (P.L. 92-500); Recodification, reflecting all above amendments, including the INCODEL Standards saved from repeal by Resolution 67-7, and also including Resolution 72-1.
1978-07	May 24, 1978	Intermittent stream policy; Changes in total dissolved solids standards; Changes in effluent color regulation; Policy for dilute industrial process wastewater.
1978-08	May 24, 1978	Confirmation of groundwater standards and policies in Comprehensive Plan.
1980-02	March 10, 1980	Suspended solids effluent requirement; INCODEL Standards for Zones 1 and 2 repealed.
1983-11	June 29, 1983	Changes in chloride criteria and addition of sodium criteria for tidal waters.
1985-03	January 30, 1985	Effluent requirements for oil and grease.
1986-08	May 28, 1986	Disinfection requirements for intrastate streams deleted.
1986-18	July 30, 1986	Temporary suspension of disinfection requirements for discharges to Zones 2, 3 and 4, from October 1, 1987 to April 30, 1988.
1991-06	May 22, 1991	Recreational stream criteria and uses for tidal waters based on Use Attainability Assessment recommendations.
1992-21	December 9, 1992	Special Protection Waters policies.
1994-02	February 23, 1994	Control of Nonpoint Sources of Pollution in Special Protection Waters.
1996-12	October 23, 1996	Control of Toxic Pollutants from Point Source Discharges to the Delaware River Estuary.
2005-02	January 19, 2005	Temporary Designation of the Lower Delaware River as Special Protection Waters.

DRBC's Administrative Manual, Part III – Water Quality Regulations.

As reflected in this summary, the DRBC, in 1962, adopted the INCODEL water quality standards as its own (*see* INCODEL discussion, *supra*). *See also* Commission 1963 Annual Report at 7, 19.

During 1967, the Commission adopted new, higher water quality standards. Commission 1967 Annual Report at 6-8. INCODEL's Zone 2 was retained, but Zone 3 was split into two new zones: Zone 3 and 4. *See* Albert at 103; DRBC Resolutions 67-2 and 67-7. Likewise, INCODEL's Zone 4 became Commission Zones 5 and 6, with the former comprising the lower reach of the Delaware Estuary and the latter embracing the Delaware Bay. *Id.* Stream quality objectives were crafted to attain levels of water quality sufficient to safely and satisfactorily sustain specified uses. *Id.* Effluent treatment requirements were then designed to achieve the water quality objectives. *Id.* They required a minimum of secondary treatment (removal of practically all suspended solids and reduction of oxygen consuming pollutants by no less than 85% for all wastes, and disinfection of discharges containing human wastes). *Id.* They also provided that the waste assimilative capacity of the streams would be allocated under the doctrine of equitable apportionment. *Id.*

The DRBC, in 1968, then approved regulations that delineated and allocated to individual dischargers the maximum allowable oxygen consuming wasteload in the various zones. *See* Albert at 103; DRBC Resolution 68-2; DRBC 1968 Annual Report at 6-9. The principal thrust of the allocation scheme was to cut daily oxygen demand by waste dischargers from 1 million pounds to 322,000 pounds. *Id.* The latter load was then allocated to dischargers, with 10% of each zone's share reserved for future growth. *Id.* Along with the 1968 wasteload allocations, the individual dischargers were required to submit pollution abatement schedules. *Id.*

In 1973, in response to the 1972 Federal Water Pollution Control Act amendments, the DRBC relinquished its program on pollution abatement schedules in favor of the federal NPDES program and state programs. *See* DRBC Resolution 73-11; DRBC 1973 Annual Report at 16; Letter from Gerald M. Hansler to Dr. Maurice K. Goddard, Secretary (Dec. 12, 1978). As the DRBC subsequently explained:

In the field of pollution control, the Commission developed water quality standards, an innovative allocation system and an abatement program. With growth of other federal and state activities, particularly since the enactment of the Federal Water Pollution Control Act and the establishment of the program of National Pollutant Discharge Elimination System, *the Commission has de-emphasized its analysis of individual permits and spent more time coordinating and reformulating water quality standards, reworking*



assimilative capacity allocations, developing better monitoring programs with the signatory parties, and, on occasion, sitting as a board of arbitration when interstate concerns are involved in specific pollution programs.

DRBC 1976 Annual Report at 5 (emphasis added).

As reflected in the summary above, since the 1972 Federal Water Pollution Control Act amendments, the DRBC has, consistent with the foregoing statement in its 1976 Annual Report, concentrated on reformulating its water quality standards and

By the late 1980s, over one billion dollars had been spent on improving wastewater treatment facilities in the Delaware River Basin, which benefited communities along the river and strengthened fish populations. DRBC began its Delaware Estuary Toxics Management Program in 1989 to develop methods to control the discharge of toxic pollution from wastewater treatment plants into the estuary. New rules were adopted in 1996 that added many toxic substances to what was originally regulated in wastewater treatment plant discharge. DRBC's toxics criteria was most recently updated in 2010, and a revision to its water quality criteria for polychlorinated biphenyls (PCBs) was approved in December 2013.

In contrast to the conditions found in the more heavily developed estuary, monitoring demonstrated that water quality in the non-tidal Delaware was already better than standards. DRBC in 1992 launched its Special Protection Waters (SPW) program, which set regulations in place to "keep the clean water clean" in the 121-mile stretch of the Delaware River from Hancock, N.Y. to the Delaware Water Gap. In 2008, SPW designation was expanded to include the Lower Delaware Scenic and Recreational River, making the entire 197-mile non-tidal Delaware.

DRBC's Water Quality Programs of the Delaware River Basin Commission Booklet (Sept. 1987).

The DRBC's interpretation and application of the Compact over a period nearly four decades, *supra*, provides compelling evidence that it has always understood that its Article 5 authority was limited to classifying waters of the Basin and establishing standards for, and requiring, treatment of wastes discharged into those waters. It has never interpreted Article 5 to authorize a wholesale ban on an activity in the Basin.

III. THE PROPOSED PERMANENT BAN WOULD EFFECTUATE TAKINGS OF PROPERTY

Apart from the fact that the DRBC lacks the authority to adopt it, the Proposed Permanent Ban on HVHF would also effectuate categorical and other regulatory “takings” of property in the Basin and, as a consequence, the DRBC should not adopt it.

A. Background

The Takings Clause of the Fifth Amendment to the U.S. Constitution, which applies to federal actions like DRBC actions, provides that “private property” may not be “taken” by the government “for public use” unless the government pays “just compensation” to the property owner. U.S. Const. amend. V, cl. 4.

It is well-established that, under the Takings Clause, “property” includes real property. *See, e.g., Keystone Bituminous Coal Ass’n v. DeBenedictis*, 480 U.S. 470, 484 (1987) (“land use regulation can effect a taking”). And, in adopting a regulation, the government accomplishes a taking of real property, in a “categorical” or *per se* fashion, if the regulation deprives a property owner of “all economically beneficial uses” of his property. *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1019 (1992). On the other hand, if the regulation eliminates some, but not all, economically beneficial uses of the property, the determination of whether the government has accomplished a taking is made with reference to the “*Penn Central*” test, under which a reviewing court balances “[1] [t]he economic impact of the regulation on the claimant...[2] the extent to which the regulation has interfered with distinct investment-backed expectations...[and] [3] the character of the governmental action.” *Penn Central Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978); *see also Pruneyard Shopping Center v. Robins*, 447 U.S. 74, 83 (1980) (the “examination entails inquiry into such factors as the character of the governmental action, its economic impact, and its interference with reasonable investment-backed expectations”).

B. Categorical Takings

The Proposed Permanent Ban would effectuate categorical takings of property in the Basin.

Under Pennsylvania law, the property interest at issue here is a vested fee interest in the oil and gas in place. *See, e.g., Penn-Ohio Gas Co. v. Franks’s Heirs*, 185 A. 280, 281 (Pa. 1936) (“An agreement of the type involved in this case is not merely a lease of the land for the purpose of exploring, drilling and operating for oil and gas, but expressly and in apt terms is a defeasible grant of all the oil and gas in and under the described premises with the incidental right of egress and ingress for



the purpose of drilling and operating oil and gas wells.”); *see also Lesnick v. Chartiers Natural Gas Co.*, 889 A.2d 1282, 1284-85 (Pa. Super. Ct. 2005). There are a number of people who hold this type of property interest in the Basin, without owning any interest in the surface or other property there (“Gas-Only Owners”). The controlling case law establishes that, for purposes of an analysis under the Fifth Amendment, their interest in the oil and gas should *not* be combined with any other property interest, including any separate interest in a surface estate. *See Andrus v. Allard*, 444 U.S. 51, 65-66 (1979); *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922) (in protecting interests in surface estate, state accomplished taking of interests in underlying mineral estate); *Vulcan Materials Co. v. City of Tehuacana*, 369 F.3d 882, 889 n.5 (5th Cir. 2004) (“Vulcan, however, does not possess a full bundle of property rights and, therefore, the relevant parcel for the purposes of its takings claim is the only estate in which it has an interest—the limestone lease—and the value of other interests—i.e., surface agricultural uses—cannot be considered in determining whether all economically viable use of the property has been destroyed.”) (internal quotation omitted). And the interest should be viewed on a parcel-by-parcel basis. *See, e.g., District Intown Properties Ltd. P’ship v. District of Columbia*, 198 F.3d 874, 879 (D.C. Cir. 1999) (“we must first define what constitutes the relevant parcel before we can evaluate the regulation’s effect on that parcel”).

In light of these factors, and because it is indisputable that vertical wells would not be feasible as a means to recover gas in the Basin, the Proposed Permanent Ban would fully and permanently prevent the Gas-Only Owners from developing their gas interests in the Basin and would therefore prevent them from making *any* economically viable use of their property interests there. The Proposed Permanent Ban would therefore accomplish “categorical,” or “*per se*,” regulatory takings. *See Lucas*, 505 U.S. at 1015 (1992) (taking occurs “where regulation denies all economically beneficial or productive use of land”).

This point is illustrated by *Whitney Benefits, Inc. v. United States*, 926 F.2d 1169 (Fed. Cir. 1991). There, a mining company held the right to mine a particular deposit of coal. That right was “the *only* property...involved” in the case. *Id.* at 1172 (emphasis in original). “The only possible use of that right,” the U.S. Court of Appeals for the Federal Circuit explained, “is to surface mine that coal.” *Id.* And yet, the federal Surface Mining Control and Reclamation Act (“SMCRA”), by prohibiting the mining of “alluvial valley floors” above the relevant deposit of coal, prevented the mining company from exercising its right. SMCRA therefore deprived the mining company “of ‘all economically viable use’ of its property and destroy[ed] its value.” *Id.* The government, as a result, accomplished a regulatory “taking” of the property. The court upheld the trial court’s determination that, under the Takings Clause, the mining company was entitled to “just compensation” in the amount of “\$60,296,000, plus pre-judgment interest from August 3, 1977[.]”



Id. at 1178.⁶ See also *Cane Tennessee, Inc. v. United States*, 54 Fed. Cl. 100, 106 (Fed. Cl. 2002) (noting that “since the coal [in *Whitney Benefits*] could only be mined by surface methods, SMCRA destroyed all economically viable use of that plaintiff’s property”).

To the same effect is *State ex rel. R.T.G. v. State*, 780 N.E.2d 998 (Ohio 2002). There, a mining company held the right to mine certain deposits of coal in Ohio. The state designated most of the property acreage where the deposits were located as unsuitable for mining (“USF”). The Ohio Supreme Court noted that, under Ohio law, mineral rights are recognized as stand-alone property interests. The court therefore determined that “the relevant parcel for the takings analysis in the vertical context is the coal rights.” *Id.* at 1009. It then observed that “[w]hat makes the right to mine coal valuable is that it can be exercised with profit.” *Id.* (quoting *Pennsylvania Coal*, 260 U.S. at 414). “The UFM designation,” the court explained, “makes it impossible for [the mining company] to mine coal, thereby depriving [the mining company] from exercising its coal rights for profit.” *Id.* The court therefore concluded that the “imposition of the UFM designation deprived [the mining company’s] coal rights of *all* economic value” and that, as a consequence, “the UFM designation resulted in a categorical taking of [the mining company’s] coal rights.” *Id.* (emphasis in original). See also *Vulcan Materials Co.*, 369 F.3d at 891-92 (“Consequently, the Ordinance deprives Vulcan of all value of its property interest—quarrying rights—in the relevant parcel—Tracts 4-7. We thus hold that the Ordinance constitutes a categorical taking, which renders Vulcan’s relevant leasehold interest valueless.”).

These principles apply with equal force here. The Gas-Only Owners own *only* a vested fee interest in the oil and gas in place in the Basin, without owning surface or other property interests there. The oil and gas interest is “the *only* property...involved” in this scenario. *Whitney Benefits*, 926 F.2d at 1172. “The only possible use of that right,” moreover, is to develop the gas for profit. *Id.*; see also *R.T.G.*, 780 N.E.2d at 1009. And yet, the Proposed Permanent Ban would fully and permanently prevent the Gas-Only Owners from developing their gas interests in the Basin. It would therefore divest those interests “of *all* economic value,” meaning that it would effectuate categorical takings. *R.T.G.*, 780 N.E.2d at 1009 (emphasis in original). The result is that, under the Fifth Amendment, the DRBC would be liable to pay “just compensation” to the Gas-Only Owners in order to compensate them for the takings.

⁶ In arriving at this figure, the trial court used an “income capitalization approach,” valuing the property “based on the discounted stream of income the property is capable of producing over its useful economic life.” *Whitney Benefits, Inc. v. United States*, 18 Cl. Ct. 394, 408 (Cl. Ct. 1989).

