

August 15, 2016

Jason Oyler
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Re: Transcontinental Pipe Line Company’s Surface Water Withdrawal Applications (Nos. 2015-095, 2015-096, 2015-097, 2015-098, 2015-099, 2015-100, 2016-007, 2016-008, 2016-009, 2016-010, and 2016-020) and Consumptive Water Use Applications (Nos. 2015-094, 2016-003, 2016-004, 2016-005, 2016-006).

Dear Mr. Oyler:

The Allegheny Defense Project, Appalachian Mountain Advocates, Clean Air Council, Lower Susquehanna Riverkeeper, and Sierra Club (collectively, “Commenters”) respectfully urge the Susquehanna River Basin Commission (“SRBC”) to deny Transcontinental Pipe Line Company’s (“Transco”) above-referenced surface water withdrawal and consumptive water use application for the proposed Atlantic Sunrise Project (“Project”). The purpose of the Project “is to provide an incremental 1.7 million dekatherms per day (MMDth/d) of year-round firm transportation capacity from the Marcellus Shale production area in northern Pennsylvania to Transco’s existing market areas, extending to the Station 85 Pooling Point in Choctaw County, Alabama.” FERC Draft Environmental Impact Statement, 1-2 (“FERC DEIS”). A likely result of Project implementation will be increased shale gas development in the Marcellus and Utica shale formations in northern Pennsylvania, further impacting communities, landowners, and our environment for years into the future. The SRBC must consider the direct, indirect and cumulative effects of the Project on water resources of the Susquehanna River Basin.

I. Factual Background

On March 31, 2015, Transco filed an application with FERC under Section 7(c) of the Natural Gas Act, 15 U.S.C. § 717f, for a certificate of public convenience and necessity (“Certificate”) for its proposed Atlantic Sunrise Project. *See* FERC Docket No. CP15-138-000. The Atlantic Sunrise Project consists of the following proposed facilities in Pennsylvania: (1) 183.7 miles of new 30- and 42-inch diameter greenfield natural gas pipeline known as the Central Penn Line (“CPL”) North and CPL South; (2) 11.5 miles of new 36- and 42-inch diameter pipeline looping known as the Chapman and Unity Loops; (3) two new compressor stations; and (4) additional compression and related modifications at existing compressor stations. *See* FERC Draft Environmental Impact Statement, ES-1 (“FERC DEIS”).

On May 5, 2016, FERC published the DEIS for the Project. *See* FERC Docket No. CP15-138-000, Accession No. 20160505-4005, *available at* http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14456690. On June 27, 2016, the Environmental Protection Agency (“EPA”) filed comments with FERC stating that it had “Environmental Concerns” about the environmental impacts associated with all of the action alternative corridors of the Project and rated the adequacy of the DEIS as “2” (*i.e.*, insufficient information). *See* EPA, June 27, 2016 Atlantic Sunrise Project DEIS Comments, Cover Letter (FERC Docket No. CP15-138-000, Accession No. 20160706-0052) (“EPA DEIS Comments”). Notably, EPA said it “is concerned about direct, secondary and cumulative impacts to aquatic resources, groundwater, and water quality.” *Id.* EPA further noted that “[a]quatic resources have the potential to be impacted by many activities, including waterbody crossings, clearing, blasting, and *water withdraws for hydrostatic testing.*” *Id.* (emphasis added).

On July 7, 2016, the SRBC published in the Federal Register notice of the above-referenced applications for surface water withdrawals and consumptive water use. *See* 81 Fed.

Reg. 44,407 (July 7, 2016). Transco proposes a total of 33.696 million gallons per day (“mgd”) in surface water withdrawals (peak day). *Id.* at 44,407-44,408. Transco proposes a total of 0.5 mgd in consumptive water use (peak day). *Id.*

II. Legal Background

The SRBC is one of only two federal-interstate compact agencies in the country charged with comprehensively regulating water resources at the river basin level. *See Colorado River Comm’n of Nevada, Laws of the Rivers: The Legal Regimes of Major Interstate River Systems of the United States*, 218 (2006). The SRBC is a regional governmental agency, comprised of the governors of New York, Pennsylvania, and Maryland, and a representative of the President of the United States. 18 C.F.R. § 801.0(a). The purpose of the SRBC “is to effect comprehensive multipurpose planning for the conservation, utilization, development, management, and control of the water and related natural resources” of the Susquehanna River basin. *Id.*

The Susquehanna River Basin Compact (“Compact”) provides that the SRBC may “[m]ake and enforce rules and regulations for the effectuation, application, and enforcement of this compact[.]” Compact, art. 15, § 15.2(1). The SRBC regulates consumptive water use and surface water withdrawals pursuant to 18 C.F.R. § 806.4(a). Any project “involving a consumptive use of an average of 20,000 [gallons per day] or more in any 30-day period” requires submission of an application and are “subject to the standards set forth in §806.22, and, to the extent that it involves a withdrawal from groundwater or surface water, shall also be subject to the standards set forth in §806.23.” 18 C.F.R. § 806.4(a)(1). Any project “involving a withdrawal of a consecutive 30-day average of 100,000 [gallons per day] or more,” requires submission of an application “in accordance with §806.13, and shall be subject to the standards

set forth in §806.23.” 18 C.F.R. § 806.4(a)(2).

