



February 17, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, D.C.

Re: CP16-27-000 Notice of Intent to Prepare an Environmental Assessment for the Proposed Delaware River Pipeline Relocation Project and Request for Comments on Environmental Issues

Delaware Riverkeeper Network is a nonprofit membership supported organization dedicated to the defense, protection and restoration of the Delaware River and its Watershed communities and habitats. Delaware Riverkeeper Network submits these comments on behalf of our organization and our 16,618 members.

Delaware Riverkeeper Network submits the following comments on the scope of the Environmental Assessment ("EA") to be prepared by the Federal Energy Regulatory Commission ("FERC") with respect to the proposed Delaware River Pipeline Relocation Project (DRRP).

The DRRP will have significant adverse environmental impacts

The Delaware River Pipeline Relocation Project will have substantial adverse environmental impacts. The project threatens to significantly disturb the ecosystems, habitats, and water quality of the Delaware River, including its Estuary and Bay. It also poses several unjustifiable public safety threats.

The Delaware River Estuary has been selected as an estuary of national significance by the federal government and is included in the Environmental Protection Agency's (EPA) National Estuary Program.¹ EPA has invested and continues to invest millions of public dollars in protecting and helping to restore the health of the habitats and ecosystems of the Delaware

¹ <http://www.epa.gov/nep/overview-national-estuary-program>

Estuary. The Delaware Estuary program is carried out by the Partnership for the Delaware Estuary (PED), a regional nonprofit that works in Delaware, New Jersey, and Pennsylvania.²

Delaware Riverkeeper Network works to protect the species and habitats of the Delaware River in its entirety, including its watershed, which includes species that live in the region that would be disturbed and impacted by the proposed project. One highly important species that would be directly impacted by the project is the Atlantic Sturgeon (*Acipenser oxyrinchus*).

On January 31, 2012 the National Marine Fisheries Service announced that the Atlantic Sturgeon in the Delaware River, and other River systems, would be listed as an “endangered species” pursuant to the Federal Endangered Species Act effective April of the same year. The Delaware River population was listed along with the Hudson River Population in a Distinct Population Segment known as the New York Bight. The Delaware River once supported the largest population of Atlantic Sturgeon known to exist.

In addition to now being listed as an endangered species under federal law, the Atlantic Sturgeon of the Delaware River is also listed as endangered by the States of Delaware, Pennsylvania and New Jersey. Despite these protections, Atlantic Sturgeon populations are not recovering. While Atlantic Sturgeon used to spawn in 26 river and estuarine systems, today they only spawn in 17 (2 of which are in Canada).³ When announcing its listing decision the National Marine Fisheries Service said that while there is no current estimate of spawning Atlantic Sturgeon in the Delaware River, there is believed to be less than 300. The 2008 Basin report describes the status of the Atlantic Sturgeon as “poor and getting worse” with numbers “probably less than 100 across the Estuary.”

There is genetic evidence that there exists a specific Delaware River haplotype, i.e. a Delaware River-specific genetic line of Atlantic Sturgeon. Haplotype A5 is private to the Atlantic sturgeon of the Delaware River. Although, many of the juveniles found in the Delaware River are likely not from this genetic stock -- Atlantic Sturgeon spawned in other river systems are using the Delaware as nursery habitat -- study has demonstrated that this genetic line is a distinct population of Atlantic Sturgeon that is unique only to the Delaware River. This makes the protection of this species all the more important.

Protection of the spawning grounds of the Delaware River’s Atlantic Sturgeon population is crucial to its survival and disruption and changes in the river and estuary at the location of this project can adversely impact these spawning grounds. Atlantic Sturgeon in general are believed to spawn in the flow water that is between the salt front and the fall line of the major river systems they spawn in. During the summer months juveniles concentrate in three main areas, it is believed, Artificial Island, Cherry Island Flats, and the Marcus Hook Anchorage.