In fact, the only conceivable way that the DRBC would *not* be liable to the Gas-Only Owners would be if the “background principles of the State’s law of property and nuisance” would have prohibited them from engaging in hydraulic fracturing in the Basin, because this activity would have constituted a nuisance. *Lucas*, 505 U.S. 1029. But no court has applied Pennsylvania’s law of property and nuisance to conclude that hydraulic fracturing is a “nuisance *per se*.” See *SPTR, Inc. v. City of Philadelphia*, 150 A.3d 160, 171 (Pa. Cmwlth. 2016) (activity is nuisance *per se* only if it has “certain recognized, unavoidable, inherent characteristics that make it injurious to health and property”). To the contrary, under Pennsylvania law, hydraulic fracturing is an activity that may be conducted lawfully throughout the Commonwealth, subject to a variety of setback and other requirements. See 25 Pa. Code Ch. 78a; see also *Ely v. Cabot Oil & Gas Corp.*, 38 F.Supp.3d 518, 532 (M.D. Pa. 2014) (rejecting assertion that hydraulically fractured gas wells that were “drilled in accordance with valid leases, and which were permitted by the Commonwealth’s environmental regulatory body, and which otherwise complied with legal requirements with respect to setback limits, were nevertheless placed inappropriately”). And there is nothing to suggest that, in undertaking hydraulic fracturing on their properties, the Gas-Only Owners would commit a “nuisance in fact.” The DRBC would therefore be liable to provide them with “just compensation,” in potentially significant amounts.

C. Other Regulatory Takings

The Proposed Permanent Ban would also effectuate other regulatory takings of property in the Basin.

There are numerous people who hold both a vested fee interest in oil and gas in the Basin and a vested fee interest in the surface estate that overlies the oil and gas interest (“Gas-Surface Owners”). For purposes of analysis under the Fifth Amendment, their interests, in each case, should be considered together, as their “property.” See, e.g., *Keystone Bituminous Coal Ass’n*, 480 U.S. at 497. And, under the three-part *Penn Central* test, the Proposed Permanent Ban would effectuate regulatory takings of those properties.

In applying the first part of the test (economic impact), a reviewing court must “compare the value that has been taken from the property with the value that remains in the property.” *Id.*; see also *Vaizburd v. United States*, 384 F.3d 1278, 1283 (Fed. Cir. 2004) (“A comparison of the property’s market value before and after a taking is one appropriate method of valuation in circumstances such as these.”). “The fair market value of property,” in this context, “is most traditionally and frequently calculated using the comparative sales approach.” *Norman v. United States*, 63 Fed. Cl. 231, 270 (Fed. Cl. 2004). “Under this method, the appraiser must estimate the fair market value of the relevant parcel based upon similar transactions in similar properties in the vicinity, reasonably near the time of the



alleged taking. This approach uses sales and purchases of property that reasonably resemble the subject property with respect to time, place and circumstances to arrive at the fair market value of the property being appraised.” *Id.* at 271 (internal citation omitted).⁷

To reflect its comparative nature, the analysis under the first part of the *Penn Central* test is often “expressed in the form of a fraction, the numerator of which is the value of the subject property encumbered by regulation and the denominator of which is the value of the same property not so encumbered.” *Walcek v. United States*, 49 Fed. Cl. 248, 258 (Fed. Cl. 2001).

Here, the Proposed Permanent Ban would fully and permanently prevent the Gas-Surface Owners from developing their gas interests in the Basin. It would leave them with the use of only their interests in surface estates. As a consequence, the fair market value of their properties would be markedly lower than the fair market value of similar, nearby properties (comprised of gas interests and overlying surface interests) that the Proposed Permanent Ban did not encumber. The Proposed Permanent Ban’s impact on the Gas-Surface Owners would therefore be substantial.

The second part of the *Penn Central* test (investment-backed expectations) is designed to “limit[] takings recoveries to owners who [can] demonstrate that they bought their property in reliance on a state of affairs that did not include the challenged regulatory regime.” *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1177 (Fed. Cir. 1994). In this regard, simply because an industry is highly regulated “does not mean that *all* regulatory changes are reasonably foreseeable or that regulated businesses can have *no* reasonable investment-backed expectations whatsoever....[T]he range of expectations that is reasonable may be greatly reduced in proportion to the amount of regulation, but this is not a blanket rule that disqualifies parties’ expectations without inquiry.” *Chancellor Manor v. United States*, 331 F.3d 891, 906 (Fed. Cir. 2003) (emphasis in original) (internal quotations omitted).

Here, many of the Gas-Surface Owners acquired their properties in reliance on a state of affairs that did not include the Proposed Permanent Ban. At the time, the DRBC did not regulate oil and gas exploration and production activities *at all*,

⁷ Another method, which is sometimes used in the absence of comparable sales, is the “income capitalization approach,” under which “the value of a particular piece of property is shown by calculating the present value of the income the property could be expected to generate over its useful economic life.” *Cane Tennessee, Inc. v. United States*, 71 Fed. Cl. 432, 438 (Fed. Cl. 2005) (internal quotation omitted). “A third method of valuation,” likewise used in the absence of comparable sales, “is the cost approach....Applied to improved land, the cost approach produces a valuation estimate by establishing the cost to replace the property, less depreciation, at a different but comparable site.” *Id.* at 438-39 (internal quotation omitted).

let alone in a way that would have signaled that, eventually, it would permanently ban them from developing their gas interests in the Basin. The Susquehanna River Basin Commission, likewise, did not (and does not) regulate oil and gas exploration and production activities. And, although other agencies (*e.g.*, PaDEP) regulated the oil and gas industry, they did not do so in a way to suggest that a ban on hydraulic fracturing was likely or even possible. The Gas-Surface Owners, in other words, could not have reasonably foreseen that the DRBC would adopt the Proposed Permanent Ban. The Proposed Permanent Ban would therefore significantly interfere with their investment-backed expectations.

With regard to the third part of the test (character of the governmental action), the reviewing court must “consider the purpose and importance of the public interest reflected in the regulatory imposition.” *Loveladies Harbor, Inc.*, 28 F.3d at 1176. The court, in effect, must “balance the liberty interest of the private property owner against the Government’s need to protect the public interest through imposition of the restraint. This include[s] considering not only the avowed need of the Government – the interest of the public being protected – but also whether the method of attaining the sought-after goal [is] reasonably designed to attain it.” *Id.* (internal citation and parenthetical omitted).

Here, the Proposed Permanent Ban would not serve an important public interest. As explained in detail below, there is a wealth of evidence to show that, contrary to what the DRBC alleges in attempting to justify the proposed ban, shale gas production activities are safe for water and other environmental resources. Pennsylvania, moreover, rigorously regulates those activities in order to, among other things, ensure that environmental resources are protected. The Proposed Permanent Ban is therefore arbitrary and unreasonable. And, even if the Proposed Permanent Ban served an important public interest, it would not be reasonably tailored to do so. It would fully and permanently prohibit the Gas-Surface Owners from developing their gas interests in the Basin. And yet, as Pennsylvania’s oil and gas statutory and regulatory regimes demonstrate, there are ways to regulate oil and gas production activities – short of banning them – that ensure the protection of water resources and the public health, safety, and welfare. The character of the Proposed Permanent Ban is therefore negligible in comparison to the “liberty interest of the private property owner[.]”

Because, under the *Penn Central* test, the Proposed Permanent Ban would effectuate regulatory takings of the Gas-Surface Owners’ property, the DRBC would be liable to pay “just compensation” to those individuals, in potentially substantial amounts, in order to compensate them for the takings.



IV. THE PROPOSED PERMANENT BAN WOULD VIOLATE SUBSTANTIVE DUE PROCESS PRINCIPLES

Even assuming, for argument's sake, that the Proposed Permanent Ban would not effectuate regulatory "takings" of property in the Basin, it would nevertheless violate substantive due process principles and, consequently, the DRBC should not adopt it.

The Fifth Amendment's Due Process Clause, which applies to federal actions like DRBC actions, provides: "[N]or [shall any person] be deprived of life, liberty, or property, without due process of law." U.S. Const. amend. V, cl. 3. Like the Due Process Clause in the Fourteenth Amendment, this clause has a "substantive" component, which operates to preclude the government from depriving an individual of a property interest in an "arbitrary and irrational" manner. *See, e.g., Nat'l R.R. Passenger Corp. v. Atchison, Topeka & Santa Fe Ry. Co.*, 470 U.S. 451, 472 (1985). Along these lines, "[i]n *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528 (2005)], the Court specifically held that an arbitrary and irrational deprivation of real property, although it would no longer constitute a taking, might be 'so arbitrary or irrational that it runs afoul of the Due Process Clause.'" *Action Apartment Ass'n, Inc. v. Santa Monica Rent Control Bd.*, 509 F.3d 1020, 1025 (9th Cir. 2007) (quoting *Lingle*, 544 U.S. at 542).

Here, as explained above, the Proposed Permanent Ban would deprive the Gas-Only Owners and Gas-Surface Owners of a property interest by fully and permanently preventing them from developing their gas interests in the Basin. And the deprivation would be "arbitrary and irrational." As explained below, there is a wealth of evidence to show that, contrary to what the DRBC claims, shale gas production activities are safe for water and other environmental resources. Pennsylvania, moreover, rigorously regulates those activities in order to, among other things, ensure that environmental resources are protected. There is therefore no rational basis for the Proposed Permanent Ban.

In light of these factors, the Proposed Permanent Ban would violate substantive due process principles and the DRBC should not adopt it.

V. THE PROPOSED PERMANENT BAN WOULD VIOLATE EQUAL PROTECTION PRINCIPLES

The Proposed Permanent Ban would likewise run afoul of equal protection principles and, therefore, the DRBC should refrain from adopting it.

Although "the Fifth Amendment contains no equal protection clause, it does forbid discrimination that is so unjustifiable as to be violative of due process." *Schneider v. Rusk*, 377 U.S. 163, 168 (1964). The U.S. Supreme Court's "approach



to Fifth Amendment equal protection claims has always been precisely the same as to equal protection claims under the Fourteenth Amendment.” *Weinberger v. Wiesenfeld*, 420 U.S. 636, 638 n.2 (1975). Equal protection principles are implicated, in particular, when the government creates a classification of people who, as a group, it treats differently, and worse, than other similarly-situated people. See *Personnel Adm’r of Massachusetts v. Feeney*, 442 U.S. 256, 279 (1979) (government action may violate equal protection principles if it causes “adverse effects upon an identifiable group”). “[A] corporation is a ‘person’ within the meaning of the equal protection [clause].” *Grosjean v. Am. Press Co.*, 297 U.S. 233, 244 (1936).

When a governmental action creates a discriminatory classification system, the validity of the action, from an equal protection perspective, is determined by one of three tests – rational basis, intermediate scrutiny, or strict scrutiny – depending on the nature of the class or right at issue. Where, as here, the classification does not target a “suspect” or “sensitive” class or a “fundamental” right, the rational basis test is controlling and requires the official discrimination to “bear a rational relation” to a legitimate governmental purpose. See, e.g., *Regan v. Taxation with Representation of Washington*, 461 U.S. 540, 547 (1983). Under the rational basis test, “[a] statutory discrimination will not be set aside if any state of facts reasonably may be conceived to justify it.” *McGowan v. Maryland*, 366 U.S. 420, 426 (1961).

Even under this non-exacting standard, the Proposed Permanent Ban would not pass muster. It is indisputable, in this regard, that vertical wells would not be feasible as a means to recover gas in the Basin. The Proposed Permanent Ban would therefore effectively prevent members of the oil and gas industry from producing gas in the Basin. The DRBC, at the same time, would not prevent people in other industries from undertaking their business operations in the Basin. And this discriminatory classification system would not “bear a rational relation” to a legitimate governmental purpose. To the contrary, as explained above in Part I, it would be arbitrary and irrational because it would be premised on a perceived risk of spills and releases from one activity (HVHF) that occurs in one industry (oil and gas), even though there is an equal or greater risk of spills and releases from various activities that occur in various other industries, including the refining, energy-generation, chemical, landfill, paper, technology, farming, sewage, wastewater treatment, and housing industries. It is, in fact, not possible to reasonably conceive of a rational basis for the DRBC to discriminate against oil and gas producers in this way.

Because the Proposed Permanent Ban would violate equal protection principles, the DRBC should not adopt it.



VI. THE PROPOSED PERMANENT BAN WOULD BE ARBITRARY, CAPRICIOUS, AN ABUSE OF DISCRETION, OR NOT SUPPORTED BY SUBSTANTIAL EVIDENCE

Not only would the Proposed Permanent Ban be *ultra vires* and unconstitutional, as explained above, but it would also be unsustainable from a strictly factual perspective.

Because the DRBC is an administrative agency and the law does not otherwise define the standard of review that a court should use to review one of its actions, it is proper to look to the Administrative Procedure Act (“APA”) for guidance. *See Delaware Water Emergency Group v. Hansler*, 536 F. Supp. 26, 36 (E.D. Pa. 1981) (although APA does not apply to DRBC actions, “[a]nalysis of cases decided under provisions of the APA may, nevertheless, be helpful”); *see also Guaranty Savings & Loan Ass’n v. Fed. Home Loan Bank Bd.*, 794 F.2d 1339, 1342 (8th Cir. 1986) (“[The statute] does not define the type of review to be used in examining the [agency’s] appointment decision. Thus, the court properly looked to the Administrative Procedure Act for guidance on this issue.”). And, as the court explained in *Hansler*, the APA establishes that, as a general matter, an agency action will be set aside if it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law or with applicable statutory, procedural, or constitutional requirements. *Hansler*, 536 F. Supp. at 37. The court also observed that, if the agency took the action pursuant to a rulemaking provision, the action must be supported by “substantial evidence.” The “substantial evidence” standard, the court explained, “goes to the reasonableness of what the agency did on the basis of the evidence before it[.]” *Id.* at 39 (quoting *United States v. Bianchi & Co.*, 373 U.S. 709, 715 (1963)) (emphasis in original).