Regarding consumptive water uses, project sponsors “shall mitigate such consumptive use.” 18 C.F.R. § 806.22(b). The SRBC must “determine the acceptable manner of mitigation to be provided by project sponsors whose consumptive use of water is subject to review and approval.” 18 C.F.R. § 806.22(c). “Such a determination will be made after considering the project’s location, source characteristics, anticipated amount of consumptive use, proposed method of mitigation and their effects on the purposes set forth in §806.2 of this part, and any other pertinent factors.” *Id.* “The physical, chemical and biological quality of water released for mitigation shall at all times meet the quality required for the purposes listed in §806.2, as applicable.” 18 C.F.R. § 806.22(d). Before the SRBC can approve a consumptive use, “[t]he project sponsor shall obtain all necessary permits or approvals required for the project from other federal, state or local government agencies having jurisdiction over the project.” 18 C.F.R. § 802.22(e)(5).

Regarding water withdrawals, the SRBC “may limit withdrawals to the amount (quantity and rate) of water that is needed to meet the reasonably foreseeable needs of the project sponsor.” 18 C.F.R. § 806.23(b)(1). The SRBC “may deny an application, limit or condition an approval to ensure that the withdrawal will not cause significant adverse impacts to the water resources of the basin.” 18 C.F.R. § 806.23(b)(2). In reviewing a water withdrawal application, the SRBC considers the following in its consideration of adverse impacts:

- Lowering of groundwater or stream flow levels
- Rendering competing supplies unreliable
- Affecting other water uses
- Causing water quality degradation that may be injurious to any existing or potential water use
- Affecting fish, wildlife or other living resources or their habitat
- Causing permanent loss of aquifer storage capacity
- Affecting low flow of perennial or intermittent streams

Id. The SRBC “may impose limitations or conditions to mitigate impacts,” including:

- The quantity, timing or rate of withdrawal or level of drawdown
- Requiring the project sponsor to provide, at its own expense, an alternate water supply or other mitigating measures
- Requiring the project sponsor to implement and properly maintain special monitoring and stream flow protection measures
- Requiring the project sponsor to develop and implement an operations plan acceptable to the SRBC

Id. § 806.23(b)(3). The SRBC may also require the project sponsor to “[i]nvestigate additional sources or storage options to meet the demand of the project” and to “[s]ubmit a water resource development plan that shall include, without limitation, sufficient data to address any supply deficiencies, identify alternative water supply options, and support existing and proposed future withdrawals.” *Id.* § 806.23(b)(4).

III. SRBC should be a cooperating agency in the NEPA process.

One of the purposes of NEPA is to “emphasize agency cooperation.” 40 C.F.R. § 1501.6. Agencies should be included in the NEPA process if they have “special expertise with respect to any environmental issue.” *Id.* “An agency may request the lead agency to designate it a cooperating agency.” *Id.*

The SRBC’s regulations compliment the NEPA regulations. For example, one of the “objectives” of the SRBC is to “[d]evelop cooperative and coordinated Federal, State, local, and private water and related natural resources planning within the basin.” 18 C.F.R. § 801.0(c)(1). “The interstate nature of the Susquehanna River Basin and the broad regional authority of the [SRBC] require clear and effective working relationships with the States, Federal Government, and local and private sectors in all matters relating to the water resources of the basin.” 18 C.F.R. § 801.2(a). The SRBC must make a “concerted effort . . . to keep the [SRBC] and its

activities readily available to government and public scrutiny, and [be] responsive to their concerns.” 18 C.F.R. § 801.2(a)(5).

Here, it is clear that the SRBC has “special expertise” with respect to water resources in the Susquehanna River basin. The SRBC “is a regional governmental agency whose purpose is to effect comprehensive multiple purpose planning for the conservation, utilization, development, management, and control of the water and related natural resources of the [Susquehanna River] basin, which includes part of New York, Pennsylvania, and Maryland.” 18 C.F.R. § 801.0(a). The Compact “provides broad authority for the [SRBC] to carry out basinwide planning programs and projects, and to take independent action as it determines essential to fulfill its statutory regional governmental role.” 18 C.F.R. § 801.0(b). Therefore, the SRBC should be a cooperating agency in the NEPA process for the Project.

The EPA’s comments on FERC’s DEIS further support the fact that the SRBC should be a cooperating agency in the NEPA process. As noted above, the EPA’s comments on the DEIS specifically highlighted concerns about water withdrawals for the Project:

Water withdrawal can affect recreational and biological uses, stream flow, and result in impacts to stream and wetland habitat. EPA recommends that FERC conduct further detailed analysis of specific streams and wetlands of concern or high sensitivity and work with the resource agencies to determine if additional avoidance and minimization efforts may be necessary to reduce impacts to these important resources.

