PennFuture

February 28, 2022

Via Online Submission Only
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Commissioners
Delaware River Basin Commission
P.O. Box 7360
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West Trenton, NJ 08628

Re: Public Comments on Proposed Rule, 18 CFR Parts 410 and 440 – Importations of Water into and Exportations of Water From the Delaware River Basin; Discharges of Wastewater from High Volume Hydraulic Fracturing and Related Activities

Dear Commissioners:

Citizens for Pennsylvania's Future ("PennFuture") offers these comments regarding the proposed Comprehensive Plan and Water Code regulations (the "Draft Regulations"), which propose the following:[1]

> to amend its Comprehensive Plan and Water Code concerning importations of water into and exportations of water from the Delaware River Basin; to amend its Special Regulations – High Volume Hydraulic Fracturing to prohibit the discharge of wastewater from high volume hydraulic fracturing and related activities to waters or land within the Delaware River Basin; and to incorporate key elements of the latter proposed amendments into the Commission's Water Quality Regulations.

The Draft Regulations were made available to the public on October 28, 2021, and the Delaware River Basin Commission ("DRBC" or the "Commission") is accepting comments on the Draft Regulations through February 28, 2022. PennFuture thanks the Commission for this opportunity to comment on the Draft Regulations.

While PennFuture supports the proposed ban on the discharge of wastewater from high volume hydraulic fracturing ("HVHF" or "fracking") and related activities to waters or land within the Basin, given the likelihood of significant harms to water quality, we believe that the ban should

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[1] DRBC Rulemaking Notice (Oct. 28, 2021), *available at* https://www.state.nj.us/drbc/library/documents/ProposedRulemaking/import-export_102821/notice_proposed-rulemaking.pdf.

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be strengthened to protect Basin resources through prohibiting specific activities that cause discharge of fracking wastewater.

The significant environmental and public health harms resulting from fracking wastewater are real and imminent. In its final report on the impacts of fracking on drinking water resources, the United States Environmental Protection Agency specifically identified the most likely ways that fracking can impact water quality, many of which are implicated by the Commission's proposed regulations, including: [2]

- Discharge of inadequately treated hydraulic fracturing wastewater to surface water resources;
- Disposal or storage of wastewater in unlined pits;
- Spills during the management of produced water that result in large volumes or high concentrations of chemicals;
- Injection of produced water into wells with inadequate mechanical integrity;
- Water withdrawals for fracking in times or areas of low water availability.

While the Commission's proposed prohibition on fracking wastewater discharges in the Basin eliminates some of the risk associated with direct discharge, the Draft Regulations leave room for fracking wastewater to be imported into and potentially placed within the Basin (including storage, treatment, transportation, and use), making the threat of surface water contamination real. The Commission's Draft Regulations must be strong enough to ensure that subsequent harms from these projects, activities, and potential discharges are not jeopardizing the Basin's water quality, and unfortunately, we believe that the Commission's Draft Regulations generally still fail to protect water resources from the harms of fracking wastewater.

Consequently, as set forth in detail below, PennFuture urges the Commission to do the following:

- **Strengthen the Draft Regulations regarding the discharge of fracking wastewater within the Basin;**

- **Specifically ban activities and projects that are likely to contaminate the Basin's water resources; and**

- **Reject the portions of the Draft Regulation related to the exportation of water from the Basin until the regulations are strengthened to ensure protection of Basin resources.**

Importantly, if the Commission is to reject any portion(s) of the Draft Regulations, it must not allow the discharge of fracking wastewater in any such activities—whether treatment, storage,

[2] EPA, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, EPA-600-R-16-236ES (December 2016), Executive Summary, *available at* https://www.epa.gov/sites/default/files/2016-12/documents/hfdwa_executive_summary.pdf.

transportation, or other uses—until more stringent regulations are adopted to protect Basin resources.