² <http://www.delawareestuary.org/about-us>

³ Different sources have slightly different figures, for example the National Marine Fisheries Service places the count at 35 rivers for historical spawning and 20 present day. Either way, the decline is significant and a concern.

Spawning requires freshwater and a hardbottom substrate. Research is indicating that suitable spawning habitat exists between Marcus Hook and Tinicum Island, between Tinicum Island and the mouth of the Schuylkill River; and, because of the availability of freshwater and hard-bottom substrates, spawning habitat is also believed to exist all the way up to Trenton. The proposed project is located at about River Mile 89, squarely in the location science indicates is used for spawning by the Atlantic Sturgeon.

The majority of zones with hard-bottom substrate are within or adjacent to the shipping channel. Of course spawning within the shipping channel may have disastrous results for an Atlantic Sturgeon attempting to spawn, subjecting them to boat strikes that could result in death. Because of the availability of freshwater and hard-bottom substrates, potential spawning habitat is also believed to exist between Marcus Hook and Trenton, the area where this project is located.

In addition, the short nosed sturgeon (*Acipenser brevirostrum*) is listed as endangered throughout its range and is present in the Delaware River, according to the Pennsylvania Fish and Boat Commission⁴ and National Marine Fisheries⁵. Important species of relevance for commercial fisheries include, among others, American eel (*Anguilla rostrata*), bay anchovy (*Anchoa mitchilli*) and Atlantic menhaden (*Brevoortia tyrannus*). The latter two species were among the most abundant found in surveys conducted by NJDEP-DFW in the Delaware River in 2013 (NJDEP-DFW, 2013).⁶

Furthermore, the Project, and others like it, fit into a larger picture of extremely active shale gas development in the Marcellus Shale region. Records maintained by the Pennsylvania Department of Environmental Protection show that drilling of wells in the Marcellus Shale increased by nearly 400 percent between 2008 and 2009, from 195 wells to 768 wells.⁷ By 2016, 9,656 gas wells were drilled in the Marcellus Shale in Pennsylvania.⁸ The increased development is not limited to the drilling of wells. FERC has reported that 5.6 billion cubic feet per day of pipeline capacity was constructed in the Northeast in 2008 and 2009, and an additional 1.2 billion cubic feet per day will have been constructed in the region by January 2011.⁹ According to FERC,

⁴ PFBC, Smiles, 2014, Penn East app, Docket CP15-558, 9.25.15

http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14380457

⁵ <http://www.nmfs.noaa.gov/pr/species/fish/shortnosesturgeon.htm>

⁶ PFBC, Smiles, 2014, Penn East app, Docket CP15-558, 9.25.15

http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14380457

⁷ See Bureau of Oil & Gas Mgmt., Pa. Dep't of Env'tl. Prot., *Wells Drilled in 2008* (Dec. 31, 2008),

<http://www.dep.state.pa.us/dep/deputate/minres/oilgas/BOGM%20Website%20Pictures/2008/2008%20Wells%20Drilled.jpg>; Bureau of Oil & Gas Mgmt., Pa. Dep't of Env'tl. Prot., *Wells Drilled in 2009* (Jan. 25, 2010),

<http://www.dep.state.pa.us/dep/deputate/minres/oilgas/BOGM%20Website%20Pictures/2009/2009%20Wells%20Drilled.jpg>.

⁸ <http://www.fractracker.org/map/us/pennsylvania/> Accessed 2.16.2016

⁹ Fed. Energy Regulatory Comm'n, *Winter 2010-11 Energy Market Assessment 10* (Oct. 21, 2010),

<http://www.ferc.gov/market-oversight/mkt-views/2010/10-21-10.pdf>.