EPA DEIS Comments, Enclosure 1, p. 3. EPA further stated that:

EPA is concerned about cumulative impacts to aquatic resources, groundwater, and water quality. We recommend that the cumulative impact analysis of surface and groundwater be expanded, including cumulative impacts to water quality, headwater streams, high quality and/or sensitive aquatic resources. Aquatic resources have the potential to be cumulatively impacted by many factors, including waterbody crossings, change in recharge patterns, clearing, blasting, and water withdraws for hydrostatic testing. It may be prudent to consider these impacts in combination with other past, present, and reasonably foreseeable actions at the watershed scale.

Id. at 7. These concerns are certainly within the SRBC’s bailiwick and its “special expertise” would better inform the NEPA process.

Unfortunately, there is no indication that FERC requested SRBC to be a cooperating agency. Regardless of FERC’s conduct, the SRBC has an obligation to request that FERC designate it a cooperating agency under NEPA’s implementing regulations as well as its own regulations. *See* 40 C.F.R. § 1501.6; 18 C.F.R. § 801.0(c)(1). There is no evidence that SRBC made any request to become a cooperating agency or otherwise reached out to FERC and other agencies to coordinate review of the Project. The failure to request designation as a cooperating agency or to otherwise coordinate Project review has undermined the NEPA process and deprived the public of “readily available” information during the public comment period on the DEIS.

For example, according to FERC, Transco submitted the applications at issue here to the SRBC on November 25, 2015 and January 8, 2016. *See* FERC DEIS at 1-11. Despite this, the SRBC did not publish notice of these applications until July 7, 2016. *See* 81 Fed. Reg. 44,407 (July 7, 2016). This was *after* the public comment period on the DEIS, which closed on June 27, 2016. By sitting on Transco’s applications for six to eight months and only publishing notice of them after the public comment period on the DEIS had passed, the SRBC deprived the public of an opportunity to review and comment on a critical aspect of the Project during the NEPA review process.

This problem is again underscored by the EPA’s comments on the DEIS. For example, EPA stated:

It is stated that hydrostatic test water withdrawal location and rates would be in accordance with applicable permits. Although the locations, rates, sequence and timing of withdraws and testing may not be finalized, the currently proposed information is

relevant to the EIS and *should be included in order for potential adverse impacts to be fully analyzed and available to the public.*

EPA DEIS Comments, Enclosure 2, p. 4 (emphasis added). This information could easily have been incorporated if the SRBC and FERC were better coordinating their respective reviews. As noted above, Transco’s applications to the SRBC were submitted several months ago, well before the publication of the DEIS. Had the SRBC been designated a cooperating agency early in the NEPA process, it is likely that this information would have been in the DEIS. Therefore, the SRBC should request that FERC designate it as a cooperating agency and, at a minimum, provide an additional comment period on the DEIS.

IV. SRBC must consider the significant adverse effects from Transco’s Atlantic Sunrise Project and water withdrawals associated with induced shale gas production.

Transco proposes numerous consumptive water uses and surface water withdrawals associated with the Central Penn Line portion of the Atlantic Sunrise Project.

Table 1: Transco’s Consumptive Water Use and Surface Water Withdrawal Applications for the Atlantic Sunrise Project.

Application No.	Type	Amount (mgd)	Location	Subbasin	Purpose
2015-094	Consumptive Water Use	0.08	Eaton Twp., Wyoming County	Upper Susquehanna	HDD
2015-095	Surface Water Withdrawal	2.9	Sugarloaf Twp., Columbia County	Upper Susquehanna	Hydrostatic Testing
2015-096	Surface Water Withdrawal	2.6	Eaton Twp., Wyoming County	Upper Susquehanna	HDD
2015-097	Surface Water Withdrawal	2.9	Martic Twp., Lancaster County	Lower Susquehanna	Hydrostatic Testing
2015-098	Surface Water Withdrawal	2.9	Hegins Twp., Schuylkill County	Lower Susquehanna	Hydrostatic Testing
2015-099	Surface Water Withdrawal	2.9	W. Hempfield Twp., Lancaster County	Lower Susquehanna	Hydrostatic Testing
2015-100	Surface Water Withdrawal	2.9	N. Annville Twp., Lebanon County	Lower Susquehanna	Hydrostatic Testing
2016-003	Consumptive Water Use	0.1	Conestoga Twp., Lancaster County	Lower Susquehanna	HDD
2016-004	Consumptive	0.1	Montour Twp.,	Upper	HDD

	Water Use		Columbia County	Susquehanna	
2016-005	Consumptive Water Use	0.1	Montour Twp., Columbia County	Upper Susquehanna	HDD
2016-006	Consumptive Water Use	0.1	Conestoga Twp., Lancaster County	Lower Susquehanna	HDD
2016-007	Surface Water Withdrawal	2.9	Conestoga Twp., Lancaster County	Lower Susquehanna	HDD and Hydrostatic Testing
2016-008	Surface Water Withdrawal	2.6	Conestoga Twp., Lancaster County	Lower Susquehanna	HDD and Hydrostatic Testing
2016-009	Surface Water Withdrawal	2.9	Montour Twp., Columbia County	Upper Susquehanna	HDD and Hydrostatic Testing
2016-010	Surface Water Withdrawal	2.9	Montour Twp., Columbia County	Upper Susquehanna	HDD and Hydrostatic Testing
2016-011	Surface Water Withdrawal	2.9	Hemlock Twp., Columbia County	Upper Susquehanna	Hydrostatic Testing
2016-020	Surface Water Withdrawal	2.9	Franklin Twp., Columbia County	Upper Susquehanna	Hydrostatic Testing

Note: on August 3, 2016, Transco withdrew Application 2016-011 for Little Fishing Creek. To the best of our knowledge, the remaining applications are still pending before the SRBC.