To be clear, PennFuture wholly supports the proposed ban on the discharge of fracking wastewater within the Basin. The Commission has the clear authority—and the duty—to do so. Nevertheless, we believe that the Commission can do more to fully protect the Basin's water resources from the immediate and likely significant harm that fracking wastewater will cause if allowed to be imported and discharged in the Basin.[3]

I. The Commission Should Strengthen the Draft Regulations Regarding the Discharge of Fracking Wastewater within the Basin, including Specifically Banning Activities and Projects that Are Likely to Contaminate the Basin's Water Resources

A. The Commission Has the Authority and the Duty to Regulate Fracking Wastewater

There can be no question that the Commission has the authority – and the duty – to ban fracking wastewater discharge to control future pollution in order 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."[4]

Similarly, the Commission has the authority to regulate the importation of fracking wastewater in order to further the "water conservation, control, use and management in the basin."[5] In acting on this goal, the Commission may "establish standards of planning, design and operation of all projects and facilities in the basin which affect its water resources, including without limitation thereto water and waste treatment plants, stream and lake recreational facilities, trunk mains for water distribution, local flood protection works, small watershed programs, and ground water recharging operations."[6]

The Commission previously used its authority to prohibit fracking activities in the Basin,[7] and the Commission should use the same authority to further protect Basin resources from the projects which cause discharge of fracking wastewater.

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[3] Compact, § 3.1 ("[The Commission] shall adopt and promote uniform and coordinate policies for water conservation, control, use and management in the basin.").
[4] DRBC Rulemaking Notice, at 4.
[5] Compact, § 3.1.
[6] Compact, § 3.6(b).
[7] DRBC Resolution No. 2021-01, *available at* https://www.nj.gov/drbc/library/documents/Res2021-01_HVHF.pdf.

B. The Commission Should Clarify the Definition of "Fracking Wastewater" to Specifically Include Produced Water and Flowback Water

The Commission has specifically noted the potential detrimental effects that fracking wastewater could have, finding that "the discharge of wastewater from HVHF and HVHF-related activities poses significant, immediate, and long-term risks to the development, conservation, utilization, management, and preservation of the Basin's water resources."[8] The Commission is not alone is working towards eliminating the risks posed by the discharge of fracking wastewater. Paving the way for fracking regulation, New York first prohibited all fracking activities in the state in 2014,[9] passed a bill prohibiting fracking waste in 2017,[10] and later made the step of classifying fracking wastewater as hazardous waste in 2019.[11] While PennFuture commends the Commission for following suit in prohibiting fracking and the direct discharge of resulting wastewater, the Commission must take further steps towards increasing protection of the Basin's water quality. One way in which the Commission's ban can be strengthened is by ensuring that it covers all types of fracking wastewater.

There are two types of "waste" fluids that result from fracking: flowback water and produced water. Flowback water is the injected fluid that is recovered (generally 10-40%) to the surface during the initial period of well completion. Produced water is the wastewater that is produced by a fracked well once placed into production. Due to the increased drilling in the Marcellus Shale, well sites will need to disperse "hundreds of thousands to millions of gallons of produced water."[12] That water runs the risk of mishandling and spilled, which in turn can pollute the water resources of the Basin, including impacting the drinking water quality in the Basin for the over 15 million people who depend on it. In a 2016 EPA study, 30 of the 225 fracking water spills were reported to have reached surface water, ranging from less than 170 gallons to almost 74,000 gallons.[13] The Commission previously detailed the vulnerabilities resulting from *produced water* entering the Basin, stating that high enough total dissolved solids serve as potential threats to the "designated uses of surface water, including drinking water, aquatic life support, livestock irrigation, and industrial use." But we also know that fracking in the Marcellus Shale region results in large quantities of *flowback water* that contain high levels of salinity, heavy metals, and naturally occurring radiative materials.[14]

The Draft Regulations may leave ambiguity as to what constitutes a discharge, and it is therefore imperative that *both* flowback water and produced water are included in the Commission's definition of and regulation of "fracking wastewater." To the extent that it is unclear

[8] *Id.*
[9] The prohibition of fracking with New York was prohibited in 2014 by Governor Cuomo following a New York Department of Health public health report of high-volume hydraulic fracturing. Department of Environmental Conservation, *High-Volume Hydraulic Fracturing in NYS*, https://www.dec.ny.gov/energy/75370.html.
[10] S.355, 2021-2022 Reg. Sess. (N.Y. 2021), *available at* https://legislation.nysenate.gov/pdf/bills/2021/S355.
[11] N.Y. ENV'T CONSERV. LAW § 27-0903.
[12] EPA, Executive Study, at 33.
[13] EPA, Executive Study, at 35.
[14] Zhang, et al., Fate of Radium in Marcellus Shale Flowback Water Impoundments and Assessment of Associated Health Risks, Environ. Sci. Technol. 2015, 49, 9347−9354.

whether the definition at 440.2 includes both flowback and produced water, the Commission should revise the definition to clearly regulate both of these toxic and harmful wastes of fracking.