“[m]uch of the new pipeline capacity in the area is targeted at improving the access of shale gas to markets.”¹⁰

Even though it is stated in the Notice and Application that the sole customer will remain Paulsboro Refining Company (PRC), it is also stated in Resource Report #1 that PNGPC has no “definitive future plans to construct regulated pipeline or aboveground facilities at this time...” (emphasis added) and states that another application would be filed with FERC if that should materialize, leaving open the possibility that the expanded pipeline will not simply be replacing a pipeline serving an existing use but could be speculative in nature for as-yet unidentified projects, spurring further shale gas development to fulfill potential capacity. Section 1.5.1 Further, supporting the speculative nature of the project due to its larger size, it is also stated in this Report that the Tie-in facility for the HDD entry point in New Jersey “...will consist of a pig receiver and several block valves, but will be fenced to allow future operational equipment should future business opportunities arise” (emphasis added). Section 1.3 It is also stated that the DRRP “...will accommodate the 45-foot Project [the main channel deepening project] and potential future commercial activity” (emphasis added). Section 1.1.2 It is also stated that the existing Spectra Meter Station on the Pennsylvania side of the river in Delaware County, PA is proposed to be expanded to install a new pig launcher to, among other reasons, “...support the potential for PNGPC future expansion” (emphasis added). Section 1.1.2

Although it is not stated that all of the gas delivered will be shale gas, the amount of gas that can be delivered and used will increase and the proximity to the Marcellus Shale region in Pennsylvania reasonably indicates that the gas will be sourced from regional shale fields. It is stated that the existing pipeline currently transports approximately 38 million standard cubic feet per day (MMSCF/d) from Spectra Energy Partners, LP Texas Eastern Transmission 16 inch diameter pipeline to PRC, an affiliate of the applicant Paulsboro Natural Gas Pipeline Company LLC (PNGPC). The natural gas transport, according to the Notice and Resource Report #1, would increase to 57.7 MMSC/d and the size of the pipe will increase to 12 and 24 inches. Table 1.1.2-2 The length of the pipeline would also increase from the current 2.4 miles to 2.6 miles. More gas, most likely Marcellus Shale gas, will be delivered and used as a result of the DRRP.

Therefore, the DRRP is both a product of the development of the Marcellus Shale and a likely catalyst for further gas development. The impacts of the DRRP cannot be understood apart from the totality of the past, present, and reasonably foreseeable future actions associated with Marcellus Shale development. This requires broad analysis of upstream and midstream environmental impacts.

The DRRP requires an Environmental Impact Statement

The National Environmental Policy Act (“NEPA”) requires all federal agencies to prepare an Environmental Impact Statement (EIS) prior to taking “action[] significantly affecting the quality of the human environment.”¹¹ FERC has promulgated regulations to implement NEPA

¹⁰ Letter from Jacquelyne M. Rocan, Senior Counsel, Tennessee Gas Pipeline Company, to Kimberly D. Bose, Secretary, Fed. Energy Regulatory Comm’n on Request to Use Pre-Filing Procedures 3 (July 6, 2010).

that describe major actions significantly affecting the environment normally requiring the preparation of an EIS.¹²

The DRRP constitutes the proposed construction of a 12 and 24 inch diameter pipeline affecting a total of 2.6 miles, increasing the diameter and length of the pipeline. As stated above, Resource Report #1 states that the existing 6 and 8 inch pipeline currently transports approximately 38 million standard cubic feet per day (MMSCF/d) of natural gas from Spectra Energy Partners, LP Texas Eastern Transmission 16 inch diameter pipeline to PRC, an affiliate of the applicant Paulsboro Natural Gas Pipeline Company LLC (PNGPC). The natural gas transport, according to the Notice and Resource Report #1, would increase to 57.7 MMSC/d. The length of the pipeline would increase from the current 2.4 miles to 2.6 miles. This represents a major expansion with new environmental impacts throughout every phase of the project.

The DRRP, according to the application as quoted above on pages 3 and 4 of this comment (Section 1.5.1, 1.3, and 1.1.2 respectively), is clearly part of a larger project. As a result there are reasonably foreseeable additional impacts that need investigation in an EIS. Failure to do such a review as part of an EIS would result in illegal segmentation and a failure to look at cumulative impacts, both in violation of NEPA.