As stated above, the SRBC must consider the adverse impacts of Transco’s proposed water withdrawal applications on the various resources identified in 18 C.F.R. § 806.23(b)(2). In addition, the SRBC recognizes that “[i]ncreasing consumptive use, and the cumulative impact, will reduce streamflows and adversely affect instream uses, riparian rights, and flows to the Chesapeake Bay.” SRBC, Comprehensive Plan for the Water Resources of the Susquehanna River Basin, p. 51 (Dec. 2013; *amended* Sept. 2015). Thus, the SRBC’s review of Transco’s applications must not occur in a vacuum. The Project is inextricably intertwined with reasonably foreseeable shale gas development and, consequently, the SRBC has an obligation to consider the adverse impacts of future shale gas development water withdrawals that are likely to be induced in the Susquehanna River basin upon construction and operation of the Project.

Shale gas development requires “large volumes of water.” SRBC, Natural Gas Well Development in the Susquehanna River Basin, p. 1 (Jan. 2013), *available at* <http://srbc.net/programs/docs/NaturalGasInfoSheetJan2013.PDF>. “The drilling and development of each production well uses, on average, between 4 and 5 million gallons of water.” *Id.* The SRBC acknowledges that these “quantities can be significant relative to the headwater settings where development has predominantly occurred.” SRBC, Cumulative Water Use and Availability Study for the Susquehanna River Basin, p. 78 (Aug. 2016), *available at* http://srbc.net/planning/assets/documents/CWUAS_Report_20160812.PDF. If shale gas development continues expanding in the Basin, these water withdrawals could have a significant impact on water resources.

For example, the SRBC recently projected that “[t]he most considerable decreases in water availability for the Basin were attributed primarily to projected increases in [public water supply] and the *cumulative effects of projected natural gas-related withdrawals.*” *Id.* at 61 (emphasis added). According to the SRBC:

[I]t is important to note that the locations and timing of the water withdrawals pursued by the gas industry are different than most other water users within the basin. For geologic reasons, the unconventional gas industry is primarily developing within relatively small watersheds located on the Appalachian Plateau of Pennsylvania. Water withdrawals from these smaller watersheds are in contrast to withdrawals from the larger watersheds located further south within the basin in which most other water users have historically been located. In addition, the natural gas industry would prefer to withdraw water at rates higher than the small streams within those small watersheds can tolerate[.]

Comprehensive Plan, p. 97. It is imperative that the SRBC consider and disclose to the public the amount of water withdrawals that are likely to result from construction and operation of the Project in addition to the existing amount of withdrawals in the basin. This is especially important in light of the fact that counties along the northern route of the Project have already experienced significant levels of shale gas development and, consequently, water withdrawals.

For example, in Wyoming County, where Transco proposes to withdraw water from the Susquehanna River in Eaton Township (Application No. 2015-096), there has already been substantial shale gas extraction across the northern and central part of the county. *See* Attachment 1.¹ Construction and operation of the Project is likely to increase shale gas development in Wyoming County and other counties across northern Pennsylvania. This is supported by Transco itself.

According to Transco's application, several natural gas production companies, including Anadarko Energy Services Company, Cabot Oil & Gas Corporation, Chief Oil & Gas, Inflection Energy, Seneca Resources Corporation, and Southwestern Energy Services Company, are Project Shippers for the Atlantic Sunrise Project. *See* Transco, Atlantic Sunrise Project Application, 10-11 (FERC Docket No. CP15-138-000, Accession No. 20150331-5153). Each of these companies operates in northern Pennsylvania's shale gas fields within the Susquehanna River basin, as evidenced by the 791 consumptive use or water withdrawal applications submitted by these companies that the SRBC has either already approved or is currently reviewing. *See* Attachments 2-7.² Some of the Project Shippers have expressly acknowledged that the Atlantic Sunrise Project will increase their shale gas extraction activities in northern Pennsylvania.

For example, Seneca Resources, the production subsidiary of National Fuel Gas Company, has stated that it will only engage in "limited development drilling" in its Eastern Development Area "until firm transportation on Atlantic Sunrise (190 MDth/d) is available in late 2017." National Fuel Gas Company, Investor Presentation – Scotia Howard Weil Energy

¹ This map was created using the SRBC's Water Resources Portal – Project Location Map. *See* <http://gis.srbc.net/wrp/>. Shale gas well pads are identified by the oil derrick marker.

² These documents were created by using the SRBC's Water Resources Portal and selecting the "Search for Projects" and "Project Sponsor" options. *See* <http://www.srbc.net/wrp/Search.aspx>.

