



December 9, 2016

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Waterways and Wetlands Program Manager
2 East Main St., Norristown, PA 19401
484-250-5900

RE: Comment Letter on E23-530. Paulsboro Natural Gas Pipeline Company LLC, 800 Billingsport Road, Paulsboro, NJ 08066, Tinicum Township, Delaware County, ACOE Philadelphia District.

The Delaware Riverkeeper Network ("DRN") submits the following comment and supporting documents regarding the Chapter 105 Water Obstruction and Encroachment Permit joint permit application for the Delaware River Pipeline Replacement Project (the "Project") proposed by Paulsboro Natural Gas Pipeline Company LLC (PNGPC) which is currently being reviewed by the Pennsylvania Department of Environmental Protection ("Department"). The project is located east of Tinicum Island Road (Bridgeport – NJ-PA Quadrangle latitude: 39.857287, longitude: - 75.269889). The Delaware Riverkeeper Network recommends that the permit be denied.

The Delaware Riverkeeper Network is dedicated to the protection and restoration of the Delaware River Watershed, including all of its communities and inhabitants, and represents our over 16,000 members who live within and outside of the watershed.

The Delaware River Estuary, where this Project is proposed to be located, 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 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

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

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

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.

Chapter 105 of the Pennsylvania Code and 401 Water Quality Certification requirements in the Clean Water Act

PNGPC's proposed Project does not comply with Chapter 105 of the Pennsylvania Code and is not consistent with 401 Water Quality Certification requirements in the Clean Water Act due to adverse impacts to waters and wetlands, adverse and unmitigated impacts on protected uses and the maintenance and propagation of indigenous fish and habitat. The Project would negatively impact the Delaware River and adjacent wetlands located on the Project construction site in Tinicum Township, Delaware County, PA. The Project presents hazards to health and safety in the Federal Navigation Channel in the Delaware River, including the dangerous and unacceptable presence of the existing pipeline that will be abandoned in place within the active Federal Navigation Channel and potential pollution from these health and safety hazards and from other aspects of the Project and presents other environmental issues, some of which are not addressed or assessed by the PADEP Environmental Review for the Project.

PNGPC would construct a 2.6 mile pipeline, and in order to do so, would disturb 0.15 acres of Exceptional Value Open Water that is home to the state listed threatened/endangered species *Pseudemys rubriventris* (northern red bellied turtle) by drilling and by conducting construction activities above and around the pond; potentially disturb habitat areas critical to the federally endangered Atlantic sturgeon; drill under wetlands and trench through at least 9,893 square feet of wetlands that will be permanently degraded (Wetland 1) and an additional 29,194 square feet that is claimed to be only temporarily impacted at Wetland 1 and 136,631 square feet at Wetland 2 in an area where wetlands are scarce; drill a horizontal directional bore under the river to install 8,550 feet of pipeline where there is currently no pipeline; disturb 425 feet of river bottom to remove damaged existing pipeline; permanently degrade 6,436 square feet of streams; permanently impact 164 square feet drainage area (NSPD-12) and 85 square feet drainage area (NSPD-1); and expose at least 3343 linear feet of river channel to several potential and unjustifiable health and safety hazards and potential pollution releases that could impact water quality and fish and fishlife. The Project also would trench through the floodplain of the Delaware River, permanently impacting 50 feet of floodway.

The Project's Water Obstructions and Encroachments permit application, as explained in the Pennsylvania Bulletin Notice describes the Project: "To remove partially existing 6-inch and 8-inch diameter natural gas pipelines, relocate and maintain with a new 24-inch steel pipeline to meet USACE requirements associated with the deepening dredging of the Delaware River (WWF) to meet USACE

standards. The existing 6-inch and 8-inch gas pipelines are partially removed and remaining sections will be sealed and abandoned in place”. The applicant additionally describes the Project’s purpose in file documents as: to remove the 6-inch and 8-inch pipeline and replace it with a new 24-inch pipeline “...to increase volume of gas delivered and 2. To remove approximately a 425 linear feet section of existing 8-inch pipeline in order to avoid marine traffic impacts within the widened Federal Navigation Channel and to avoid potential conflict with future dredging operations.” The project is described as located in WWF, MF.