Here, as explained above in Part I, the DRBC, invoking Section 5.2 of the Compact, contends that the Proposed Permanent Ban is justified due to certain perceived risks of inadvertent spills and releases from HVHF activities. But, as the technical comments and information that the MSC is submitting in conjunction with these comments demonstrate (see below), there is a wealth of evidence to show that shale gas production activities are safe for water and other environmental resources. The MSC’s technical comments and information also illustrate that Pennsylvania rigorously regulates shale gas production activities in order to, among other things, ensure that environmental resources are protected. The perceived risks of spills and releases, as the DRBC presents them, are therefore illusory or significantly overstated. And, as a corollary, a full, permanent ban on using HVHF to recover gas in the Basin is a disproportionate and non-justifiable means of addressing them. The Proposed Permanent Ban would therefore be arbitrary, capricious, an abuse of discretion, or not supported by substantial evidence.



As separate purported justifications for the Proposed Permanent Ban, the DRBC identifies what it claims are certain undue impacts that HVHF activities have on “Water acquisition,” “Consumptive use,” and “Siting and Landscapes.” See 83 Fed. Reg. at 1587-88 & 1589. As explained above in Part I, however, those topics are specifically addressed by provisions of the Compact *other than* Section 5.2, which is the *sole* provision that the agency invokes in support of the Proposed Permanent Ban. See *id.* at 1590. They are therefore irrelevant in this context.

But even assuming, for argument’s sake, that Section 5.2 dealt with “Water acquisition,” “Consumptive use,” and “Siting and Landscapes,” the DRBC’s approach to these topics is factually misplaced. As the MSC’s technical comments and information demonstrate, shale gas production activities do *not* unduly impact “Water acquisition,” “Consumptive use,” or “Siting and Landscapes” and, in fact, impact those things no more than, and in many respects less than, other business operations that are conducted in the Basin. Because the undue impacts are merely imagined here, the Proposed Permanent Ban would not be justifiable as means of addressing them. It would instead be arbitrary, capricious, an abuse of discretion, or not supported by substantial evidence.

The MSC appreciates your consideration of these comments. If you require any additional information or clarification regarding these comments, please do not hesitate to contact me.





**Delaware River Basin Commission Administrative Manual and Special Regulations
Regarding Natural Gas Development Activities**

Technical Comments of the Marcellus Shale Coalition

Part 440.1 (b) Authority:

The Marcellus Shale Coalition¹ (MSC) refers to the attached legal comments regarding the Delaware River Basin Commission's (DRBC or Commission) statutory and constitutional authority as it relates to the proposed rulemaking.

Part 440.1 (d) Relationship to other DRBC requirements

Given that the proposed regulations are “in addition to all applicable requirements in other Commission regulations, dockets and permits”, the MSC recommends that the Commission reexamine other existing DRBC regulations so that all industries are held to the same standards and requirements. It is arbitrary and capricious to single out one industry for requirements not considered universally essential to protection of the Delaware River Basin watershed. Furthermore, the proposed rulemaking conflicts with other DRBC regulations and policies.

Part 440.1 (f) Coordination and avoidance of duplication

As outlined in this section, the DRBC has Administrative Agreements with each of its member states, including the Commonwealth of Pennsylvania through the Pennsylvania Department of Environmental Protection (PA DEP)². This section states that the Administrative Agreements are intended to coordinate functions and eliminate unnecessary duplication of effort.

Pennsylvania has a comprehensive and robust oversight program of natural gas development in the Commonwealth. The attached introductory letter lays out the significant and numerous updates that Pennsylvania has undertaken since the temporary prohibition on natural gas development was implemented by DRBC in 2010³. The MSC recognizes that the Commission has special regulations defining and managing the Special Protection Waters in the Basin that closely mirror the special protection classifications⁴ of Commonwealth waterways, including within the Delaware River Basin. The MSC finds the proposed rulemaking to be an overstep by the DRBC into territory that its member states have already addressed through regulation and

¹ <http://marcelluscoalition.org/>

² <http://www.state.nj.us/drbc/about/regulations/administrative-agreements.html>

³ June 2010 – DRBC stated intention to finalize drilling rules within six to twelve months:

<http://www.worldoil.com/news/2010/6/15/delaware-river-panel-extends-drilling-ban>

⁴ PA DEP – Statewide Existing Use Classifications:

<http://www.dep.pa.gov/Business/Water/CleanWater/WaterQuality/StreamRedesignations/Pages/Statewide-Existing-Use-Classifications.aspx>

therefore, makes it an attempt to duplicate state resources, which the DRBC explicitly indicates in this section that it seeks to avoid.

440.2 Definitions

The MSC strongly encourages the DRBC to incorporate and utilize existing definitions, particularly those already adopted and recognized by the U.S. Environmental Protection Agency (US EPA). This allows for clarity and consistency among both regulators and the regulated community. The MSC offers the following comments related to specific definitions:

Conservative Substances - The MSC notes that this term is not used within the proposed regulations and is only used in the definition of pollutants of concern which is commented on below. The MSC therefore requests that this definition be deleted.

CWT Waste water – The MSC takes exception to this definition which attempts to single out produced water from the natural gas industry from all other industrial wastewater. Instead, the MSC recommends that the US EPA definition found in 40 CFR 437.2(d), the same source utilized by the Commission as the definition for a centralized wastewater treatment facility, should be utilized:

Centralized waste treatment wastewater means any wastewater generated as a result of CWT activities. CWT wastewater sources may include, but are not limited to, liquid waste receipts, solubilization water, used oil emulsion-breaking wastewater, tanker truck/drum/roll-off box washes, equipment washes, air pollution control scrubber blow-down, laboratory-derived wastewater, on-site landfill wastewaters, and contaminated storm water.

US EPA regulations found at 40 CFR437.d (cc) preclude any water re-used by the natural gas industry, in place of potable or pure water, from the definition of treatment:

(cc)Treatment means any method, technique, or process designed to change the physical, chemical or biological character or composition of any metal-bearing, oily, or organic wastes to neutralize such wastes; to render such wastes amenable to discharge; or to recover energy or recover metal, oil, or organic content from the wastes. **Treatment does not include (a) the re-use of treated or untreated wastewater in place of potable or pure water in industrial processes** such as the use of secondary POTW effluents as non-contact cooling water or storm water in place of process water or (b) the re-use of treated or untreated spent chemicals (such as pickle liquor) as treatment chemicals. (Emphasis added)

Flowback – The MSC notes that this term is not utilized within the proposed regulations other than in the definition of *Produced water* and requests that it be deleted.



Or alternately, the DRBC should use an already established and accepted definition of flowback⁵ such as the one utilized by their sister river basin commission the Susquehanna River Basin Commission (SRBC) as follows:

Flowback – a term used to represent the return flow of water and formation fluids recovered from the wellbore of a hydrocarbon development well (including unconventional gas wells) following the release of pressures induced as part of the hydraulic fracture stimulation of a target geologic formation. These fluids are considered flowback until the well is placed into production.

Fracturing fluid(s) – The MSC notes that this term is not utilized within the proposed regulations other than in the definition of *Hydraulic Fracturing* and *Produced water* and requests that this definition be deleted.

Hydraulic Fracturing – The use of the term *fracturing fluids* should be replaced in this definition with the description “a mixture of water, proppant, and a proportionally minimal amount of chemical additives” so that the definition reads:

“A technique used to stimulate the production of oil and gas from a well by injecting a mixture of water, proppant, and a proportionally minimal amount of chemical additives down the wellbore under pressure to create and maintain induced fractures in the hydrocarbon-bearing rock of the target geologic formation”.

High-volume hydraulic fracturing (HVHF) – The MSC disagrees with the definition found in 440.2 and requests that it be redefined. The Supplementary Information for the proposed rule introduces the term “High Volume Hydraulic Fracturing” (HVHF), and states that this is the term commonly used in the region when referring to hydraulic fracturing “using large volumes of water” (pg. 1587 of the 1/12/18 Federal Register Notice).

To support the statement that so-called HVHF is common terminology in the region, Footnote 2 of the proposed rule is cited which references only the New York State Final Supplemental Generic Environmental Impact Statement⁶ (SGEIS), a state which has no operational experience with so-called HVHF within its borders. The proposed rule then goes on to adopt the SGEIS threshold of 300,000 gallons of water per well to define so-called HVHF in § 440.2. Outside of New York, no other state in the region uses the terminology of “HVHF”, nor an associated 300,000 gallons per well threshold, so it is misleading and inaccurate for the Supplementary Information preamble to this rulemaking to imply that it is a commonly used term or regulatory concept in the region.

Additionally, the MSC objects to the final sentence of the definition “whether the water is fresh or recycled and regardless of the chemicals or other additives mixed in the water” and requests that it be removed. Industry innovation has advanced to the point where typical fluids used in hydraulic

⁵ 18 CFR §806.3 [http://www.srbc.net/policies/docs/Regs_CFR_2015_Title_18_vol2\(4\).PDF](http://www.srbc.net/policies/docs/Regs_CFR_2015_Title_18_vol2(4).PDF)

⁶ New York Department of Environmental Conservation – May 13, 2015 – Final Supplemental Generic Environmental Impact Statement: <https://www.dec.ny.gov/press/101706.html>

fracturing overwhelmingly are composed of water and sand proppant. The “risks” upon which the DRBC is endeavoring to base the proposed regulations do not extend to water and sand in their natural states, and the inclusion of fresh water in this definition tries to introduce a risk of using fresh water for hydraulic fracturing that does not exist.

Person – The MSC notes and objects that the definition in the proposed regulations differs from the accepted definition as found in the US EPA rules⁷ which states: “*an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.*” As above, the MSC supports using an already established and accepted definition of appropriate terminology and the definition in the proposed regulations should be changed accordingly.

Pollutants – Once again, the MSC notes and objects that the definition in the proposed regulations differs from the accepted definition as found in US EPA rules⁸ which states:

“Pollutant means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. This term does not mean (A) “sewage from vessels” within the meaning of section 1322 of this title; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well either used to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources.”

The use of a partial version of this definition by the DRBC, namely the listing of “*dredged spoil, 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, cellar dirt and industrial, municipal, and agricultural waste*” proves that the Commission is well aware of the definition of pollutants and is attempting to re-write federal law in an arbitrary and capricious manner with unlawful additions to the definition and the list of pollutant sources (**as emphasized**) and the deliberate removal of the exemption for the oil and gas industry.

Further, the addition of the final sentence to the definition of *pollutants* is an attempt to bypass the deliberate, scientific process that US EPA and states must utilize to establish water quality criterion. The establishment of a water quality criterion is not simply “bypassing a statute or regulation” to define a substance as a pollutant, but rather entails specific testing of various concentrations of the material on aquatic life in the laboratory. In other words, the establishment of water quality criterion is to be based on sound scientific studies, not manipulation of definitions.

⁷ 40 CFR §122.2 <https://www.law.cornell.edu/cfr/text/40/122.2>

⁸ Ibid

Pollutants of concern – The MSC objects to the use of this term and its proposed definition. While US EPA does not expressly define this term in the Clean Water Act⁹ (CWA), the phrase and concept is introduced when US EPA is required to perform a pass-through analysis in accordance with Section 403.3 of the CWA. This is done to determine if pre-treatment is required as a parameter before a waste stream that may contain certain constituents is sent to a publicly owned wastewater treatment (POTW) facility to prevent interference and or pass-through. A pass-through analysis that meets the requirements of the CWA and its implementing regulations requires US EPA to: (1) identify “pollutants of concern”; (2) evaluate the presence and concentration of those “pollutants of concern” in the industry’s effluent; (3) evaluate the likelihood that these “pollutants of concern” could cause the POTW to exceed its National Pollutant Discharge Elimination System permit limits. Therefore, a “pollutant of concern” is merely “*the pollutant to be potentially regulated by the effluent guideline*” and that should be the only definition in these proposed regulations.

It is important to note for the Commission that transport, treatment and discharge of shale-gas related wastewater from a POTW in the Commonwealth of Pennsylvania is not a practical concern, as the industry voluntarily stopped sending such wastewater to POTW’s in 2011¹⁰ and the practice is now essentially prohibited through updated NPDES permits held by these facilities.

The Commission is attempting to utilize this terminology to misidentify certain parameters as pollutants in this definition by incorrectly referencing Tables C-11, C-13, C-15, C-17 and C-19 from the US EPA *Technical Development Document for Effluent Limitation Guidelines and Standards for the Oil and Gas Extraction Point Source Category (June 2016)* (2016 US EPA TDD) study¹¹. These tables do not identify parameters that US EPA has determined require pre-treatment, but rather list a set of parameters that *may be* in unconventional oil and gas waters.

As will be discussed further in the comments below, relying on the 2016 US EPA TDD, a document that the US EPA has agreed it needs to reconsider since it was developed in error, is not sound development of regulations. Despite circumventing the question of “pollutants of concern,” the 2016 US EPA TDD study attempted, but ultimately failed, to characterize pollutants in unconventional oil and gas waters. Specific reference of “Concentrations of Select Constituents” of roughly 75 individual constituents are listed in the 2016 US EPA TDD in

⁹ 33 U.S.C. §1251 et seq. <https://www.epa.gov/laws-regulations/summary-clean-water-act>

¹⁰ PA DEP asks drillers to stop disposing wastewater at plants – Pittsburgh Post Gazette (April 20, 2011) <http://www.post-gazette.com/news/state/2011/04/20/DEP-asks-drillers-to-stop-disposing-wastewater-at-plants/stories/201104200167>

¹¹

<https://nepis.epa.gov/Exe/ZyNET.exe/P100QWKW.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5Cindex%20Data%5C11thru15%5Ctxt%5C00000020%5CP100QWKW.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeeKPage=x&ZyPURL>



Tables C-11, C-13, C-15, C-17 and C-19. Of note, US EPA's analysis ultimately did not identify a single one of those as a specific pollutant of concern. Therefore, the proposed definition for *Pollutants of concern* in section 440.2 is misleading when it includes in the definition "pollutants of concern" for produced waters listed in the above tables, as there are none.