Another action that requires an EIS under NEPA is “major pipeline construction projects under section 7 of the Natural Gas Act using right-of-way in which there is no existing natural gas pipeline.”¹³ Furthermore, FERC has determined that “major greenfield pipelines normally call for EIS’s being prepared first.”¹⁴

All of the new pipeline that would be installed in the river would be installed using an Intersect Horizontal Directional Drill method (HDD) under the river; this constitutes 8,550 feet of pipeline under the river where no pipeline exists, constituting greenfield construction. The attached report prepared for Delaware Riverkeeper Network by HydroQuest, “**Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing Beneath the Delaware River**” details specific potential environmental impacts from the placement of the pipeline utilizing HDD.¹⁵ Corrosion and stress cracks, coupling failures, over pressurization and inadequate cathodic protection are common causes of pipeline failure that can lead to leaks, rupture and failure of the integrity of the pipe. The potential for corrosion of the DRRP is heightened due to its unique alignment, downwardly curved design, and the difficulty to access the pipeline due to its lengthy and deeply buried setting.

¹¹ National Environmental Policy Act, 42 U.S.C. § 4332(C) (2006).

¹² 18 C.F.R. § 380.6 (2010).

¹³ *Id.*

¹⁴ See Order Denying Rehearing and Request for Stay, 116 FERC P 61,182, ¶ 84, 2006 WL2461766, at *61788 (Aug. 25, 2006) (quotations omitted).

¹⁵ HydroQuest, “Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing Beneath the Delaware River”, February 2016.

The impacts of a rupture are made more substantial due to the pipeline's certificate apparently allowing a future conversion of the pipeline to transport other substances including refined products and liquids that contain hydrocarbons that could pollute the river, estuary and bay. These potential environmental impacts require an EIS.

The HydroQuest report points out that the soft soils under the Delaware River where the HDD would be installed lack cohesiveness, which could cause the upward release of drilling fluids during drilling of the HDD. Environmental impacts from such a release could result in the deposition of fine sediments and bentonite clay on the river bottom, smothering habitats.¹⁶

Resource Report #1, Section 1.3.1 states that the details on the drilling fluid that would be used will be submitted as part of a drilling contingency plan. This information is summarized in the application but the details are lacking, leaving open the possibility that pollutants that have adverse impacts for fish, wildlife and water quality may be contained in the drilling fluids.

The Hydroquest report points out that the Delaware River at this location is "...a high consequence area where pipeline leaks or rupture may endanger river water quality, fauna, ecosystems, an underlying aquifer, and the public."¹⁷ The report also explains that the "HDD pipeline installation may intersect and degrade a sand aquifer that underlies the Delaware River".¹⁸ This aquifer supplies drinking water to residents, businesses, and industrial uses in South Jersey and Southeastern Pennsylvania. In New Jersey existing water supply wells are known to be connected to the underlying aquifer where the DRRP would be installed. Potential adverse impacts to this aquifer would significantly affect the quality of the human environment by compromising drinking water quality of water supplies provided through regional groundwater withdrawals. These impacts must be evaluated in an EIS.

The DRRP also entails the removal of 425 feet of the existing pipeline from the shipping channel, disturbing river bottom, distributing sediments and contaminants and disrupting flows. This disturbance could affect water quality of river, potentially impacting surface withdrawals and habitats for species that live in the river locally and downstream. These important impacts must be evaluated by an EIS. The rest of the pipeline, approximately 8,153 feet, would be left in the river or on land. Resource Report #1 details the sections that would be removed and abandoned in place at Table 1.1.2-1.

The impacts caused by the removal of the pipeline vs. abandoning the current pipeline in place need to be evaluated through an EIS. Abandonment of the existing pipeline will entail purging the pipeline with nitrogen, followed by water, according to Resource Report #1, Section 1.1.2. The use of nitrogen should be examined through a detailed risk analysis before being used to ensure

¹⁶HydroQuest, "Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing Beneath the Delaware River", February 2016, page 4.