Conference, p. 10 (Mar. 21-23, 2016), *available at*

http://s2.q4cdn.com/766046337/files/doc_presentations/2016/March/20160321_NFG-IR-

[Presentation_SHW-Conf_FINAL.pdf](#). Seneca Resources' Eastern Development Area includes acreage leased in Potter, Tioga, and Lycoming Counties. *Id.* Most of this acreage is located within the Susquehanna River basin.

Inflection Energy has stated that the Atlantic Sunrise Project should result in “more robust, less volatile markets for domestic natural gas, especially from the Marcellus Shale,” which “will contribute to and foster continued development of Marcellus Shale natural gas reserves[.]” Inflection Energy, Comments in Support of DEIS, pp. 1-2 (June 27, 2016) (FERC Docket CP15-138-000, Accession No. 20160627-5275). Inflection Energy has been fracking and drilling shale gas wells in Lycoming County, Pennsylvania. *See StateImpact Pennsylvania, Shale Play – Natural Gas Drilling in Pennsylvania: Inflection Energy (Pa) LLC, available at* <http://stateimpact.npr.org/pennsylvania/drilling/operators/inflection-energy-pa-llc/>. All of Lycoming County lies within the Susquehanna River basin.

Cabot Oil & Gas executed an agreement with Transco for construction of the Central Penn Line component of the Atlantic Sunrise Project. According to Cabot's 2013 Annual Report:

Subsequent to the year-end, Cabot announced the execution of an agreement with Transcontinental Gas Pipe Line Company, LLC (Transco) for a new pipeline with committed takeaway capacity from Cabot's acreage position in Susquehanna County, Pennsylvania. Transco plans to construct and operate approximately 177 miles of new pipeline, referred to as the Central Penn Line, from our Zick area in Susquehanna County to an interconnect with Transco's mainline in Lancaster County, Pennsylvania. These new facilities will be an integral part of Transco's Atlantic Sunrise project. Cabot will be an equity owner of the project as well as hold 850,000 MMBtu per day of firm transportation capacity on the pipeline. *This project represents another major step in Cabot's long-term plan for monetizing its Marcellus reserves as this pipeline secures new takeaway capacity from the basin on a new large diameter pipeline that connects our operating area directly to multiple new markets including new pricing opportunities.*

Cabot, 2013 Annual Report, p. 7 (emphasis added), *available at* <http://www.cabotog.com/wp-content/uploads/2013/03/COG-2013-AnnualReport.pdf>. When Cabot says that the Atlantic Sunrise Project “is another major step in [its] long-term plan for monetizing its Marcellus reserves,” it is acknowledging that the Project will induce further development of Marcellus shale wells in Susquehanna County, which is in the Susquehanna River basin.

As these companies’ statements make clear, construction and operation of the Atlantic Sunrise Project will undoubtedly lead to more shale gas development in the Susquehanna River basin, which will likely result in more water withdrawals for that shale gas development. The SRBC, therefore, cannot consider Transco’s water withdrawal applications in isolation. Rather, it must comprehensively review both Transco’s proposed water withdrawals and the reasonably foreseeable shale gas development water withdrawals that are likely to occur upon construction and operation of the Atlantic Sunrise Project.

The SRBC’s analysis must include the secondary and cumulative impacts on the Susquehanna River watershed. The Susquehanna River is the “longest, commercially nonnavigable river in North America.” SRBC, Information Sheet – Susquehanna River Basin, *available at* http://www.srbc.net/pubinfo/docs/SRB%20General%205_13%20Updated.pdf. The Susquehanna River basin is “comprised of six major subbasins,” has “more than 49,000 miles of waterways,” and is “made up of 63 percent forest lands.” *Id.*

In addition, the Susquehanna River is “the largest tributary of the Chesapeake Bay[.]” *Id.* The Susquehanna River comprises “43 percent of the Chesapeake Bay’s drainage area” and provides “50 percent of its fresh water flows.” *Id.* Thus, [t]he river and the Bay are two integral parts of one ecosystem” and “pollution that flows into Pennsylvania’s rivers and streams [within the Susquehanna River watershed] finds its way to the Chesapeake Bay.” Chesapeake Bay

Foundation, The Susquehanna River, *available at* <http://www.cbf.org/about-the-bay/more-than-just-the-bay/susquehanna-river>.

Over the past decade, “vast areas of some of the most pristine and sensitive habitats within the [Chesapeake] Bay watershed face an ever growing wave of industrialization” – shale gas development. Chesapeake Bay Foundation, Natural Gas, *available at* <http://www.cbf.org/about-the-bay/issues/natural-gas-drilling>. “Because of the magnitude and intensification of natural gas drilling and the associated infrastructure it brings, unconventional gas development threatens to have a profound impact on the landscape of the Bay watershed for generations to come.” *Id.* “The cumulative impacts from the construction and operation of well pads, access roads, pipelines, and compressor stations, as well as the water quality impacts and air pollution from trucks, well drilling, and ships may pose a risk to the Chesapeake Bay and the rivers and streams that feed into it.” *Id.*

These are important considerations as the SRBC reviews Transco’s applications. The Susquehanna River is already an impaired waterbody. Just recently, the Pennsylvania Department of Environmental Protection (“DEP”) announced it was listing four miles of the Susquehanna River as “impaired for recreation.” *See* DEP, DEP Lists Susquehanna River as Impaired for Multiple Uses, Develops New Analytic Methods for Semiannual Impaired Waterways Report, Aug. 1, 2016, *available at* <http://www.ahs.dep.pa.gov/NewsRoomPublic/articleviewer.aspx?id=21022&typeid=1>.