Further, as previously stated, DRBC should recognize that industry innovation has developed to the point where typical fluids used for hydraulic fracturing overwhelmingly are composed of water and sand proppant. For these reasons the DRBC should remove all reference of *pollutants of concern* from the proposed rulemaking and remove the reference to Tables C-11, C-13, C-15, C-17 and C-19 in the proposed rulemaking, as well as any other policy in the proposed rulemaking that may be based on the 2016 US EPA TDD study.

Produced water – The MSC objects to this definition as unnecessary on the basis that *produced water* already has an established and accepted definition. The DRBC should use the following definition of *production fluids*¹² that is utilized by the SRBC, in lieu of "produced water":

Production Fluids- A term used by the Commission to represent the return flow of water or formation fluids recovered at the wellhead after the well is placed into production. This term is synonymous with produced water.

The additions that DRBC attempts to make to this definition are unnecessary as the types of fluids that are included are already encompassed by the *production fluids* or *flowback* definitions.

The Supplementary Information¹³ for this rulemaking states that the rulemaking addresses "produced water from hydraulic fracturing" but the proposed definition of "produced water" at § 440.2 is not only limited to produced water from hydraulic fracturing; it includes all water from any oil or gas well regardless of whether hydraulic fracturing was used in that well's development. Similarly, none of the substantive provisions addressing "produced water" are limited to only produced water from hydraulic fracturing (e.g. see §§ 401.35(b)(18), 440.5(b) – (g); and definition of "CWT Wastewater" at § 440.2). (Emphasis added).

Wastewater treatment facility – The MSC objects to this definition as being too broad in scope. PA DEP defines an *Industrial wastewater treatment system* in its regulations¹⁴ as "any system that treats industrial waste or pollution, but not sewage, as those terms are defined in section 1 of The Clean Streams Law (35 P. S. § 691.1)." The use of wastewater treatment system in the proposed regulations should be limited to "Industrial wastewater treatment systems" as defined in the example above.

Water Resources – The MSC objects to this definition as unmistakably false and an overreach in regulatory authority by the Commission. As written, the definition includes everything that lies

¹² 18 CFR §806.3 [http://www.srbc.net/policies/docs/Regs_CFR_2015_Title_18_vol2\(4\).PDF](http://www.srbc.net/policies/docs/Regs_CFR_2015_Title_18_vol2(4).PDF)

¹³ *Federal Register* – January 12, 2018: <https://www.gpo.gov/fdsys/pkg/FR-2018-01-12/pdf/2018-00344.pdf> (pg. 1586)

¹⁴ 25 Pa Code Chapter 302: <https://www.pacode.com/secure/data/025/chapter302/chap302toc.html>

within the hydrologic boundary of the Delaware River Basin: air, water, and land which clearly are not all “water resources”.

With limited exception to water withdrawals and usage, activities related to natural gas development are not activities "for the conservation, utilization, control, development or management of water resources" that are within the purview of the Commission under the Compact. That is, the purpose or aim of the activities is not conserving, utilizing, controlling, developing or managing a water resource. The purpose or aim of developing a well pad site and drilling a natural gas well is to explore for or extract natural gas reserves. The land involved is not a natural resource related to water, nor is it a resource that is subject to beneficial use, ownership or control. See Black's Law Dictionary, 9th ed., at p. 1681 which defines beneficial use as "[t]he right to use property and all that makes that property desirable or habitable, such as light, air, and access, even if someone else owns the legal title to the property."

The Compact does not authorize DRBC to act as a land development agency, and the proposal of this definition to include “related uses of land” is a blatant overreach. As such, DRBC must defer to the regulatory authority of its member states for standards concerning land use and air resources, and instead should focus on the water-related issues associated with natural gas development that DRBC has authorization to address.

Consequently, the MSC recommends that the definition for *Water Resources* be rewritten as follows:

“...water that is in, on, or underground within the hydrologic boundary of the Delaware River Basin.”

440.3 High Volume Hydraulic Fracturing (HVHF)

First, the MSC reiterates its objection to this terminology as mentioned in the definitions Section 440.2 above.

The proposed regulation, presumably suggested by the state of New York that would limit water volumes available to be used for the completion of a well to 300,000 gallons, is arbitrary and capricious. This proposed volume limitation is either a direct attempt to make natural gas development uneconomical or an indication of the lack of understanding of potential impacts to the water resources and how to regulate them. It is also counter-productive and counter-intuitive to minimizing impact. While longer laterals may equate to greater water usage at the well head, they also mean significant reduction in the number of well pads (less land development) to recover greater volumes of gas. As such, longer laterals should be championed by the Commission and arbitrary limits on water usage eliminated.

Natural gas pads generally are located away from surface water resources and therefore are often disconnected from their most likely sources of water. Thus, the amount of water consumptively used on the well pad is irrelevant. Rather, it is the withdrawal of water that should be appropriately regulated. The only actual use of data in regard to Consumptive Use volumes is

for comparison purposes with other users and for overall management of the resource. That said and comparatively speaking, the natural gas industry likely would use far-less than most other users and industries currently using water in the Delaware River Basin. Thus, proper management of the withdrawal through flow analysis, cumulative impact studies, pass-by flow determinations, in-stream flow need assessments and long-range planning are what is needed to protect the resources of the basin. Arbitrary limitations of water usage on the well pad has only one effect – to make gas development economically unviable.

The proposed regulations at § 440.3(b) would prohibit supposed-HVHF within the basin, presumably based on the DRBC's determination at § 440.3(a) that so-called HVHF poses significant, immediate and long-term risks; however, other proposed regulatory provisions would apply to hydraulic fracturing (HF) at any volume with no corresponding DRBC risk determination to justify those lower volume HF restrictions and requirements. Though the MSC strongly disagrees with DRBC's "determination" and assertion that supposed-HVHF poses significant risks, since those HVHF-related risks are the only perceived risks even postulated in this rulemaking (i.e. at § 440.3(a)), then the proposed provisions throughout these regulations should be applicable only to HVHF-related activities and associated waters and not extended to lower volume HF activities and waters, nor to oil and gas wells that do not use HF technologies.

The MSC objects to the proposed ban on supposed-HVHF outlined in 440.3 (b) and objects to the reasoning and literature that was used to develop the "totality of risk" approach to "effectuate the Comprehensive Plan" that the Commission is attempting to utilize as justification. Through the Supplemental Information, the MSC outlines its objections to the studies cited by the DRBC and the misunderstanding and inconsistencies that the Commission employs based on the studies referenced.

In general, the MSC finds that the Commission relied on outdated reports and studies that were written at the advent of the natural gas shale revolution and ignored more recent studies and proven data that provide factual and reliable information based on more than a decade of development activity. It has become clear over time that many of the outdated reports relied upon by the DRBC were speculative in nature and, as such, had no basis on practical development experience.

Delaware River Basin Commission entitled "*DRBC Comprehensive Plan*" (July 2001)

The DRBC Comprehensive Plan¹⁵ explains that its scope "*is intended to describe the general characteristics of river basin development which the (DRBC) finds to be in public interest... It provides only a flexible, growing, and evolving general framework for the orderly development of the water and related resources of the basin.*" The ban of any activity does not fit the "flexible and evolving framework" description. Any regulations created should be flexible enough to contemplate future advancements promoting responsible energy development and effective water management. The scope of the Comprehensive Plan is further described as containing four requirements for projects and proposals to conform to the plan:

¹⁵ Delaware River Basin Commission Comprehensive Plan:
http://www.nj.gov/drbc/library/documents/comprehensive_plan.pdf

1. Provide beneficial development of the water resources in a given locality or region;
2. Be economically and physically feasible;
3. Conform with accepted public policy; and
4. Not adversely influence the development of the water resources of the basin.

United States Environmental Protection Agency (US EPA) entitled “*Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (EPA-600-16-236)*” (2016)

The Supplementary Information provided as part of the DRBC’s *Proposed Amendments to the Administrative Manual and Special Regulations Regarding Natural Gas Development Activities* relies heavily on a 2016 report prepared by the United States Environmental Protection Agency (US EPA) entitled *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (EPA-600-R-16-236)* (US EPA report). Due to the increased use of hydraulic fracturing technology and directional/horizontal drilling, which facilitates the economical and efficient development of previously inaccessible oil and gas bearing formations, US EPA commissioned the study to determine the mechanisms by which hydraulic fracturing activity could impact drinking water resources.

With regard to the US EPA report, the DRBC was concerned primarily with the potential impacts of hydraulic fracturing on the quantity and quality of drinking water supplies and the potential impact of chemical spills from hydraulic fracturing operations on drinking water quality.

While the DRBC focused primarily on the mechanisms by which hydraulic fracturing *could potentially* impact water resources, it failed to note specific evidence contained within the US EPA report that demonstrated both the rarity of impacts and low severity of impacts that have actually occurred. For a sense of scale, approximately 25,000 to 35,000 wells were hydraulically fractured in the United States between 2011 and 2014. After reviewing over 3,000 sources of information over six years, with multiple public engagements and outside technical reviews, the US EPA was not able to determine that hydraulic fracturing had caused widespread or systemic impacts to drinking water supplies in the United States – let alone *any* impacts to drinking water supplies. Nearly 8,000 of these wells were located in the Commonwealth of Pennsylvania, yet to the MSC’s knowledge, the DRBC failed to rely upon any of this experience to inform its seemingly foregone conclusion to prohibit so-called HVHF.

The US EPA found that water withdrawals for hydraulic fracturing generally accounted for less than 1% of total water use at the county level. Experience in Pennsylvania shows that in many cases nearly 90% - or more – of the flowback and produced water recovered from unconventional shale gas development is recycled and reused in subsequent wells.

Furthermore, US EPA found that impacts *may* only result from *the combination of high water consumption and low water availability at local scales*. US EPA cited specific instances in Texas where the combination of high-volume water withdrawals (not just for hydraulic fracturing) combined with low water availability during drought resulted in reduced water

quantity. Even in these instances, water quantity was still sufficient to meet demand. In contrast to west Texas, it is important to point out that eastern Pennsylvania is blessed with an abundant water supply. As specifically noted in the US EPA report regarding the Susquehanna River Basin, evidence suggests that current water management strategies protect streams from depletion, and multiple studies have shown that hydraulic fracturing has had minimal impact on drinking water resources in the Susquehanna River Basin. In addition to the water supply availability authority of both SRBC and DRBC, any water withdrawals associated with unconventional natural gas development also is subject to oversight by PA DEP through the submittal, review and approval of water management plans.

Similarly, when citing the US EPA's conclusion on potential impacts from the chemical mixing stage of the hydraulic fracturing water cycle, the DRBC emphasized the potential for impacts but failed to present any empirical evidence. Indeed, spills of chemicals associated with hydraulic fracturing have occurred in some states, including Pennsylvania. However, as stated in the US EPA report referencing studies of spills in Pennsylvania (Brantley, 2014 and Considine, 2012), less than ten spills of hydraulic fracturing additives that were greater than 400 gallons reached surface water. In its own assessment of 151 spills in 11 states, US EPA found only 9% impacted surface water and 64% impacted soil¹⁶. None of the 151 spills were reported to have impacted groundwater. This data suggests that spills at well pads are acute in nature, and they are identified and addressed quickly.

The DRBC also fails to consider spill volumes and existing reporting requirements. In Pennsylvania, for example, even small spills (less than five gallons) that occur on secondary containment and never reach the natural environment, are required to be reported and thus are included in state-level spill reporting databases, which are the source-data for nearly all state and federal studies. States with robust regulation and reporting requirements, such as Pennsylvania, will record a greater number of spills, even though the vast majority of those spills never enter the natural environment, let alone drinking water resources.

The evidence presented in the US EPA study suggests that despite the development of tens of thousands of hydraulically fractured wells across the United States in the last decade, a combination of technological advances, existing state and federal regulation, and strict compliance by operators has been sufficient to protect and preserve drinking water resources. While impacts are possible, very few of significance have occurred relative to any other industrial enterprise.

Simply stated, hydraulic fracturing does not present a systemic threat to drinking water resources in the Delaware River Basin.

¹⁶ U.S. EPA Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources – June 2015 – https://www.epa.gov/sites/production/files/2015-07/documents/hf_es_erd_jun2015.pdf

US EPA entitled: “*Review of State and Industry Spill Data: Characterization of Hydraulic Fracturing-Related Spills*” (May 2015)

In any construction or industrial activity, there is a potential for spills of materials that are taken to a site. As such, states already have well-developed regulations and policies in place to govern the reporting and cleanup of spills.

The New York State Department of Environmental Conservation (NYSDEC) reports that the New York State Spill Hotline receives approximately 16,000 reports annually. Most of these reports are for releases of small quantities that are often cleaned-up quickly. Note the 16,000 spills, on average, are not from the unconventional natural gas industry since there is no unconventional activity in the state of New York. Pennsylvania similarly has a robust spill reporting and remediation program and requires any spills and releases that exceed minimal thresholds (five gallons) to be reported and remediated in accordance with regulations that recently were updated in October 2016¹⁷.

In addition to robust reporting and cleanup standards, the natural gas industry has embraced the use of secondary containment. Secondary containment includes the use of liners on well pads while active drilling and completions is occurring in order to keep any spill from reaching the natural pad surface. Secondary containment also is used around features on a well pad that may contain regulated substances, such as the produced water tanks, to further prevent release of substances so that they do not reach the natural pad surface.

Another requirement of the federal and state regulations is pre-planning for the response to spills, commonly call Preparedness, Prevention, and Control plans (PPC or SPPC) plans. These are documents that contain information on how to limit the breadth and severity of a spill should one occur. In addition, the state regulatory programs have self-inspection requirements to ensure the integrity of the storage vessels and the secondary containment that is on the site, all of which also are subject to state inspections of the well pad sites.