¹⁷HydroQuest, "Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing Beneath the Delaware River", February 2016, page 1.

¹⁸HydroQuest, "Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing Beneath the Delaware River", February 2016, page 4.

the safety and effectiveness of the purge. It is stated that the water flushing after the nitrogen purge will “displace any residual nitrogen”. Will the purge and flushing detect leaks and holes in the existing pipeline? Will the pipeline left in the river be subject to further corrosion and breakage? Has there been an analysis done of river bottom sediments and how these can be expected to shift over time with traffic, river activities, and weather events? Would the abandoned pipeline continue to lose cover, exposing sections to strikes and accidents and posing threats to fish and wildlife? Has there been an analysis of impacts of increased deep draft shipping in the widened and deepened channel that could impact the pipes on either side of the 425-foot section that would be removed? At what rate will the pipeline, constructed in 1941, decay and how will this be monitored?

According to Table 1.1.2-1, existing pipeline on land would also be abandoned in place. Appendix 1A-2 illustrates the land section to cross under Philadelphia International Airport runways, Conrail Railroad tracks, and roadway. This active area could stress the abandoned line, further degrading its integrity and lead to collapse of the line. It is also stated that within the Philadelphia International Airport (PHL) property, “...pipe located in the PHL expansion area is to be tentatively removed” (emphasis added). This calls into question the exact amount of pipeline that is being proposed for abandonment in place. Delaware Riverkeeper Network opposes the abandonment in place of the old existing pipe; the fate of the existing pipeline on both land and water must be fully analyzed in an EIS.

The environmental threats posed by leaving the pipeline debris on the river bottom, even if covered to some degree, are too great and pose unacceptable safety risks. Further, the application does not discuss testing the inside of the pipe for hazardous residue to assure there is no source of pollution that could leak into the river or the river’s substrata from the abandoned pipe. Of particular concern is radioactive scale that, depending on the type of natural gas transported, could be built up on the inside of the pipe, allowing it to escape into the river bottom and the river’s water column through leaks or breaks. The existing pipes must be tested for radionuclides.

Also, the pipeline was used in the past to transport refined liquid fuel products from the Paulsboro Refinery to Philadelphia, was decommissioned in the 1960’s, then “repurposed as a natural gas pipeline” in 1999 to deliver natural gas from the current Delaware County location to the Paulsboro refinery in New Jersey. This presents the potential for other contaminants attached to the inside of the pipe to escape into the river environment from the prior transport of refined fuel products. These issues need to be addressed in a comprehensive EIS.

Abandonment of the existing pipeline in the river bottom also raises concerns related to the future U.S. Army Corps of Engineers consideration of deepening the shipping channel to 50 feet. This would require a wider and deeper channel than the currently widened channel, potentially exposing the abandoned pipeline to strikes and breaks similar to the damage that led the Army Corps to require the relocation of the existing pipeline and the DRRP project.

Resource Report #1 states that the existing pipeline right-of-way will continue to be owned by PNGPC after the abandonment and removal. There needs to be a rationale presented for why

this is proposed since the justification for the right-of-way will no longer exist, removing the legal validity for ownership by PRC.

An inventory of all existing and planned pipelines across the river should be done in an EIS to accurately analyze the potential for interference with the proposed abandoned line and also the safety and orientation of all facilities related to the DRRP.

Resource Report #1 states on the land portion of the project, the proposed 24-inch steel pipeline will travel via HDD under Philadelphia International Airport runways, Conrail Railroad tracks, and roadways, departing from the current right of way used by existing pipeline. At the existing Spectra Meter Station on the Pennsylvania side of the river in Delaware County, PA, a new pig launcher will be installed at an expanded site. The larger site is needed to "...support the potential for PNGPC future expansion" and "...to avoid conflicts with the future PHL [Philadelphia International Airport] expansion. Section 1.1.2 In Gloucester County, NJ, the existing PRC connection would be modified to include new block valves, check valves, and reducers and a new PRC tie-in facility would be constructed to include a pig receiver, block valves, and a reducer.

