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April 15, 2011

Delaware River Basin Commission
Commission Secretary, DRBC,
P.O. Box 7360
25 State Police Drive, West Trenton, NJ 08628

Re: Proposed Natural Gas Regulations

Dear Members of the Commission:

As the Delaware River Basin Commission ("DRBC") knows, the Delaware River "is more than an amenity[.] [I]t is a treasure." *State of New Jersey v. State of New York*, 283 U.S. 336, 343 (1931). The booming shale gas extraction industry poses a significant threat to that treasure, which provides clean, clear drinking water to over 15 million people, including thousands of Sierra Club members. Massive natural gas development in the basin – the DRBC predicts 15,000 to 18,000 wells[1] -- would industrialize the landscape and lead to lingering, permanent, water quality threats. Thank you for considering these comments on the DRBC's efforts, filed on behalf of the Sierra Club and its Atlantic (New York), New Jersey, and Pennsylvania Chapters.

The DRBC's proposed natural gas regulations seek to manage that threat. *See* 76 Fed. Reg. 295 (Jan. 4, 2011). But while the regulations would somewhat improve matters if drilling goes forward, they do not fulfill the DRBC's legal mandate to fully protect basin resources. Developed without the benefit of a full environmental analysis and over-

[1] DRBC, *UDC Committee Briefing: DRBC Natural Gas Regulations* (Feb. 10, 2011).

reliant on the inadequate regulatory regimes of the surrounding states, the rules inappropriately move gas development forward, without fully counting the costs. As the Delaware Riverkeeper Network documents in its extensive comments, with which we generally agree, the proposed regulations deserve further consideration, with a continuing moratorium on all shale gas production and exploration in the interim.

In the end, the problem is one of analytic depth. We still know far too little about the full spectrum of gas development's potential impacts on the Delaware River basin. The DRBC ought not rush to allow gas development, until it has a full, scientifically well-grounded, analysis of the cumulative impacts which it must control. Nor can the DRBC fully determine whether state regulations are adequate until it has a firm grasp on the scale of the problem. Thus, our core recommendation is that the DRBC conduct such an analysis, profiting from work already underway at the U.S. Environmental Protection Agency(EPA) and in other venues, before it lifts its moratorium and finalizes its rules. Such an analysis would, we trust, help the DRBC plug troubling holes in its current draft proposal.

I. The DRBC's Legal Powers and Mandate

The DRBC was created to take the long view in order to protect the Delaware River and the people who depend upon it. It is uniquely placed to stand against the boom and bust cycles of energy development, focusing on the long-term importance of protecting the watershed. It is charged with acting "in the common interests of the people of the region," to manage their use of the river's resources. Delaware River Basin Compact ("Compact") Art. 1.3(b).

To accomplish this sweeping purpose, the DRBC was given broad powers by the parties to the Compact. It may "[e]stablish standards of planning, design and operation of *all* projects and facilities in the basin which affect its water resources," Compact Art. 3.6(b),

and no project substantially "effect[ing] the water resources of the Basin shall . . . be undertaken" unless approved by the DRBC, Compact Art. 3.8. This authority extends to careful stewardship of the basin's water supplies, *see* Compact Art. 4, and its water quality, *see* Compact Art. 5. To properly execute its duties, the DRBC was also given broad authority to "[c]onduct and sponsor research on water resources," conduct "ground water investigations," and to "[p]repare, publish and disseminate information and reports with respect to the water problems of the basin." Compact Art. 3.6(f). Although the DRBC is to cooperate with state agencies, it, ultimately, is the coordinating body for the watershed, and is to "employ such offices and agencies" only to the extent "it finds feasible and advantageous." Compact Art. 1.5.

In particular, the Compact states that "pollution . . . shall not injuriously affect waters of the basin." Compact Art. 5.2. DRBC regulations, implementing this mandate, further provide that "Special Protection Waters" – a designation that covers essentially the entire non-tidal Delaware River, *see* DRBC Water Code ("Code") §3.10.3(2)(g) – shall experience "no measurable change in water quality except towards natural conditions." Code § 3.10.3(2). Those waters further sub-classified as "Outstanding Basin Waters," such as the Upper Delaware Scenic and Recreational River, "shall be maintained at their existing water quality." Code § 3.10.3(2)(b)(1). The remaining waters, called "Significant Resources Waters," also "shall not be degraded below existing water quality." Code § 3.10.3(2)(b)(2).

These strict mandates mean that the health of the riverine ecosystem comes first. The DRBC need not, and must not, allow shale gas development in the region unless it is fully persuaded that the best available science shows that water quality will not be harmed. But the DRBC has no such assurance. Though it hopes that its proposed regulations will allow development to move forward without negative consequences, it has not demonstrated as much.