The Compact Signatory states, particularly Pennsylvania¹⁸, already have robust regulatory policies designed to minimize the risk of spills, enhance spill reporting, and ensure quick and efficient remediation of spills to background or specific health and safety-based standards. The Commission’s concerns over spills outlined in the “Chemical use” section of the Supplementary Information are exaggerated.

Susquehanna River Basin Commission entitled: “*Water Use Associated with Natural Gas Shale Development: An Assessment of Activities Managed by the Susquehanna River Basin Commission July 2008 through December 2013*” (Publication No. 299, April 2016)

¹⁷ *Pennsylvania Bulletin* – October 8, 2016: <https://www.pabulletin.com/secure/data/vol46/46-41/1757.html>

¹⁸ 58 Pa.C.S. Chapter 32:

<http://www.legis.state.pa.us/cfdocs/legis/LI/consCheck.cfm?txtType=HTM&tli=58&div=0&chpt=32> &

25 Pa Code Chapter 78a: <https://www.pacode.com/secure/data/025/chapter78a/chap78atoc.html>



The DRBC states the following in the Supplementary Information released with the proposed regulations (**emphasis added**):

“Withdrawals of surface water 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 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 Comprehensive Plan, particularly during periods of low precipitation or drought.”

In the Supplementary Information, the DRBC also alludes to possible water usage amounts by the natural gas industry in sections titled “Water acquisition” and “Consumptive use” and incorporates reference to the SRBC natural gas water usage report¹⁹. However, the DRBC failed to mention other points made in that very same report that would assuage any uncertainties and allay the concerns raised.

Drought management is stated by the DRBC as a concern for water usage by the natural gas industry, but it is unfounded. Drought management can be achieved through proper regulation vis-à-vis withdrawals by all regulated industries during low-flow conditions by instituting pass-by flow amounts within approved dockets as well as prioritizing users such as health and public safety users. Furthermore, the location of the basin in the Northeast portion of the United States is one of the most water rich areas in the country. Indeed, the neighboring SRBC indicated in its 2016 report²⁰ on natural gas water usage that, “Generally the quantity of the [Susquehanna River] Basin’s water resources are sufficient in magnitude to accommodate the water demands of the industry concurrently with other water users.”

Additionally, the same SRBC report states, “It is also important to note that the number of surface water and groundwater withdrawal available for use during any calendar year were considerable higher than the number of withdrawal sites actually used to support the natural gas development activities.” With advanced drought planning, the DRBC could limit the number of approved source locations, promote water sharing, and promote main stem withdrawals that would be more sustainable than withdrawal locations in headwater streams.

Moreover, consumptive water usage in the Delaware River Basin is very likely to be significantly less than that of the Susquehanna River Basin, purely by way of ratio; there is substantially more land underlain by the Marcellus and Utica shale formations in positions that

¹⁹ Susquehanna River Basin Commission – Water Use Associated with Natural Gas Shale Development: An Assessment of Activities Managed by the Susquehanna River Basin Commission July 2008 through December 2013 (published April 2016):
http://www.srbc.net/pubinfo/techdocs/NaturalGasReport/docs/SRBC_Full_Gas_Report_fs306397v1_20160408.pdf

²⁰ *Ibid* (pg. 68)

can produce economically viable quantities of natural gas in the Susquehanna Basin than exist in the Delaware Basin²¹.

It is important to note that updated data on water usage in the table below shows that water usage in the Susquehanna River Basin peaked in 2014 at 12.2 million gallons a day. The volume has declined over the last several years to 4.9 million gallons a day in 2016. This is due to a number of reasons including global and local economics, water saving strategies, increased use of recycled produced water, and other industry trends and innovations. Demand for fresh water is likely to continue to decline as more companies employ advanced technologies and utilize more recycled produced water.

Water Usage Data in the SRBC Updated through 2016:

Natural Gas Industry - Down Hole Totals - Water Usage in the SRB (Susquehanna River Basin)					
Year	Number of Wells Completed in the SRB	Average Daily Total Water Volume (Fresh Water and Recycled Water Combined) Injected in Gallons per Day (MGD)	Average Daily Fresh Water Injected Gallons Per Day	Average Daily Recycled Water Injected Gallons Per Day	Percent of Recycled Water Used
2008	10	48,264	48,264	0	0.00%
2009	147	1,413,408	1,323,122	148,695	10.52%
2010	450	5,169,275	4,737,175	515,392	9.97%
2011	794	9,902,300	8,531,905	1,364,079	13.78%
2012	836	9,343,176	7,784,011	1,761,723	18.86%
2013	623	9,482,865	7,328,767	2,046,575	21.58%
2014	632	12,295,890	9,871,233	2,432,877	19.79%
2015	285	5,463,014	4,202,740	1,156,164	21.16%
2016	209	4,915,068	3,909,589	1,054,795	21.46%

Data Source: Table 7 SRBC Assessment Document for data 2008-2012, SRBC provided current data for 2013 through 2016 via email.

Furthermore, in the adjacent watershed of the Susquehanna River, experience has demonstrated that “high volume use” does not equate to an impact in a stream system. All of the potential impacts listed as concerns by DRBC, in the referenced quote (“*Withdrawals of surface water 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 stream’s capacity to assimilate pollutants*”) and throughout the 22-page Supplementary Information document, can be addressed through proper regulations similar to those that the SRBC and PA DEP have utilized to regulate natural gas industry water usage. Below are a few of the examples of SRBC steps taken to ensure protection of water supplies:

²¹ <http://marcelluscoalition.org/pa-map/>

- Reduced the term of the approval for NGI withdrawals from 15 to 5 years. This allowed for the SRBC to closely monitor the withdrawal using their Remote Water Quality Monitoring Network (RWQMN) and performing Aquatic Resource Surveys (ARS) at each surface water withdrawal location on a routine basis and at the start of or renewal of any approved project.
- Implemented the SRBC Low Flow Protection Policy; 70% of all withdrawals had conditional approvals (pass-by flow guidance)
- Required monitoring and reporting of water withdrawal amounts
- Performed Cumulative Impact Analysis on every withdrawal
- Incentivized withdrawals from lower quality and main stem river sources
- Encouraged sharing of water withdrawal locations
- Protected the Headwater Streams with the “One Gallon Rule”
- Performed Availability Analysis throughout the basin
- Encouraged recycling of produced waters

The SRBC, in following their own Compact, are not allowed to approve any withdrawal that has a negative impact on the environment of other users. Thus, to ensure that there were no negative impacts to the environment as a result of natural gas industry development, the SRBC took several important steps to adjust their regulations and verified that conditional approvals were not causing any negative impacts to the environment or other users.

The SRBC considers all water used by the industry to be consumptively used, not just amounts above an arbitrary threshold number; thus, all water is considered to be consumptively used at the point of withdrawal. The “One Gallon Rule” alleviated the following concerns:

- Multiple withdrawals beneath regulatory thresholds
- Protection of headwaters
- Addresses cumulative impacts
- Allows SRBC to review every Natural Gas Project and condition or deny as needed
- Promotes large scale and long-term planning

One of the most significant adaptations of SRBC’s policies for the natural gas industry was the reduction of a water withdrawal approval from 15 years to 5 years. The decreased approval time to five years allowed SRBC staff to collect more data in shorter time durations to ensure that no impacts were occurring at withdrawal sites. The SRBC performed 177 ARS between 2010 and 2017. In 100% of the monitored withdrawal sites, zero impacts to aquatic life and habitat were found, as evidenced by the ARS scores. To date, the SRBC monitoring programs have not detected discernable impacts to the quality of the Basin’s water resources as a result of natural gas development.

The 2016 SRBC report on water usage by the natural gas industry states,

“The primary competition for water resources associated with the industry has occurred not between the industry and other human water needs, but between the industry and the natural aquatic ecosystems...the industry’s presence in these headwater settings raised

concerns related to the delicate balance between water and availability. The SRBC undertook incremental policy and regulatory adaptations to successfully address the potential for conflict between the natural gas industry and the local aquatic ecosystems for the protection of sensitive habitats and the [Susquehanna River] Basin's finite water resources.”²²

This quote demonstrates that concerns do not equal impact, and sound regulations can be employed successfully in order to manage the natural gas industry's water usage. By way of further example, 70% of all approved surface water withdrawals within the Susquehanna River Basin had low flow protection conditions and pass-by flow requirements applied to the approvals to ensure protection of downstream users and the environment.

It also is important to note that the well pad where the water is used is often disconnected from where the water was withdrawn. Thus, the actual “instantaneous volume” of water used to hydraulically fracture a well may have no effect on the water sources from where it was withdrawn. Operators may elect to withdraw water from sources over a period of time and subsequently store it until it is needed. The 2016 SRBC report explains this succinctly by stating, “Concerns related to the impacts of water sources are focused on the timing and location of the withdrawals and are adequately addressed by the low flow protection measures and other protective operating conditions²³.” In other words, the resources can be properly managed to avoid any impacts to streams by simply employing a basic understanding of the actual water use of the industry.

Lastly, the only potential purpose in discussing consumptive use volumes is to compare various water users. The natural gas industry consumptively uses far-less water than other water users in the Susquehanna River Basin, and it there is no reason believe it to be different within the Delaware River Basin. For example, recent data for the Susquehanna River Basin shows that manufacturing-related industries consumptively utilized 8.6 million gallons a day, while entertainment and recreation docket (amusement parks, golf courses, and ski areas) utilized 6.2 million gallons a day, both categories of which use more than the natural gas industry.

United State Environmental Protection Agency entitled: “US EPA TGD for Effluent Limitation Guidelines and Standards for the Oil and Gas Point Source Category”

The MSC references the July 17, 2015 American Petroleum Institute (API) comments on the development of the *US EPA Technical Development Document for Effluent Limitation Guidelines and Standards for the Oil and Gas Extraction Point Source Category* (US EPA TDD 2016), which also is cited by the DRBC and relied upon for this proposed rulemaking. The following points have been taken from the API comment letter.

²² Susquehanna River Basin Commission – Water Use Associated with Natural Gas Shale Development: An Assessment of Activities Managed by the Susquehanna River Basin Commission July 2008 through December 2013 (published April 2016):

http://www.srbc.net/pubinfo/techdocs/NaturalGasReport/docs/SRBC_Full_Gas_Report_fs306397v1_20160408.pdf (pg. 67)

²³ Ibid (pg. 68)

In order to promulgate effluent limit guidelines (ELGs) and pretreatment standards, US EPA must follow a process that is mandated by the CWA, the accompanying implementing regulations, and the precedent established in numerous preceding ELGs and pretreatment standards. The CWA and those regulations also provide the context for the ELG and pretreatment programs, their structure, and the types of discharges they seek to avoid. In order to fully explain the manner in which the analysis underlying the ELG rule failed to meet these requirements, the API comment letter provides an overview of the ELG program, an explanation of the requirements to promulgate ELGs, and the ways US EPA failed to meet those requirements.

The pretreatment program is designed not to simply adopt the limits of the NPDES program but to identify the level of treatment that will allow POTWs providing secondary treatment to avoid pass-through and interference. Categorical pretreatment standards are further designed to set uniform limits on industry categories that have some uniformity of effluent and effluent treatment. Importantly, US EPA can only promulgate categorical pretreatment standards through an evaluation of the likelihood of pass-through and interference.

A pass-through analysis that meets the requirements of the CWA and its implementing regulations requires US EPA to: 1. identify pollutants of concern; 2. evaluate the presence and concentration of those pollutants of concern in the industry's effluent; and 3. evaluate the likelihood that these pollutants of concern could cause the POTW to exceed its NPDES permit limits; and, if pass-through or interference are expected to occur, compare the removal capability of the discharging industry to the removal capability of a "well-operated" POTW. ***It is important to note that a pollutant of concern merely refers to the water quality parameter, or pollutant, that potentially would be regulated by the effluent guideline.***

The evaluation starts with the identification of a pollutant or pollutants of concern. US EPA did not identify any specific pollutants of concern. US EPA also must characterize the presence of pollutants in the effluent of the industry to be regulated. While the ELG rule discussed types of pollutants in produced water, US EPA acknowledged the exceptional limitations of its data and that pollutant levels in produced water in different basins (and within the same basin) were too variable to allow for a single characterization of produced water.

The inability to identify a pollutant of concern or characterize pollutants in produced waters undermined US EPA's ability to evaluate the likelihood that some unidentified pollutant would pass through or interfere with a POTW. Even though the ELG rule did not identify total dissolved solids (TDS) as a pollutant of concern, US EPA evaluated the likelihood that TDS would pass through or interfere with POTWs.

TDS, however, is not a pollutant but rather a "non-conventional bulk parameter." Regulation of a parameter requires, at a minimum, some identification of the pollutant for which the parameter is serving as a proxy, but the proposed DRBC rule provides none. Further, because TDS is not a pollutant, there is no applicable water quality standard or criteria by which pass-through and interference can be evaluated.

All of these prerequisites were overlooked, as the ELG rule simply noted that zero-

discharge is 100% effective at removing TDS, and the conclusion that any other technology allowing TDS to pass-through must surely be less than 100% effective, is inherently flawed. Indeed, the CWA and its implementing regulations do not allow such an analysis. Pass-through and interference are evaluated through comparison of discharging industries and well-operated POTWs performing secondary treatment. US EPA either impermissibly shorthanded these inquiries or skipped them altogether.

The pretreatment ELGs for unconventional oil and gas wells is impermissible under the CWA and its implementing regulations. US EPA either ignored or overlooked mandatory prerequisites to promulgating pretreatment standards, and instead opted for a pretreatment ban that conflicts with the CWA.

In addition to having been improperly developed, and therefore legally questionable, the ELG standards create substantial uncertainty, remove critical incentives to beneficially reuse produced waters, and potentially overstep the confines of a unconventional oil and gas pretreatment standard.