C. The Commission Should Include Prohibitions on Specific Projects That Have the Effect of Discharging Fracking Wastewater

While a prohibition on the discharge of fracking wastewater significantly minimizes water quality and public health concerns, the Commission must consider projects that are likely to result in fracking wastewater contaminating the Basin's water resources, even if those projects do not initially seem to be covered by the prohibition on discharges. The Commission has the authority to—and should revise its regulations to—specifically prohibit those projects that would consequently discharge fracking wastewater into the Basin that may not otherwise be considered a discharge.

Under Section 3.8 of the Delaware River Basin Compact ("Compact"), the Commission cannot approve "projects having a substantial effect on the water resources of the basin" that it finds would "substantially impair or conflict with the comprehensive plan." The Comprehensive Plan comprises the "immediate and long-range development and use of the water resources of the Basin" and includes, inter alia, the policies of the Commission. These policies contained in the Delaware River Basin Water Code ("DRBC Water Code") include "conservation, development, and utilization of Delaware River water resources" and "water quality standards for the Delaware River Basin." Thus, the Commission has the authority to regulate projects that would conflict with the conservation and water utilization policies of the Commission, or which would impair the water quality of the Basin's resources.

1. The Commission Should Not Allow the Placement of Fracking Waste into Landfills

In Pennsylvania, we know that discharging fracking waste into landfills can have a direct and significant impact on water resources. For example, in Westmoreland County (outside of the Basin), the Westmoreland Sanitary Landfill accepted fracking wastes which severely contaminated the leachate from the landfill, which in turn rendered the wastewater untreatable by the local municipal authority, which in turn polluted the Monongahela River. While the Commission has specifically included "leachate from solid wastes associated with HVHF-related activities" in the proposed definition of wastewater, it specifically excepts situations where those solid wastes are "lawfully disposed of in a landfill within the Basin prior to the effective date of this rule." This does not go far enough to protect the Basin's water resources from the toxic, harmful, radioactive, and forever chemicals that will enter contaminate the leachate from solid wastes placed in landfills after the promulgation of these rules. The Commission has a duty to protect the Basin's water resources from threats such as this,[15] and therefore must prohibit the placement of solid wastes from fracking to and in landfills within the Basin.

[15] DRBC Water Code § 3.1.1, 18 CFR Part 410 ("The commission may assume jurisdiction to control future pollution and abate existing pollution in the waters of the basin, whenever it determines after investigation and public hearing upon due notice that the effectuation of the comprehensive plan so requires.").

2. The Commission Should Not Allow Treatment of Fracking Wastewater within the Basin

The Draft Regulations do not prohibit wastewater treatment facilities within the Basin. While the Draft Regulations would prohibit these facilities from directly discharging into the Basin waters, treatment would still be allowed within the Basin. And yet the treatment of fracking wastewater poses serious threats to the quality of the Basin's waters. The Commission previously noted the serious threat of discharge from wastewater treatment, stating that "disposal of produced water poses a significant risk to the water resources of the basin if the wastewater is not properly managed." [16] The proposed prohibition of discharge is a great start, however, it still leaves open the possibility of the treatment of fracking wastewater, which can result in accidental discharge of harmful fracking wastewater whether through aging infrastructure[17] or human error. If the Commission wants to prohibit all discharge into the Basin, the Draft Regulations must ensure that the amount of fracking wastewater in the Basin is diminished, if not eliminated. Therefore, the Commission should prohibit all wastewater treatment activity within the Basin to further the goals of the Plan and protect the drinking water for over 15 million people.