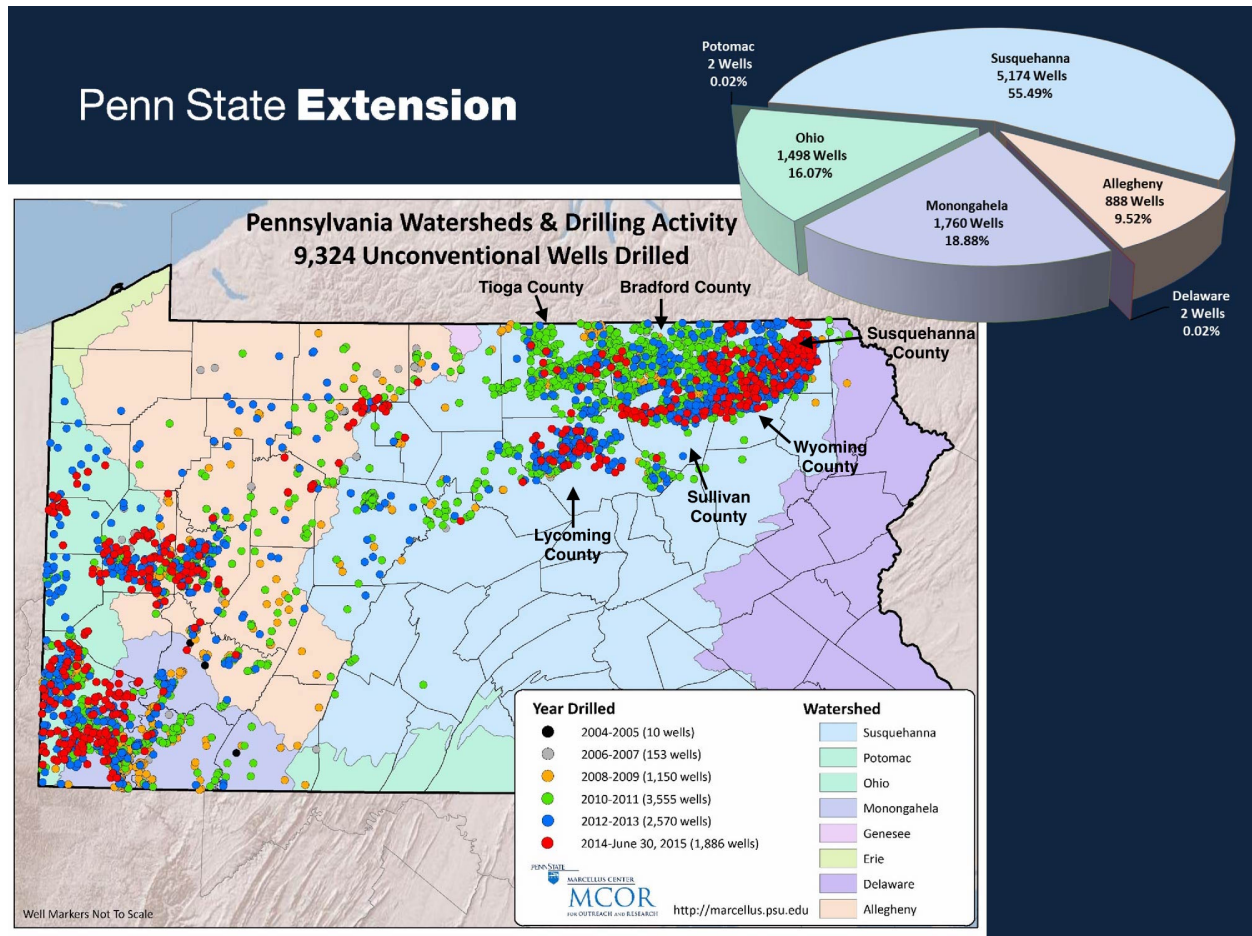
According to the accompanying report:

The portion of the Susquehanna River from the confluence with Conodoguinet Creek to the confluence with Yellow Breeches Creek is listed as impaired for Recreational Use. A 1.2 stream mile portion of the Susquehanna River immediately upstream and downstream of the route 462 Bridge (Columbia, PA) is listed as impaired for Recreational Use.