Industry chose to challenge the US EPA on the ELG rule because, despite the title indicated otherwise, it did not set effluent limit guidelines or treatment standards for the industry to meet. Rather, it banned the further treatment of pre-treated produced water at POTWs, which the unconventional shale gas development industry already had voluntarily ceased in 2011. Setting aside this voluntary action in one jurisdiction, an outright ban ultimately prevents the development of new technologies to treat water and stifles innovation.

US EPA essentially crafted a rule to protect against exceedances of water quality standards that do not exist. The remedy is clear: US EPA must first establish water quality criteria for TDS and chlorides, but US EPA has not done so.

The industry also challenged the rule because it was developed without observance of the analytical requirements for the development of ELGs and pretreatment standards that are outlined in the CWA and its implementing regulations. Overlooking these statutory and analytical requirements is not a matter of harmless error.

The 3rd Circuit remanded this rule to the US EPA for reconsideration. In a January 4, 2018, letter to various industry trade organizations, US EPA states that, “the US EPA had requested [the remand] in order to consider any additional evidence relevant to the unconventional oil and gas rule, develop the record, and take any follow-up action as appropriate, including providing the public notice and an opportunity to comment as appropriate.”

Relying on a document that the US EPA has admitted needs to be revised, as it was developed with the errors outlined above, is not a sound basis for the development of regulations. For the reasons discussed above, the DRBC should remove all reference of pollutants of concern and all references to Tables C-11, C-13, C-15, C-17 and C-19 from the 2016 US EPA TDD in this rulemaking as well any other policy espoused in this rulemaking that is based on the US EPA TDD 2016 (e.g. the WET effluent testing requirements).



Despite circumventing the question of “pollutants of concern,” the US EPA TDD 2016 attempted, but ultimately failed, to characterize the pollutants in unconventional oil and gas waters. Specific reference of “Concentrations of Select Constituents” of roughly 75 individual constituents are listed in the US EPA TDD 2016 in Tables C-11, C-13, C-15, C-17 and C-19. US EPA’s analysis ultimately did not identify a single one of those as a specific pollutant of concern. Therefore, the proposed definition for *Pollutants of concern* in 440.2 is misleading when it includes in the definition all pollutants for produced waters listed in the above tables; there are none.

Further, DRBC should recognize that industry innovation has advanced to the point where typical fracturing fluids overwhelmingly are composed of water and sand²⁴. DRBC should remove the reference of these tables from the definition of pollutants of concern.

New York State Department of Environmental Conservation entitled “*Final Supplemental Generic Environmental Impact Statement (SGEIS) 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 Reservoirs*” (June 2015)

The 2015 New York Final SGEIS, which DRBC heavily relied upon and referenced for this proposed rulemaking, is well-known to have been influenced by politics and not science. As such, it should not be used as a scientific study upon which to base the development of new regulations.

The MSC rejects the 2015 New York Final SGEIS methodology and its conclusions and believes it inappropriate for use by the DRBC. Overall, the process used by the New York State Department of Health (NYSDOH) did not take into account how the SGEIS itself would have reduced and eliminated potential exposures. These factors would have put the data into context, recognized the limitations of the studies reviewed, which possibly would have led to a different conclusion. Furthermore, regardless of the failings of NYSDOH review, the review is dated and should not be a primary resource for the DRBC in its decision making.

The MSC also notes that the DRBC either failed to review or chose to ignore sources of additional information and findings regarding the activities of the unconventional natural gas industry. The MSC submits to the DRBC a comprehensive list of sources in Appendix B of this comment letter and expound on a few key reports that the Commission apparently failed to review since they were not mentioned in the Supplementary Information as part of this proposed rulemaking.

Susquehanna River Basin Commission entitled: “*Continuous Water Quality Trends Adjusted for Seasonality and Streamflow in the Susquehanna River Basin*” (Publication No. 312, December 2016)

²⁴ U.S. EPA: Analysis of Hydraulic Fracturing Fluid Data from the FracFocus Chemical Disclosure Registry 1.0: https://www.epa.gov/sites/production/files/2015-03/documents/fracfocuss_analysis_report_and_appendices_final_032015_508_0.pdf

A description of the Susquehanna River Basin Commission (SRBC) Remote Water Quality Monitoring Network is readily available on the SRBC website.²⁵

SRBC initiated the establishment of the Remote Water Quality Monitoring Network (RWQMN) in January 2010. This monitoring network continuously measures and reports water quality conditions of smaller rivers and streams located in northern tier Pennsylvania and southern tier New York. The data helps agency officials track existing water quality conditions and any changes in them on an ongoing, real-time basis. One of the six primary objectives of the RWQMN is “to verify whether or not the natural gas industry and/or other activities with the potential to cause pollution incidents are causing adverse impacts to local water quality.” The stations are operating in areas where drilling for natural gas is most active, as well as other locations where no drilling activities are planned as a means for SRBC to collect control-data.

The monitoring network provides constant data collection with instruments sensitive enough to detect subtle changes in water quality on a frequency that allows background conditions, and any changes to them, to be documented throughout the year. The following five water quality parameters are being measured at each station:

- Temperature
- pH – the measure of acidity or alkalinity, with normal ranges between 6 and 9
- Conductance – the ability of the water to conduct electricity, which typically reflects the amount of dissolved solids or chlorides in the water
- Dissolved oxygen – amount of oxygen in the water available to aquatic life, with levels best above 4-5 mg/L
- Turbidity – water clarity, or the amount of particulate matter in the water column

Data from the RWQMN is available in real-time and SRBC produces data reports on a regular basis. The latest data report is entitled “*Continuous Water Quality Trends in the Susquehanna River Basin- December 2016.*”²⁶ The report indicates that at the conclusion of 2015, six years after the monitoring began, SRBC had sufficient data to conduct a preliminary trend analysis. While SRBC found an increase in specific conductance over the time period, the change did not correlate with the presence of natural gas wells since the increase also was found in watersheds without natural gas development.

SRBC also found that there was no significant change to the aquatic biological community in the monitored streams. The water quality and biological monitoring network established in New York and Pennsylvania, which is scientifically and specifically designed to monitor for any impact to surface waters by the natural gas industry, has not detected any discernible impacts as a result of natural gas development.

ALL Consulting, LLC entitled “*Analysis of Delaware River Basin Commission Proposed Natural Gas Development Regulations*” (April 12, 2011)

²⁵ <http://mdw.srbc.net/remotewaterquality/>

²⁶ <http://mdw.srbc.net/remotewaterquality/reports.htm>

ALL Consulting, LLC entitled “*Response to Key Technical Issues Requested by the Delaware River Basin Commission in its Proposed New 18 CFR Part 440 Review*” (March 2018)

The MSC references and incorporates the findings of the *Analysis of Delaware River Basin Commission Proposed Natural Gas Development Regulations*, April 12, 2011 prepared by ALL Consulting, LLC (the ALL Report). In summary, the ALL Report concludes as follows:

- The land footprint for natural gas development – at maximum full development – is relatively minor compared to other land uses. For example, the footprint for natural gas development would be less than the footprint for golf courses in the Basin, and 50 times less than the footprint for homes in the Basin.
- The potential consumptive water use requirements for natural gas development at full build-out, compared to other water uses within the Basin, is relatively minor. For example, nuclear power uses more than 10 times the amount of water that would be used for natural gas development; golf course maintenance uses more than 20 times the amount; and thermoelectric power generation and agriculture use more than 45 times the amount.

The ALL Report also includes a comprehensive bibliography of technical resources that address many of the issues raised in comments to the DRBC regarding shale gas development in the Delaware River Basin.

With the recently submitted API comment letter for the proposed regulations, a second ALL Report entitled “*Response to Key Technical Issues Requested by the Delaware River Basin Commission in its Proposed New 18 CFR Part 440 Review*” (ALL Report 2018) builds on work carried forward by ALL in its previous report to the DRBC (April 12, 2011). The new report includes detailed information on the following topics:

- Impacts on water and land use comparing reasonably foreseeable development levels versus no development; potential impacts on water resource availability and potential use compared to other sectors; and water quality concerns, including special protection waters and industry’s focus on protecting water quality through advances in containment and countermeasures;
- Analysis of the economics that could benefit the region with an anticipated annual rate of development, including the number of jobs (direct and indirect), wages, income projected from lease and royalty payments, and revenues from taxes;
- Real risks associated with altering landscapes and supposed disturbances to the drainage areas of special protection waters; and
- Rigorous review of the current and future produced water technologies, including successes across the United States.

Well Drilling and Construction

The MSC again finds the Commission’s concerns in the Supplementary Information exaggerated and unsubstantiated. Industry has developed techniques for improving well drilling, cementing, and casing to protect freshwater sources, restrict fluids to the intended zone, and enable efficient hydrocarbon production. The primary means of ensuring that underground sources of drinking water are protected is by carefully casing the well with a steel pipe and cementing it into place to create a tight seal. Several redundant layers of steel casings and cement sheaths are installed sequentially in order to provide multiple layers of protection. After installation, the cement is tested to evaluate its strength and the seal.

440.5 Produced Water

The *PA DEP Fact Sheet on Marcellus Shale Development*²⁷ outlines the numerous state requirements in place concerning water use and wastewater disposal activities. PA DEP, in cooperation with the SRBC and DRBC, has created additional permit guidelines for drilling in the Marcellus (and Utica) Shale formation to create consistent rules for water withdrawal, usage, treatment, and disposal in all areas of the state, and to ensure that the water quality and uses of waters of the Commonwealth are not threatened by development operations.

As part of the permit application process, the applicant must develop a Water Management Plan²⁸ to identify where it plans to obtain water, identify withdrawal quantity, rate, timing, and pass-by flow requirements. When applying for a permit, the applicant must specify the withdrawal locations of source water and demonstrate the following: proposed withdrawal will not adversely affect quantity or quality for other uses or users; designations and uses of the source water body will be maintained; water quality in the entire watershed will not be adversely impacted; and a reuse plan for water used to hydraulically fracture the wells will be provided.

Produced water must be recycled, treated for reuse at an authorized wastewater treatment facility, or disposed of at an authorized waste disposal facility. PA DEP approval is required before the receiving treatment or disposal facility can accept the wastewater for processing and/or disposal.

The Supplementary Information published for this rulemaking (on page 1586 of the 1/12/18 Federal Register Notice) states that the proposed regulations address “produced water from hydraulic fracturing” but the proposed definition of “produced water” at § 440.2 is not limited to only produced water from hydraulic fracturing; it includes all water from any oil or gas well regardless of whether hydraulic fracturing was used in that well’s development. Similarly, none of the substantive provisions addressing “produced water” are limited to only produced water

²⁷ <http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=4947&DocName=8100-FS-DEP4217.pdf>

²⁸ PA DEP Chapter 78a Training – Water Management Plans:
<http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/WebEx/2016/WebsiteWEBINARS/Aug26/Water%20Management%20Plan.pdf> (August 26, 2016)

from hydraulic fracturing (e.g. see §§ 401.35(b)(18), 440.5(b) – (g); and definition of “CWT Wastewater” at § 440.2)

If the intent of the proposed regulations is to limit the applicability of these requirements to produced water from *hydraulic fracturing*, as the Supplementary Information clearly states, then that limited scope needs to be clarified in the definition of “produced water” and in the relevant regulatory text. On the other hand, if the DRBC intends to regulate all produced water from all oil or gas wells the same, regardless of whether hydraulic fracturing was used in the well development, then the Supplementary Information is inaccurate and misleading, and as such should be withdrawn and revised.

440.5 (a) Related Commission Policies

The DRBC has added water quality standards to the SPW docket applications. DRBC should utilize its existing program for Project Review under Section 3.8 of the Compact and should not adopt a special water source program for water used in natural gas operations. No other industry is singled out by DRBC with an industry-specific water source regulation.

DRBC has an existing and comprehensive program that addresses water withdrawal project approval and robust programs to review and approve wastewater discharges and protect water quality. These existing programs should be utilized rather than creating a separate set of requirements for wastewater generated by natural gas development. In fact, the Commission already has done so by issuing a Docket for water withdrawal to one natural gas producer.

DRBC’s Special Protection Water (SPW)²⁹ regulations require water approval for new and expanding industrial and municipal wastewater treatment plants when the proposed facility is designed to discharge a daily average rate of 10,000 gallons a day or more during any consecutive 30-day period. DRBC states that there have been about 140 wastewater projects reviewed and approved in SPWs since 1992. About one-third of those are located in the Lower Delaware and were implemented since the 2005 interim Lower Delaware SPW designation. The DRBC regulations discourage new and increased discharges of wastewater directly to SPWs by prohibiting new wastewater treatment facilities or additions to existing facilities unless all non-discharge/ load reduction alternatives have been fully evaluated and rejected because of technical and/or financial infeasibility. The same holds true for natural treatment alternatives.

To obtain DRBC approval, new discharges to waters classified as SPW must demonstrate “no measurable change” to existing water quality as defined by the regulations for a list of 7-8 parameters at established water quality control points. The parameters found in DRBC reports include: alkalinity, hardness, pH, dissolved oxygen, temperature, turbidity, dissolved and suspended solids, nutrient parameter and bacteria. Notably, they are not “pollutants of concern” that DRBC is proposing to add to the parameters by way of this proposed rulemaking. If DRBC

²⁹ Delaware River Basin Commission Special Protection Waters Program Overview:
<http://www.nj.gov/drbc/programs/quality/spw.html>

wishes to modify the SPW regulations to add more water quality parameters, then DRBC should open the SPW Regulations for revision and comment.

The DRBC has not attempted to regulate any other industry in this fashion by adding water quality parameters to the SPW docket applications. Notably, while the US EPA TDD 2016 study attempted to characterize a large number of pollutants in unconventional oil and gas water, the data, discussion, and underlying rationale for the proposed rule clearly showed that the focus of the proposed rule was TDS and, to a far lesser extent, specific dissolved matter within the TDS. The MSC will comment further on TDS below; however, it is important to note here that the Commission already has an established procedure for evaluating TDS in discharges to SPWs. Those same procedures should be utilized for any industry in the basin.