3. The Commission Should Not Allow the Storage of Fracking Wastewater within the Basin

Allowing for the storage of fracking wastewater is likely to lead to human error and accidental spills, allowing for untreated (or even treated) fracking wastewater to find its way into the waters of the Basin. PennFuture continues to oppose the Draft Regulations proposed allowance of storage of wastewater, especially given DRBC's current practice of allowing storage of untreated wastewater in lagoons. The risk of leak or other migration of this highly toxic wastewater is too great to be allowed in the Basin.

EPA has stated that spills of fracking fluids were caused primarily by human error or equipment failure."[18] Specifically in Pennsylvania, wastewater stored in the state has overflowed and reached surface water and groundwater.[19] For example, in 2010, Washington County had six wastewater impoundments leak produced water into the soil, affecting groundwater.[20] Additionally, treatment of fracking wastewater for reuse is not static, with fracturing operations requiring anywhere from no treatment to extensive treatment. This would allow for minimally

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[16] DRBC, Proposed Rulemaking, at 9 (Nov. 2017).
[17] *See, e.g.,* Logan Hullinger, YORK DISPATCH, *Estimated 5,000 gallons of sludge discharged in leak at York City wastewater plant* (Apr. 12, 2021), https://www.yorkdispatch.com/story/news/local/2021/04/12/estimated-5-000-gallons-sludge-discharged-leak-york-city-wastewater-plant/7187968002/.
[18] EPA, Executive Study, at 20.
[19] EPA, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, Main Report, p. 8-44 (December 2016), *available at* https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=33299.
[20] State Impact Pennsylvania, *Range Resources to pay $4M for Violations at Western Pa. Impoundments* (Sep. 18, 2014) https://stateimpact.npr.org/pennsylvania/2014/09/18/range-resources-to-pay-4m-for-violations-at-western-pa-impoundments/.

treated fracking wastewater to be stored and transported in and from the Basin for reuse, which as EPA identified, are activities that are likely to result in human error and accidental spills.

Because the threat to water resources from the storage of wastewater is so immediate and significant, the Draft Regulations must include a prohibition on the storage in order for the Basin to be protected from the harmful threats posed by the potential discharge of fracking wastewater storage.

4. The Commission Should Not Allow the Injection of Fracking Wastewater within the Basin

Similarly, the Commission must explicitly prohibit the injection of fracking wastewater within the Basin. Injection of wastewater does not "treat" waste or remove contaminants; it simply moves the risk of migration (through leaks or naturally occurring fractures) from the surface (where it can be monitored) to deep underground. As of now, the use of underground injection for disposal of fracking wastewater is not subject to hazardous waste disposal methods, leaving possibility for increased leaks into groundwater. The potential harm to the Basin's groundwater, aquifers, and even downstream surface waters is simply too great to allow this relatively new practice to occur within the Basin. The Draft Regulations need to capture the potential threat of allowing for the disposal of fracking wastewater into injection wells by prohibiting the activity within the Basin.

5. The Commission Should Not Allow for the "Beneficial" Use of Fracking Wastewater in the Basin

One common use of fracking wastewater includes the use in road spreading for either de-icing or dust suppression. But these uses are almost certain to pollute the runoff of stormwater from these roads thereby threatening the water quality of the Basin's surface water resources. While the Commission has indicated that use of such wastewater would be considered a discharge under the proposed ban,[21] the Commission should explicitly prohibit the so-called "beneficial" use of fracking wastewater within the Basin. Not only is the use of fracked wastewater for roads less effective than traditional commercial products and other alternatives,[22] but the threat to the Basin's water resources is so great that it should be specifically prohibited.

Additional "beneficial uses" of fracking wastewater can include land spreading for irrigation, fire control, and equipment washing, for example. Additionally, wastewater facilities can produce sludge, which can in turn be used as "fertilizer" and spread on land. This sludge could

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[21] DRBC Rulemaking Notice, Frequently Asked Questions, (last updated Dec. 7, 2021) *available at* https://www.nj.gov/drbc/library/documents/ProposedRulemaking/import-export_102821/FAQ_import-export_proposed-rules.pdf.