DEP, 2016 Draft Pennsylvania Integrated Water Quality Monitoring and Assessment Report, p. 33 (July 28, 2016), available at http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-113834/2016_Draft_Pennsylvania_Integrated_Water_Quality_Monitoring_and_Assessment_Report_Updated_07-28-2016.pdf. In addition, Swatara Creek, which is proposed for one of Transco's surface water withdrawals for the Atlantic Sunrise Project (Application No. 2015-100), has "both Aquatic Life and Recreational Use impairments, which results in the tributar[y] degrading the higher water quality of the river." *Id.* at 35. This information came to light after the submission of Transco's application. Therefore, the SRBC should deny Transco's application for Swatara Creek or, at a minimum, require additional information from Transco disclosing how the proposed surface water withdrawal will not further impair Swatara Creek. In the event that the SRBC requires further information, it must provide an additional comment period.

In light of the fact that the Susquehanna River is already a stressed waterbody, it is imperative that agencies such as the SRBC do not compound that stress by approving uses that will further degrade water quality. But that is precisely the concern in the case of the Atlantic Sunrise Project. The entire Pennsylvania component of the Atlantic Sunrise Project is located within the Susquehanna River watershed. *See* FERC DEIS at 4-48, Table 4.3.2-1. In addition, at least 55% of the over 9,300 shale gas wells that have been drilled in Pennsylvania, have been drilled in the Susquehanna River watershed. *See* Figure 1 below.

Figure 1: Unconventional shale gas wells drilled in Pennsylvania (2004 – June 30, 2015).



Source: Penn State – Marcellus Center for Outreach and Research, Resources: Maps and Graphs, available at <http://www.marcellus.psu.edu/images/Watershed%20Map%2020150630.jpg>. Note: County names and arrows added.

Between 2004 and April 30, 2016, at least 1,356 “unconventional” shale gas wells were drilled in Bradford County, 896 were drilled in Tioga County, 926 were drilled in Lycoming County, 123 were drilled in Sullivan County, 255 were drilled in Wyoming County, and 1,277 were drilled in Susquehanna County. See DEP, Office of Oil and Gas Management, Wells Drilled by County (Northcentral District Office) (Attachment 8). That is over 4,830 shale gas wells drilled over the in this region of Pennsylvania since 2004, all of which are in the Susquehanna River watershed.

It should be noted the stark difference in which the SRBC has approached shale gas development compared to the Delaware River Basin Commission (“DRBC”). “The

Susquehanna River Basin Compact closely follows the wording of the Delaware [River Basin Compact].” James W. Curlin, *The Interstate Water Pollution Compact – Paper Tiger or Effective Regulatory Device*, Ecology Law Quarterly, Vol. 2, Issue 2, p. 350 (Mar. 1972), available at <http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1031&context=elq>.

Despite the similar wording, however, the SRBC’s regulation of shale gas related water withdrawals could not be more at odds with the DRBC’s approach.

For example, the DRBC has essentially placed a moratorium on shale gas development until it finalizes regulations for the protection of the Delaware River basin’s water resources. *See* DRBC, Natural Gas Drilling Index Page, available at <http://www.nj.gov/drbc/programs/natural/>. The DRBC explains that fracking “may have a substantial effect on the water resources of the basin by reducing the flow in streams and/or aquifers used to supply the significant amounts of fresh water needed in the natural gas mining process.” *Id.* The DRBC then notes that millions of people rely on the Delaware River basin for drinking water and recreation and that it is “vital to the future of the entire region for the [DRBC] to strike the appropriate balance[.]” To date, the DRBC has not finalized regulations and, as a result, virtually no shale gas development has occurred in the Delaware River Basin. This “look-before-you-leap” precautionary approach is the polar opposite of the SRBC’s “leap-then-look” approach, as evidenced by Figure 1. The SRBC should follow the DRBC’s approach and place a moratorium on further shale gas-related approvals until it completes a study on basin-wide impacts of existing and reasonably foreseeable shale gas development.

V. The SRBC must consider impacts to Chesapeake Bay and the Chesapeake Bay TMDL.

It is critical that the SRBC consider the impacts on the Susquehanna River watershed *and* Chesapeake Bay from future shale gas development, especially as this development encroaches

upon the most forested part of the Susquehanna River watershed. As Figure 1 above shows, most of the shale gas development that has occurred in the Susquehanna River watershed has been concentrated in six counties in northeastern Pennsylvania. While some of this development has certainly impacted forests, much of the existing shale gas development has occurred areas dominated by agriculture. *Compare* Figure 1 with SRBC, Susquehanna River Basin – Land Use Land Cover, 2006, *available at*

http://srbc.net/atlas/downloads/BasinwideAtlas/PDF/1507_LandUse.PDF.

As the shale gas industry expands to the south and west of this region, however, it impacts forested lands. This is very concerning since forested lands “contribute[] the lowest loading rate per acre of all the land uses[.]” Environmental Protection Agency, Chesapeake Bay TMDL, Section 4, p. 4-36, *available at* <https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-document> (“Chesapeake Bay TMDL”).³ According to the U.S. Geological Survey:

Natural gas exploration and development result in spatially explicit patterns of landscape disturbance involving the construction of well pads and impoundments, roads, pipelines, and disposal activities that have structural impacts on the landscape . . . Forest loss as a result of disturbance, fragmentation, and edge effects has been shown to negatively affect water quality and runoff (Wickham and others, 2008).