Siting and Landscapes

The Supplementary Information details the decision process that the Commission utilized while formulating the proposed regulations. It states that, “Many high value water resources are associated and dependent on their surrounding landscapes” and “the landscape features are particularly effective at controlling non-point source pollution.” It goes on to estimate the impact that so-called HVHF may have on the land use of the areas underlain by the Marcellus and Utica shales. However, it neglects to describe the procedure that the DRBC already utilizes to analyze land use disturbances and fails to articulate a compelling reason why the Commission deviates from its currently accepted standard, while failing to demonstrate why these standards are insufficient.

The MSC finds it disingenuous that DRBC is trying to use land use changes or potential cumulative impacts as a basis to prohibit an industry in the entire Delaware River Basin. The DRBC has in place, and regularly uses, their Rules of Practice and Procedure to review projects that disturb land cover in areas of SPWs. An excerpt from DRBC docket D-2016-008-1 in the Commission’s own words: The Rules of Practice and Procedure (“RPP”) require Commission review for projects that “involve significant disturbance of ground cover affecting water resources.”

In determining whether a “significant disturbance” would occur, the DRBC project review staff is guided by two other land disturbance thresholds established by RPP section 2.3.5 A: those that, respectively, exclude from review projects involving “(a) change in land cover on major groundwater infiltration areas when the amount of land that would be altered is less than three square miles” (RPP § 2.5.5 A.6); and projects that involve “draining, filling or otherwise altering marshes or wetlands when the area affected is less than 25 acres” (RPP § 2.3.5A.15). These thresholds indicate the general magnitude of disturbance that the Commission decided warrants basin-wide review. Most, if not all, projects that the natural gas industry likely would seek docket approval for would not even trigger the above review standards.

Docket D-2014-023-1³⁰ contains the following description:

“The DRBC’s Rules of Practice and Procedure Section 2.3.5 A.15³¹ provides that the

³⁰ <http://www.nj.gov/drbc/library/documents/dockets/061015/2014-023-1.pdf>

Commission will undertake review and action on projects affecting 25 or more acres of wetlands. The review of such projects is guided by the policies provided in the DRBC's Water code, Section 2.350 Wetlands Protection. Section 2.350.4 of the Water Code, provides that the DRBC shall exercise its jurisdiction over wetlands in a manner that will assist, supplement, and overview actions of agencies signatory to the DRB Compact and in a manner that will avoid unnecessary regulatory activity."

Current industry practice demonstrates that the natural gas industry would not trigger this review threshold.

Moreover, longer laterals and fewer well pads should be the goal of any regulatory agency that is charged with managing water resources and that has an eye on "landscape impacts." The DRBC appears to lack an understanding of how operators construct well pads and wells to develop this resource in an efficient manner, and how these operational considerations result in minimizing water utilization.

Additionally, the MSC is concerned that DRBC's stated reasoning behind these requirements may ultimately lead DRBC to regulate a host of other activities that occur in the Basin – activities that DRBC, as a regional agency created to manage the water resources of the Basin, was never intended to regulate.

440.5(a)(5) In recent years, new technologies and innovations have allowed for advanced water treatment (desalination). Studies show that existing technology can remove 97% to 99.7% of the TDS. New technologies have reduced operational problems from scaling and reduced energy consumption per barrel treated. Many of the new technologies are also focused on reducing onsite labor. These efforts have already reduced the cost to treat high TDS produced water to a low TDS effluent. These advances offer significant flexibility for improved water management. In particular, desalination is cost competitive when there are limited local UIC disposal or reuse options.

Additionally, the 2018 ALL Report outlines many treatment techniques that could be utilized to successfully treat produced waters which will not "create a menace to public health or safety at the point of discharge."

440.5(a)(6) The MSC does not dispute that the Commission has authority to review and evaluate the use of groundwater under its Compact. However, the Supplementary Information released with the proposed regulations overstates the potential for impacts to groundwater based on potential usage. During the time period of the 2016 SRBC report on natural gas water usage, 222 surface water withdrawals were approved, while only 8 groundwater withdrawals were approved³². Actual groundwater usage by the industry in the Susquehanna River Basin was mostly through existing permitted and docketed public water supplies.

³¹ Administrative Manual Rules of Practice and Procedure (Revised through July 1, 2017):

http://www.nj.gov/drbc/library/documents/admin_manual.pdf

³² Susquehanna River Basin Commission – Water Use Associated with Natural Gas Shale Development: An Assessment of Activities Managed by the Susquehanna River Basin Commission July 2008 through December 2013 (published April 2016):

440.5 (d) Compliance with existing rules

DRBC has an existing and comprehensive program that addresses water withdrawal project approval and robust programs to review and approve wastewater discharges and protect water quality. These existing programs should be utilized rather than creating a separate set of requirements for wastewater generated by natural gas development. In fact, the Commission has already done so by issuing a Docket for water withdrawal to a natural gas producer.

To the extent that requirements for water sources contained in the proposed Regulations differ from the standards that now exist in the DRBC regulations, the MSC believes that amendments, if appropriate, should be made to the existing regulations and applied to all users. DRBC should not single out the natural gas industry with a separate regulatory program and requirements for new water sources that do not apply to other industries. A gallon of water withdrawn from the river to water a golf course or to cool a power plant has the same effect on the river as a gallon of water withdrawn to drill a natural gas well.

The MSC notes that the DRBC has robust regulatory program and process in its SPW regulations and Existing Water Quality analysis that are described in detail in this comment letter. The Commission should review water use dockets for the natural gas industry utilizing those already established programs and cease the attempt to pass more stringent regulations against the natural gas industry in an attempt to ban the industry from operating in the Basin.

440.5 (e) Treatment Facilities

440.5(e)(2)(ii) and (iii) The MSC is concerned about the, perhaps unintended, counter-play between these two provisions. MSC understands the requirement that treated water must meet effluent limits to be discharged into surface water of the Basin or to a wastewater treatment facility for further treatment and discharge. However, the effluent standard that the Commission is attempting to establish are beyond the water quality necessary for produced water or CWT water to be reused by the industry. The mention of indirectly discharging to a truck or by other means is confusing and further clarification of this section is needed.

440.5 (f) Treatability Studies

As a general statement, the MSC disagrees with this section being included in the proposed regulations and requests that it be removed. The Compact's signatory states have authority to issue the NPDES permits that would be required for a CWT facility and it is the states' responsibility to require in-depth information in the NPDES review. The DRBC has limited authority to review the water quality of the discharges for several parameters noted in the SPWs regulations, but it does not have the authority to require the information that it is asking for in section 440.5 (f). It appears that the Commission is attempting to usurp the authority of the signatory states' NPDES programs which is beyond the mission outlined in the Compact, which

http://www.srbcc.net/pubinfo/techdocs/NaturalGasReport/docs/SRBC_Full_Gas_Report_fs306397v1_20160408.pdf



is to “preserve and utilize functions, powers and duties of existing office and agencies of government...”

It is unclear how a project sponsor is to identify each proposed source of produced water or CWT water and in what frequency. It is unclear with respect to the source of water if the Commission intends this requirement for individual natural gas operators or the individual natural gas well that may have produced water.

This proposed rule discourages a potentially non-consumptive water treatment option in favor of consumptive options like UIC disposal, which is not a treatment technology. While today’s economics may favor UIC use as a disposal option in many parts of the country, this may not always be the case. Treatment technologies for produced water treatment have seen significant technological advances and associated cost reductions over the last five years. Advanced water treatment increasingly is cost competitive when there is limited local UIC capacity or local reuse options.

In light of the rapid changes and innovations in the oil and natural gas industry and the importance of maintaining non-consumptive water options, DRBC should preserve companies’ flexibility in the management of produced water. Prohibiting present and future wastewater management options will not further environmental protection or improve water quality.

440.5 (f)(1) The combination of chemicals or “recipe” used by certain service companies that typically carry out the actual hydraulic fracturing operations can be of a proprietary nature and receive similar protections from disclosure offered to other industries. The industry generally protects specific ingredients within additives that commonly represent less than a thousandth of a percent (0.001 percent) of the total hydraulic fracturing fluid volume. Even those narrow circumstances where precise chemical identification is not publicly released, the industry typically provides chemical category information that allows the public to identify the class and function of the chemical. Further, several states require that the precise identity of these ingredients be disclosed to regulators, physicians, and emergency personnel.

Approximately 99.5 percent of the contents of most hydraulic fracturing fluid systems are well-known and widely disclosed: water (90 percent) and sand (9.5 percent). The substances that are most commonly found in the additional 0.5 percent of hydraulic fracturing fluid systems are also commonly found in food, cosmetics, detergents and other household products. The chemicals make it easier to deliver proppant (or sand) to the fractures, reduce friction to reduce the required pumping horsepower, and prevent corrosion and scale buildup.

To maintain a high level of transparency with communities, companies report specific information about fracking fluid used at each individual well via a voluntary, publicly accessible website: *FracFocus.org*. Pennsylvania has codified this requirement within its own statutory and regulatory requirements for the oil and natural gas industry.

Also, please refer to the ALL Report 2018 that was submitted in conjunction with the API comment letter to these proposed regulations. The report explains many treatment techniques that could be utilized to successfully treat produced waters.



440.5(f)(2) The MSC objects to the inclusion of Whole Effluent Toxicity (WET) testing and requests that it be removed from the proposed regulations.

440.5(f)(3) The MSC objects to some of the criteria (TDS and “pollutants of concern”) as outlined in 440.5(g) as they appear in the proposed regulations. The concerns over these criteria are discussed below.

440.5 (f)(4) It is unnecessary to repeat the CWA reference to pass-through and interference studies here and we refer to our previous comments that this entire section of proposed regulations rests within the authority of the signatory state’s NPDES programs, and it is beyond the DRBC’s mission that is outlined in the Compact to “preserve and utilize functions, powers and duties of existing office and agencies of government...”

440.5 (f)(5) Waste from oil and natural gas activities are managed in accordance with state and federal environmental laws, as well as numerous industry recommended practices and standards. Waste management is beyond the scope of the Commission’s authority and rests instead with the Compact’s signatory states to regulate and authorize. This section should be deleted from the proposed regulations.

It is unclear what the terminology “adversely affected” means when referring to classification, treatment, and disposal of residuals. The DRBC needs to elaborate on this verbiage, as it appears to be an attempt to exert authority that the Commission does not have over waste designations and disposal. A recent peer-reviewed PA DEP study³³ states that there is “little potential for harm to workers or the public from radiation exposure due to oil and gas development.”

An NYDEC report entitled “*An Investigation of Naturally Occurring Radioactive Materials (NORM) in Oil and Gas Wells in New York State*”³⁴,” also found, “The concentrations of NORM (Naturally Occurring Radioactive Materials) found on oil and gas production equipment and wastes pose no threat to the public health and the environment.”

440.5(f)(6) It is unclear what a “stream quality objective” is, as it is not defined. It is always the goal of a regulated discharge to meet its applicable water quality standards and protect the receiving stream, so this section is unnecessary to the proposed regulations and should be deleted.

³³ PA DEP – Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) Study – January 2015: <http://www.dep.pa.gov/Business/Energy/OilandGasPrograms/OilandGasMgmt/Oil-and-Gas-Related-Topics/Pages/Radiation-Protection.aspx>

³⁴ New York State Department of Environmental Conservation – April 1999 – https://www.dec.ny.gov/docs/materials_minerals_pdf/normrpt.pdf

440.5(g) Additional effluent requirements

440.5(g)(1)(i) The DRBC Water Quality Regulations, found at 18 CFR Part 410³⁵, contain a basin-wide TDS limit of 1,000 mg/L (WQR Section 3.10.4.D.2). DRBC further reserves the ability to establish a different concentration to be compatible with designated water uses and stream quality objectives and recognizes the need for reserve capacity to serve future dischargers. The DRBC basin-wide instream TDS criteria also includes that TDS concentration be less than 133% of the background (WQR Section 3.10.3.B.1.b.) and that the receiving stream concentration be less than 500 mg/L (WQR Section 3.10.3.B.1.c.) Background TDS is to be the observed concentration of TDS during low flow conditions (Q7-10) or, in the absence thereof, an estimate acceptable to the Commission (WQR Section 3.10.6.G.)

The above regulatory language is proof that DRBC has already developed and utilized TDS water quality regulations and that DRBC is attempting to incorrectly modify the above water quality limits with the proposed rulemaking in section 440.5(g) instead of modifying the TDS WQR regulations for all industries. DRBC should remove the reference of different TDS limits for the oil and gas industry in 440.5(g) to meet the more stringent amount of 500 mg/L or background, as they are not based on sound science or established practice.

It is noted that in several dockets, DRBC has approved variances to exceed its established TDS water quality standard of 1,000 mg/L for industrial discharges into SPWs. The Commission has not lowered the TDS limit to below 1,000 mg/L for any docket in SPW to date. In one of the approvals to exceed 1,000 mg/L, DRBC required the applicant to perform annual ecological studies of the receiving stream and for the resultant background TDS limits of the receiving stream not to exceed 500 mg/L. The ecological studies continued to show that an increase in the TDS discharge above the 133% background requirement for protection of aquatic life showed no damage to the stream. For the other five variances granted, the TDS variance did not exceed the 133% of background threshold. Therefore, the DRBC found in its docket approvals that the projects do not conflict with the comprehensive plan and are designed to sustain the current and future water uses and development of water resources in the Basin.

When approved dockets contain a WQS for TDS, such as the approved dockets for WWTP facilities, which are a majority of the approved discharges into SPW, as well as dockets for water filtration plants, the dockets are specially conditioned in a way that the applicant can request the Executive Director to substitute specific conductance for TDS monitoring. This practice would suggest that DRBC is not overly concerned about exceeding TDS levels in the watersheds. There is no demonstrated scientific basis DRBC can use to justify two different stances on the same water quality criterion (TDS) based on the type of industry that is applying for the docket approval.