[22] Stallworth et. al, *Efficacy of Oil and Gas Produced Water as a Dust Suppressant*, 799 Science of the Total Environment 149347 (Dec. 2021) https://reader.elsevier.com/reader/sd/pii/S004896972104420X?token=6D6CA02EACB67ED1AE59F39F944F1C5BF318EF64F2B12CBE0480DA7F6F0BA7FE56875A6D56811C44D592EBC40C4E38EC&originRegion=us-east-1&originCreation=20220228040532.

include a varying amount of radium and barium levels if produced water is at the facility.[23] All these activities run the risk of the wastewater finding its way back into the waters of the Basin. Allowing for harmful effects of fracking wastewater to occur as a byproduct of these additional "beneficial uses" goes directly against the "long range development and use of the water resources of the [B]asin",[24] as the Commission states the Draft Regulations are aimed to do.[25] The Commission must prohibit uses of fracking wastewater, including any "beneficial" use, that could impair the water quality of the Basin.

II. The Commission Should Strengthen the Draft Regulations Related to the Exportation of Water from the Basin

The Draft Regulations include circumstances for when the Commission may approve an exportation of water from the Basin that meet the existing threshold for review. While PennFuture supports the addition of factors to be considered in the exportation of water, the Draft Regulations need to be strengthened to ensure that the Basin's resources are adequately protected. With the vast amount of water being used per well, the amount of water being exported from the Basin will constitute a total loss. The Commission should include more stringent factors to be considered when exporting water for fracking, as any water leaving the Basin for use in fracking would impair the water resources of the Basin.

Allowing for the exportation of groundwater poses a threat to the water quality of the Basin. Groundwater exportations that exceed natural recharge rates can decrease the amount of water stored in aquifers and groundwater discharges to streams, both of which can affect surface water quality.[26] This is only exacerbated in areas that, like the Basin, are prone to droughts.[27] Surface water withdrawals have the potential to significantly impact downstream groundwater resources, especially if seasonal and weather-related impacts (e.g., drought or springtime high flows) are taken into account. And these fluxes in water quantity of the Delaware River will only be exacerbated as climate change impacts our weather patterns and available water resources. Moreover, this downstream impact can affect wetlands, aquifers, wells, and even industry that all require reliable amounts of water to function properly.

Despite the Commission's long-standing position of "discourage[ing]" exportation of Basin water,[28] the Draft Regulations would allow for the exportation of wastewater from the Basin with no limit.

Yet despite this situation and the fact that fracking will permanently remove tens of millions of gallons of water *per well*, the Draft Regulations do not change or supplement the factors the Commission must consider when reviewing an application for water transfer outside of the

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[23] EPA, Radiation Protection, *TENORM: Oil and Gas Production Wastes*, https://www.epa.gov/radiation/tenorm-oil-and-gas-production-wastes.
[24] Compact, § 3.2.
[25] DRBC Proposed Rulemaking, at 4–5.
[26] EPA, Executive Summary, at 15.
[27] *Id.*; *See* DRBC Water Code § 2.30.2.
[28] DRBC Water Code § 2.30.2.

Basin; the consideration is the same for all uses. The Commission should amend its Draft Regulations to provide for specific regulations, considerations, and prohibitions, if necessary, regarding the exportation of water for fracking that accounts for the vast amounts of water exported for fracking. For example, the Draft Regulations should include a presumption that water exportation for fracking will impair the water resources of the Basin; an applicant then has the burden to prove to the Commission that it will not. The Commission should also impose a limitation on the maximum amount of water that can be exported by any single applicant and/or for any single project. While these are just two examples, it is clear that, given the massive amounts of water used in fracking, the Draft Regulations must do more to actually "discourage" such exportation and protect the Basin's water resources.

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In conclusion, we commend the Commission for taking the much needed first step in prohibiting fracking wastewater discharge and regulating the importation to and exportation of fracking wastewater within the Basin. In order to ensure that the work of the Commission is not jeopardized, PennFuture urges the Commission to do the following:

- Strengthen the Draft Regulations regarding the discharge of fracking wastewater within the Basin;
- Specifically ban activities and projects that are likely to contaminate the Basin's water resources; and
- Reject the portions of the Draft Regulation related to the exportation of water from the Basin until the regulations are strengthened to ensure protection of Basin resources.

We thank you for this opportunity to comment on the Draft Regulations and for everything the Commission has done and is doing to protect the Delaware River Basin's water resources from the dangers of fracking.

Respectfully submitted,

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