Slonecker, E.T., et al., Landscape Consequences of Natural Gas Extraction in Bradford and Washington Counties, Pennsylvania, 2004-2010: USGS Open-File Report 2012-1154, p. 8 (2012), *available at* <https://pubs.usgs.gov/of/2012/1154/of2012-1154.pdf> (“USGS Report”); *see also* STAC (Chesapeake Bay Program Scientific and Technical Committee). 2013. Exploring the

³ The SRBC is part of the Chesapeake Bay TMDL’s Water Quality Goal Implementation Team. *See* Chesapeake Bay TMDL, p. 1-13, *available at* https://www.epa.gov/sites/production/files/2014-12/documents/cbay_final_tmdl_exec_sum_section_1_through_3_final_0.pdf. As part of this team, the SRBC is charged with “support[ing] efforts to reduce and cap the nitrogen, phosphorous, and sediment loads entering the Bay and to ensure that such reductions are maintained over time.” *Id.*

environmental effects of shale gas development in the Chesapeake Bay Watershed, STAC Publ. #13-01, Edgewater, MD. p. 16, *available at* http://www.chesapeake.org/pubs/297_Gottschalk2013.pdf (“STAC Report”) (“well pad[s] and associated infrastructure (including roads and pipelines) . . . change the hydrology and sediment, nutrient, and organic export to receiving streams . . . lead[ing] to altered flow regimes and habitats and increased sedimentation and nutrient input into streams”). It is no surprise that researchers have concluded that one of the “key priorities” for protecting Chesapeake Bay is to require that there is “no net loss of forest lands.” Claggett, Peter, and Thompson, Renee, eds., 2012, Proceedings of the Workshop on Alternative Futures – Accounting for growth in the Chesapeake Bay watershed: USGS Open-File Report 2012-1216, p. 8, *available at* <http://pubs.usgs.gov/of/2012/1216/OFR2012-1216.pdf>.

The SRBC must consider how the loss of forested areas from past, present and future shale gas development will impact the Susquehanna River watershed and compliance with the Chesapeake Bay TMDL, which EPA approved in 2010. *See* Chesapeake Bay TMDL. “[A] TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet applicable [water quality standards].” *Id.* at Section 1, p. 1-15. The Chesapeake Bay TMDL identified three pollutants of concern – nitrogen, phosphorus, and sediment. *Id.* at Section 2, p. 2-7. Clearing forested areas for roads, pipelines, well pads and other shale gas infrastructure will increase sediment loads into the Susquehanna River watershed, which could cause Pennsylvania to fall short of its obligations pursuant to the Chesapeake Bay TMDL.

According to the SRBC, as of 2012, there were at least 2,000 shale gas well pads in the Susquehanna River Basin, “creat[ing] 13,000 acres of disturbed lands” from the well pads themselves and associated road construction. *Id.* at 11. However, “[t]his level of disturbance

should be viewed as a minimum, since additional lands must also be cleared for gathering and transmission pipelines.” *Id.* Thus, the acres disturbed from shale gas development is likely much higher than 13,000 acres.

According to the Nature Conservancy, shale gas companies could drill 27,600 wells in the Susquehanna River basin by 2030. *Id.* Extrapolating from the SRBC’s calculations, that would result in approximately 6,900 well pads, assuming four wells per pad. Subtracting the existing 2,000 well pads results in an additional 4,900 well pads, which would create an additional 31,850 acres of disturbed lands. Again, these figures are conservative since they are only based on SRBC’s estimates for the well pad and associated road network. The Nature Conservancy believes that up to 110,000 acres of forested land could be cleared by 2030. *Id.* The SRBC must consider how this level of disturbance to forested lands in the Susquehanna River watershed will impact water quality within the basin and sub-basins as well as Pennsylvania’s compliance with the Chesapeake Bay TMDL.

VI. Conclusion

The Atlantic Sunrise Project is a major pipeline project that will significantly impact the Susquehanna River basin. These impacts will occur from construction of the pipeline itself as well as shale gas drilling induced by the Project. These impacts will cause significantly adverse impacts on the water resources of the Susquehanna River basin and, therefore, Transco’s applications should be denied.

If the SRBC proceeds with consideration of Transco’s applications, given the size of the Atlantic Sunrise Project, and the likelihood that it will induce substantial new shale gas development in the Susquehanna River basin, the undersigned respectfully request that the

SRBC consider exercising its full investigatory and oversight authority. The Compact provides that the SRBC:

may assume jurisdiction whenever it determines after investigation and public hearing upon due notice given that the effectuation of the comprehensive plan so requires. After such investigation, notice, and hearing, the commission may adopt such rules, regulations, and water quality standards as may be required to preserve, protect, improve, and develop the quality of the waters of the basin in accordance with the comprehensive plan.

Compact, Art. 5, Sec. 5.2(e). In the case of the Atlantic Sunrise Project and induced shale gas development, the “effectuation of the comprehensive plan” may require the SRBC to exercise this authority to better protect the water resources of the basin.

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