II. The DRBC Needs a Comprehensive, Cumulative Environmental Analysis

The DRBC has a chance to avoid the mistakes that have thus far characterized the gas boom in the Northeast. In Pennsylvania, in particular, the industry has drilled first, and the state has asked questions later, if at all. The result has been environmental damage – including significant water quality harms to the Monongahela and Susquehanna river systems – as state regulators struggle to devise, and enforce, rules to control an already burgeoning industry. The struggle is not going particularly well: Pennsylvania's understaffed environmental regulators recently acknowledged they spend no more than 35 minutes, on average, processing each drilling permit,[2] and those regulators have also seen major limits on their enforcement abilities.[3] The DRBC can, and must, do better.

To do so, the DRBC must fully understand the scope and complexity of the gas boom's effect on the basin, and its own ability to control those impacts, before it allows drilling to move forward. This means that the DRBC must conduct a comprehensive environmental impact analysis of the industry's footprint, considering the cumulative impacts of thousands of wells, and their associated infrastructure and waste, on the basin. As part of this analysis, the DRBC must canvass the regulations, and enforcement abilities, that it, and the surrounding states, are able to bring to bear on the industry. If – as is now the case – the DRBC and the states lack the data, and enforcement personnel, necessary to properly enforce adequately stringent rules, the DRBC must acknowledge as much, and continue its moratorium.

It is not enough, in other words, that the proposed rules strengthen some protections, or that the rules' "Natural Gas Drilling Plans," required for some – but not all – gas

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[2] Michael Rubinkam, Associated Press, *PA Accused of Rubber-Stamping Gas Permits* (Apr. 13, 2011).
[3] Abrahm Lustgarten, ProPublica, *Pennsylvania Limits Authority of Oil and Gas Inspectors* (Mar. 30, 2011) (reporting that "[o]il and gas inspectors policing Marcellus Shale development in Pennsylvania will no longer be able to issue violations to the drilling companies they regulate without first getting the approval of top officials.").

operators, may provide some after-the-fact analysis and planning. The DRBC was set up, explicitly, as the basin's premier coordinating and planning agencies. *See, e.g.* Compact Art. 1.3. Because "[t]he water resources of the basin are functionally inter-related, and the uses of these resources are interdependent," the DRBC "is therefore essential for effective and economical direction, supervision and coordination of efforts and programs of federal, state and local governments and of private enterprise." Compact Art. 1.3(c). The DRBC needs to fulfill this essential role now, in addressing what it may be the largest single land-use and water quality challenge the basin has ever faced.

If the DRBC takes this sensible course of researching first and regulating later, it will find ample scientific support. Already, the EPA is moving ahead with a full life-cycle analysis of shale gas extraction's impacts on water quality, and the states, other regulators, and academics are engaging these questions in serious, and substantial, ways. Within a few years – indeed, even by 2012 – the EPA study will be public, New York (for instance) may have completed its own environmental impact statement, and other studies will have substantially advanced. The DRBC should structure its analysis to benefit from these efforts, even as it focuses its attention on the specific qualities of the Delaware River basin.

This analysis needs to look broadly, in both time and space. In addition to the manifest risks associated with near-term gas waste generation and disposal, as the Delaware Riverkeeper Network's comments demonstrate, deep well drilling fundamentally, and irreversibly, alters a region's geology, creating channels between the deep subsurface and freshwater aquifers. As those comments also demonstrate, even the best-designed well will eventually lose its integrity, allowing contamination to move towards the surface, a problem compounded by the possibility of long-term fluid migration through existing fissures. Although some level of risk is inevitable in any human endeavor, the DRBC must fully understand the scope, and likely effect, of these changes: Will the

presence of thousands of wells, slowly degrading over decades, lead to significant ground- and surface-water contamination? Is this threat manageable by mandating specific design and monitoring provisions? Is it worth the risk, given the vital environmental and economic importance of maintaining excellent water quality in the basin? The DRBC needs to think through these questions, before it allows drilling to begin.

To do so, of course, the DRBC will need to maintain its moratorium while it develops, and executes, a transparent, and comprehensive, research plan. It has ample authority to do so. Nothing in the DRBC's governing laws compels it to allow natural gas extraction in the area it stewards, unless that extraction can be done properly. The gas will still be there in a year or two, just as it has been for geologic epochs. It can wait, while the DRBC does its necessary work.

III. The DRBC Cannot Rely Upon Flawed State Regulations to Protect the Basin

Had the DRBC conducted a more thorough, public analysis before proposing its draft rules, it would have understood that the states around it are not succeeding at safely controlling the natural gas boom. This failure means that the proposed rules' directive that "compliance with state laws and permit requirements relating to natural gas and exploratory well construction and operation," *see* Draft Rule § 7.1(i), constitutes an unacceptable breach in the DRBC's protective system. Faulty well construction and operation – from bad casing jobs to leaky pits – causes water pollution, and threatens the integrity of the watershed. Because state regulations do not yet correct these problems, the DRBC must either defer permitting until they do, or develop its own standards.