Resource Report #1 states that the DRRP project will disturb a total of 28.6 acres of land for construction and 4.5 acres are permanent disturbance. 75 feet of workspace is planned, including a 30 foot permanent easement and right-of-way and 45-feet of temporary workspace. The HDD installation portion of the project proposes a 50-foot wide easement and right-of-way. Additional areas of temporary workspace for the HDD operations will be needed, as shown in Appendix 1A-5. Temporary access roads will be needed to reach the HDD pullback areas and the laydown areas. Tables 1.2.1-1 and 1.2.1-2 detail the pipeline corridor widths and Figures 1.2.1-1 through 1.2.1-4 show the construction corridors; Figure 1.2.1-5 shows additional temporary workspace required for the HDD pullback. There are also aboveground facilities as described in 1.2.2 and outlined in table 1.2-2 on both the New Jersey and Pennsylvania portions of the project.

These land disturbances impact portions of 2 states on land adjacent to the river that is very actively used for many purposes. Some proposed land disturbances pose safety concerns should there be a pipeline failure or accident during construction or during operation of the project. Potential safety hazards include the crossing of the pipeline via HDD of an actively used PHL airport runway and a mention that future expansion of the airport may be adjacent to or cross over the buried pipeline. Another important potential hazard is the pipeline traveling under the Conrail railroad tracks that transport freight, including hazardous and/or flammable materials such as highly volatile domestic crude oil, ethanol and chlorine.

The precise depth of the HDD-installed pipeline at these locations is not known but it is noted in the application that the HDD will require a minimum cover of 10 feet from the bottom of the rail tracks to the top of the pipe. Resource Report #1, Section 1.3.1 Considering the craters caused by explosions of pipelines as described in the HydroQuest report, a catastrophic break-through to the land surface cannot reasonably be expected to be prevented by 10 feet of land cover should there be an explosion of the pipeline. Documentation by the Pipeline Hazardous Materials and Safety Administration, USDOT, and the Federal Railroad Administration, shows that derailments

and explosions of oil trains can cause significant outward force and fire¹⁹, posing a threat to the pipeline should there be an accident on the railway. These land disturbances and potentially conflicting activities require analysis by an EIS.

Finally, the application claims the wetland impacts would be temporary and unavoidable. Wetlands are shown on Figure 1.2.1-5 in Resource Report #1. It is stated at 1.3.1 that “PNGPC is not planning to complete wetland mitigation activities beyond restoration due to the proposed impacts from the PHL expansion”. This claim has not been reported as confirmed with PADEP. The wetland impacts must be fully evaluated through an EIS.

FERC must prepare a full EIS to assess the myriad environmental consequences of this multi-faceted project that will, among other features, affect greenfields, the Delaware River, aquifers that supply millions of people, businesses, and industrial uses with water, important habitat for fish and wildlife including habitat and spawning grounds for the endangered species Atlantic Sturgeon, wetlands, the Delaware River shipping channel, and locations and resources on both sides of the Delaware River in Pennsylvania and New Jersey.

The DRRP will significantly affect the quality of the human and natural environment and an EA cannot on its own address the full impacts of the project, or its secondary and cumulative impacts. The high value and irreplaceability of the resources that will be disturbed and potentially degraded or harmed require a more thorough level of study; they require an EIS. Because the Project will have a significant impact on these resources and the human environment, a full EIS is necessary to properly characterize the whole of the affected environment and the full extent of multiple classes of potentially severe impacts.

Submitted by:

The image shows two handwritten signatures in blue ink. The signature on the left is 'Maya K. van Rossum' and the signature on the right is 'Tracy Carluccio'.

Maya K. van Rossum
The Delaware Riverkeeper

Tracy Carluccio
Deputy Director

¹⁹ <http://www.phmsa.dot.gov/hazmat/outreach-training/erg>.