The argument over a TDS value is a moot point, as the capability of treatment for produced waters can easily meet this level. At least four NPDES permits have been issued by the PA

³⁵ U.S. Government Publishing Office: <https://www.gpo.gov/fdsys/granule/CFR-2012-title18-vol2/CFR-2012-title18-vol2-part410>

DEP in central and western Pennsylvania to entities that treat produced water from the NGI. Most of these treated waters are then recycled and reused by the NGO for hydraulic fracturing in new wells. The NPDES permits contain TDS limits ranging from: an average monthly effluent limit of 500 mg/L, a daily maximum effluent limit of 750- 1,000 mg/L, to an instantaneous maximum of 1,250 mg/L. The current NPDES permits are well within the limits that the DRBC regularly assigns in its dockets to other water users in the Basin.

DRBC should also follow its own water quality regulations for determining “water quality objectives for toxic pollutants” (WQR Section 3.10.3.C.) which states that “it is the policy of the Commission to designate numerical stream quality objectives for the protection of aquatic life...which correspond to the designated uses of each zone.” DRBC goes on to identify pollutants listed under Section 307(a)(1) of the Clean Water Act for which US EPA has published final criteria, other chemicals for which US EPA has published final criteria under section 304(a) of the Clean Water Act, and possibly for substances for which the Compact Signatory states have adopted criteria or standards.

Section 440.5 of the proposed regulations do not follow the established protocol that DRBC uses to define water quality standards for the Delaware River Basin and should be removed or modified. Listing of possible chemicals used by the oil and gas industry by US EPA in a report does not equate to the US EPA setting numerical water quality standards for said chemicals. The DRBC is required to follow its own regulations in setting water quality standards.

440.5(g)(1)(ii) MSC objects to this criterion as it is drafted in the proposed regulations since it is written in an open-ended manner for the Commission to establish a concentration that is below 1,000 mg/L without the due process of describing how that decision would be reached.

440.5(g)(1)(iii) MSC notes that the DRBC published “*DRBC Guidelines for Determining Background Concentrations in Surface Waters under Special Regulations, Part 440- Hydraulic Fracturing in Shale and Other Formations.*” The MSC comments on this document can be found separately herein. MSC objects to the DRBC trying to establish separate standards for the NGI than for other industries in the Basin. The Commission already uses a well-established method for determining background in the Existing Water Quality analyses described below. The MSC also notes that the guidelines themselves are not complete.

440.5(g)(2) According to the U.S. EPA’s hydraulic fracturing study, as of 2014-2015 there is no evidence that the contaminants identified in this section have affected drinking water facilities.

Furthermore, review of available approved dockets from the DRBC website indicates that public water supply intakes on the Delaware River are rare in SPWs and most are more than 100 hundred river miles downstream of Wayne and Pike Counties, the area of likely natural gas development and associated produced water treatment. As stated earlier, shale gas operators are prohibited from taking wastewater to POTW’s for treatment and discharge; thus the concern over potential discharge impacts affecting down-stream public drinking water supply withdrawals is nonexistent.

440.5(g)(3) The MSC objects to the inclusion of Whole Effluent Toxicity (WET) testing and requests that it be removed from the proposed regulations.

440.5(g)(4)(i) As state previously, the MSC objects to the definition and misnomer of “pollutants of concern” and request removal of its reference in the proposed regulations. Please see the comments above from the API comment letter on the US EPA TDD 2016.

The MSC reiterates its objection that the natural gas industry is being unfairly singled out from other industry in the Basin and that the DRBC is attempting to ignore and upend its own robust, already-established Existing Water Quality (EWQ) analysis procedures. For example, DRBC on its website³⁶ touts the completion of the *Existing Water Quality Atlas of the Delaware River Special Protection Waters*. Using data collected over the past 15 years, the Commission, along with state and federal monitoring agencies, has improved the scientific record of background water quality conditions known as EWQ for SPWs within the river basin. The report summarizes EWQ for 85 locations on the upper, middle, and lower Delaware River SPW.

In the report, DRBC gives the definition for “measurable change to existing water quality” as the actual or estimated change in a season or non-seasonal mean (upstream and including River mile 209.5) or median (downstream of River Mile 209.5) instream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence intervals that define EWQ. The primary use of this baseline site-specific data is to be able to assess measurable water quality changes in the river over time so that SPW program effectiveness can be measured. An assessment of the lower Delaware was completed from 2009-2011, and the report was published in August 2016. Therefore, DRBC should have all the background data it requires to review dockets that seek to discharge into SPW. It should also be noted that the Commission has not attempted to utilize TDS as a criterion for EWQ review in any EWQ analysis to date, suggesting once again that concerns raised over TDS levels are disingenuous.

In renewing dockets for municipal waste water treatment plants, DRBC has noted that Section 3.10.3.A.2.d.9 of the Water Quality Regulations states:

“In the making the demonstration required in (Section 3.10.3.A.2.d.8) the applicant shall use a DRBC-approved model of the tributary or main stem watershed if available. Where a DRBC-approved model is not available, the applicant shall use other methodologies submitted to and approved by the DRBC to estimate cumulative effect at an applicable control point.”

Review of available approved dockets from the DRBC website, indicates that the Commission most commonly uses a mass-balance approach to evaluate whether a measurable change to EWQ would be predicted. Therefore, the instances in 440.5. (g)(1)(Iii), 440.5(g)(4)(ii)(b), and 440.5(g)(4)(ii)(c) should be revised to reflect that the in-stream point for EWQ comparison is the closest control point from a proposed discharge point and that mass balance is an acceptable approach for prediction. In some dockets the closest control point for comparison was greater than 30 miles downstream.

³⁶ http://www.nj.gov/drbc/library/documents/LowerDel_EWQrpt_2016/Exec_Summary_Intro.pdf

440.5(g)(4)(ii)(a) As written, it is unclear as to what numeric water quality criteria it is referring as no qualifier is given. It is not sound science to suggest that any water quality criteria for any state, or country for that matter, will set the standard within the Basin. The section needs to be re-written to state that, “if a pollutant-specific numeric water quality criterion exists for the host state, the effluent concentration for the pollutant shall not exceed the numeric criteria.”

440.5(g)(4)(ii)(b) The MSC reiterates its objection that the natural gas industry is being unfairly singled-out from other activities in the basin and that the DRBC is attempting to ignore and upend its own robust, already established procedures that it employs to analyze discharges into the Basin utilizing the EWQ analysis procedures.

MSC also objects to the reference of narrative criteria found in this section and requests its removal or clarification. It is unclear what narrative criteria the Commission thinks could be applicable to this section.

440.5(g)(4)(ii)(c) The MSC notes that the Commission published “*DRBC Guidelines for Determining Background Concentrations in Surface Waters under Special Regulations, Part 440- Hydraulic Fracturing in Shale and Other Formations*”³⁷. MSC’s comments on this document can be found separately herein. MSC objects to the DRBC trying to set separate standards for the natural gas industry than for other industries within the Delaware River basin. The DRBC already uses a well-established method for determining background in the Existing Water Quality analyses described above. The MSC also notes that the guidelines themselves are not complete.

440.5(g)(5) The MSC objects to this section of the proposed regulations as being too open-ended and seeks clarification on what other “monitoring and reporting” the Commission may “deem necessary to ensure compliance.” As written, industry would not be able to determine the cost or expected timing of a docket approval, as the DRBC could request additional studies or information under this section. Please provide clarification on additional information that might be required within other sections of the proposed regulations and remove this section.

440.5(h) Point of compliance

440.5(h)(2) The MSC objects to the inclusion of this vague statement indicating that the Commission may impose, at its discretion, any other additional monitoring requirements or other conditions on CWTs within the basin that discharges CWT wastewater to another wastewater treatment facility. Open-ended, non-defined requirements do not reflect proper or appropriate regulatory development. It is important for both the regulated industry, as well as regulatory oversight staff, to have clear and predictable requirements within rulemakings.

³⁷ http://www.nj.gov/drbc/library/documents/HydraulicFracturing/Guidance_BackgdConcentration_draft-for-comment_113017.pdf

DRBC Guidelines for Determining Background Concentration in Surface Waters under Special Regulations Part 440-Hydraulic Fracturing in Shale and Other Formations
Section 1. Application

The MSC objects to the DRBC imposing separate standards for the natural gas industry that do not apply to other activities within the basin. The Commission already uses a well-established method for determining background in the EWQ analyses described below. DRBC's website³⁸ touts the completion of the *Existing Water Quality Atlas of the Delaware River Special Protection Waters*.

The MSC objects to the inclusion of this vague statement in the proposed guidance indicating that the Executive Director may impose any other additional monitoring requirements or other conditions on CWTs within the basin because the Executive Director deems them "more protective". Open-ended, non-defined requirements do not reflect proper or appropriate regulatory development. Industry needs to have clearly articulated, known requirements and regulations.

This section requires applicants to submit a "Sampling and Analysis plan" for review and approval, but Section 2 b. states that guidance, with basically a description of the acceptable plan, is under development. This section should be re-written to state that Applicants should have a pre-application meeting with the Commission to discuss the Sampling and Analysis plan that is (will be) outlined in Section 2.

Section 2. Parameters

DRBC lists applicable parameters as TDS and pollutants of concern. Pollutants of concern is incorrectly defined in the proposed regulation section 440.2 of which MSC has commented on herein indicating the tables referred to are actually "constituents that may be in produced waters" and were never identified by US EPA as pollutants. This necessitates the removal of the incorrectly cited "pollutants of concern" from this section of the guidance.

Moreover, the MSC notes that TDS and "pollutants of concern" are not parameters within the DRBC's SPW regulations. The SPW regulations discourage new and increased discharges of wastewater directly to special protection waters by prohibiting new waste water treatment facilities or additions to existing facilities unless all non-discharge/ load reduction alternatives have been fully evaluated and rejected because of technical and/or financial infeasibility. Natural treatment alternatives and non-discharge alternatives also must be evaluated and rejected because of technical and/or financial infeasibility.

Notably, while the US EPA TDD 2016 study attempted to characterize a large number of pollutants in unconventional oil and gas extraction wastewater, the data, discussion, and underlying rationale for the proposed rule clearly show that the focus of the proposed rule is TDS and, to a far-lesser extent, specific dissolved matter within the TDS. It is important to note

³⁸ http://www.nj.gov/drbc/library/documents/LowerDel_EWQrpt_2016/Exec_Summary_Intro.pdf

that the DRBC already has an established procedure for evaluating TDS in discharges to SPWs. Those same procedures should be utilized for any industry in the basin.

Additionally, the Commission does not have a fully developed regulatory program for this new initiative. Section 2.b references guidance that is “under development” that will detail analytical methods, method detection limits, and limits of quantification. In fact, for the last ten years the DRBC has been “developing regulations and/or guidance” for the natural gas industry.

Section 3. Sample Locations

The MSC objects to this section and description of new sampling locations. Sample locations for the EWQ procedure, which are referenced in Section 6 d. of this Guidance, are already in existence. Please see the DRBC’s own description of the EWQ locations which reads in part, “85 locations on the upper, middle, and lower Delaware River SPW.”

Also, it is unclear how an applicant would know how to choose a sample location that was “outside the influence of nearby discharges.” For example, the types of discharges that would be necessary is not clear. It appears that the DRBC is attempting to impose sampling protocols onto applicants that the Commission should be performing itself.

Section 4. Number of Samples

The guidance sets the minimum number of samples to be collected at 10, but it does not give a maximum number, or a number where an application will be deemed as complete; please revise to include a complete number of samples required or remove the word “minimum.”

The sampling time frame of at least 10 days apart and at least 10 samples, potentially, means that sampling is greater than 100 days in length, and potentially this time frame could be much longer since conditions set in Section 5 a. indicate that sampling for non-tidal waters needs to occur in low-flow conditions. The combination of these two parameters is the issue. The MSC does not object to the 10-day time frame, but it does object to the combination of these procedures.

The MSC objects to this open-ended data collection requirement: “DRBC staff will ...determine if the collection of additional samples is warranted.” The MSC recommends deleting this section and adding to section a. above the number of samples necessary to submit a complete application.

Section 5. Sampling Flow and Tide Conditions

Section 5 a. and c. MSC objects to these sections as scientifically unsound. “Background” characteristics of a stream are determined at a combination of all flow regimes, not just low flow periods. This is true for any parameter and any water quality study. For example, Total Maximum Daily Load (TMDL) sampling occurs at all flow levels throughout the water year to be defensible scientifically and to allow for proper modeling. While the MSC understands the desire to make sure that low flow conditions are incorporated into the sampling program, it cannot be exclusively low flow or it isn’t a representative “background.”

Also, the interaction of this condition with 4.b. above makes it unclear of the potential amount of time this sampling routine would require. It is quite possible, with a 10-day window between samples and a low flow requirement, that sampling could take multiple years to reach the minimum number of samples required.

Section 6. Computing Background

d. MSC is reiterating its objection that the Commission is attempting to change its well-established EWQ procedure for only the natural gas industry by attempting to add sampling locations beyond the 86 established Boundary Control Points (BCPs). Further, this section attempts to compare the water quality results at the existing BCP locations to the results at new sampling locations, making the most stringent sample set the approved "Background." That is not how the EWQ analysis currently is performed.

Additionally, it is unclear if this means that an applicant must also sample for parameters from its Sampling and Analysis plan at the closest downstream BCP as well as the desired discharge location. Also unclear is an operator's obligation should the BCP's low flow period be a different time frame than the desired discharge location's low flow period. The additions to this procedure are flawed and need to be removed. The DRBC should rely on the established procedures that it uses for all dischargers to the Basin.