We understand the DRBC's desire to collaborate with state regulators, but that collaboration must be in the interests of the watershed. The DRBC should be using its

authority to improve state regulations affecting the river, not deferring to inadequate regulations.

IV. The DRBC Needs to Strengthen the Draft Rules

As the Delaware Riverkeeper explains at great length, the draft rules do not yet adequately protect the basin. We do not rehearse all those recommendations here, though we generally support their thrust. A few of the failings, however, are so egregious as to be worth underlining here.

Most importantly, we strongly oppose the many instances in the rule where the Director of the DRBC may waive protective requirements in her (largely undefined) discretion, or where gas companies may avoid oversight altogether by using an "approval by rule" process. Gas development is far too dangerous to be afforded such wiggle room.

The DRBC maintains that such "approval by rule" provisions will "provide a streamlined process for natural gas development projects," noting that project review otherwise takes 6-9 months. 76 Fed. Reg. at 296. Such "streamlined" projects include wells using up to "80,000 gallons . . . of hydraulic fracturing fluids," if they comply with applicable state rules. *Id.* The DRBC has absolutely no business streamlining the approval process for such projects – and especially not so because some toxics in fracturing fluids, and in produced and flowback water, can cause serious harm in concentrations of parts per trillion and parts per billion. Gas wells will be among the most potentially dangerous projects the DRBC faces. It needs to review each and every project for compliance, on each project's particular facts. If this review slows down what would otherwise be a poorly-controlled boom, all the better.

Second, we are also deeply concerned that the draft rules contemplate discharging gas wastewater into the Delaware River. We understand that the DRBC intends to require a

"treatability study" from any plant proposing such discharges, *see* Draft Rule § 7.6(b), but we are far from persuaded that these studies will be sufficient to assure treatment of the many pollutants in gas wastewater, or that any wastewater treatment plants in the basin are actually able to remove these pollutants, sufficient to ensure "no measurable change in water quality except towards natural conditions." Code § 3.10.3(2). Certainly, Pennsylvania's experience with failing treatment plants, illegal dumping, and contaminated rivers, strongly suggests that surface disposal is set up for failure. While injection wells have their own significant problems, dumping gas waste – even partially treated gas waste – into surface streams in the basin is unacceptable under present conditions.

Indeed, the rules do not even provide for careful tracking of this waste. At a minimum, whatever waste disposal system the DRBC ultimately countenances, it must know where waste is generated, what is in that waste, and where it is going. Only a manifest system, tracking each shipment from generation to disposal through a publicly accessible database, is sufficient to properly manage the large volumes of highly polluted wastewater that the industry generates.

Third, we are also concerned that the DRBC's draft water withdrawal regulations do not adequately safeguard the basin's resources. As the Delaware Riverkeeper explains in depth, water used for gas drilling should generally be understood to be directed entirely towards consumptive uses for all purposes, and must be permitted, on a case-by-case basis, as such. "Approval by rule" permitting will not do. Nor will conditioning withdrawals only on maintaining the "Q7-10 flow" of affected streams, *see* Draft Rule § 7.4(d)(1)(xi), adequately protect resources. As the Riverkeeper discusses, that flow statistic was designed to address certain pollution dilution considerations, not to sustain aquatic communities. Stressing streams by allowing such low-flow conditions to persist is not consistent with the DRBC's mandate.

Fourth, we are generally concerned that the draft rules do not set up a sufficiently useful data management system for the region. Gas drilling, if allowed, has the potential to significantly alter the basin's hydrogeology and water quality. The DRBC, and the public, need to be able to track these changes as they occur, in order to react to them properly. This means that the DRBC must create a data management system adequate to the challenge.

Such a system would, of course, include electronic public notices of all drilling applications, along with access to all relevant materials, provided in forms that make it easy to track, and comment upon, the progress of drilling across the location. It also needs to show where water withdrawals occur, and in what quantities, and where waste is generated, and how it is treated. So, too, for well construction and, ultimately, for well closures. In short, because the DRBC is managing a watershed, it needs to demonstrate that it has the tools, and data, necessary to track the watershed's health. If the monitoring and reporting system is insufficient, then the DRBC, and the public, cannot be assured that basin resources are being protected.

At bottom, if, after a careful environmental analysis, the DRBC opts to allow any drilling to proceed, the DRBC needs rules that allow it, and the public, to track any drilling from start to finish, monitoring and controlling the cumulative effects of that intervention. As the watershed steward, the DRBC must demonstrate that it is ready to control the boom, rather than being swept along with rapid, uncontrolled, gas development. The proposed rules, though a step forward, fail that test.

V. Conclusion

The DRBC has the rare chance to thoroughly investigate the environmental implications of gas drilling before it allows extraction to move forward. It needs to take that

opportunity. The over 15 million people who depend on the DRBC to protect their water deserve no less.

Thank you for considering these comments.

Sincerely,

/s/

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