Abandoned Pipeline in the Federal Navigation Channel and Delaware River

There was no analysis or discussion of the requirement to remove this or other pipelines from the bottom of the Delaware River in the environmental reviews that were conducted by the United States Army Corps of Engineers (USACE) for the Deepening project, leaving open the question of how the USACE during that public review process addressed the impacts of these removals on the environment. Assuming there are USACE requirements and standards in place that require the removal of this pipeline (the removal of any pipe above -56’ MLW inside the new channel boundaries plus 100’ buffer toward PA is mentioned in the Environmental Review, apparently explaining why the 425’ section is being removed, even though it does not appear to be within the navigation channel), the Project fails to provide adequate health and safety protections because the section of pipeline that will be abandoned and left in place is located within the Federal Navigation Channel. The section that will be removed does not appear to be located in the Channel, unless the channel location will change.

Leaving the abandoned pipeline under the Federal Navigation Channel as is shown on the Delaware River Crossing Site Sketch Plan (38-17378-C-100) poses a substantial safety issue due to the exposure of marine traffic to the pipeline, where vessels could strike the pipeline and cause hull damage. There are numerous examples of vessels being caught on debris in the river that have resulted in pollution, in some cases catastrophic pollution events such as oil spills from tankers. Due to river bottom changes caused by flooding, high flows, tidal action, sea level rise, traffic impacts, ongoing maintenance dredging, and sediment shifts, the pipeline’s location in the Federal Navigation Channel could cause a strike or hit that damages the vessel and results in a pollution release. The description of the Project in the Bulletin and in several documents in the file is not accurate because it does not fulfill health and safety protection needs. Additionally, contrary to the Department’s Environmental Review, leaving the pipeline in the channel and in the river bottom creates a flood damage hazard should the sediments shift or the pipeline get moved, causing materials and debris to catch on the abandoned pipeline.

Attached is a report by Hydroquest dated 2.11.2016 “*Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing Beneath the Delaware River*” that recommends the total removal of the existing pipeline from the river bottom, not only the Navigation Channel, because of the potential of pollution from the abandoned pipe itself which can negatively impact water quality and species that live in the river such as the federally protected Atlantic Sturgeon and other important flora and fauna. Iron is released into the river water as pipeline steel corrodes, negatively effecting water quality for riverine ecosystems. The residue of any materials that have not been adequately removed from the existing pipeline could also be released to the river should there be a vessel strike of the abandoned line that breaks it open to the water. There may also be thermal impacts that result from leaving the existing pipeline in the river bottom and impacts on the movement and habitat of fish and fishlife. These must be evaluated before any conclusions can be drawn about the lack of negative impacts to fish and other marine life in the river. Delaware Riverkeeper Network strongly objects to leaving any part of the old pipeline in the river bottom.

Incomplete and Inaccurate Application

The permit application does not provide all the information required for the Environmental Review report completed by the Department. Missing are answers to:

- “Pollution of groundwater or surface water or diminution of resources sufficient to interfere with uses”. Please see attached report by Hydroquest concerning the potential for groundwater pollution as a result of aquifer intrusion by drilling and the placement of a pipeline. There must be groundwater measurement and monitoring to ensure there is no change or diminution in groundwater resources.
- “Scenic Corridor Status”
- “Site inspection date”. Was this site ever inspected by the Department? Is the Department relying solely on the applicant’s assessment of conditions at the site?

Species Negatively Impacted by Project

The Project location contains an Exceptional Value “Open Water” that is home to *Pseudemys rubriventris*. The northern red-bellied turtle (*Pseudemys rubriventris*) is a large aquatic turtle species that is listed as state threatened in Pennsylvania. By 1985 the red-bellied turtle was known to exist in Pennsylvania only in isolated colonies in a few counties.³ Small (less than thirty individuals) colonies were known in

³ McCoy, C. J. (1985). Species of Special Concern in Pennsylvania, in H. H. Genoways and F. J. Brenner, editors. *Special Publication of Carnegie Museum of Natural Pennsylvania. Carnegie Museum of Natural History, Pittsburgh, PA.*

Manor and Silver lakes in Bucks County, the Tinicum wetlands in Philadelphia and Delaware Counties, the West Branch of Conococheague Creek in Franklin County and possibly Springton Reservoir in Delaware County⁴. The Project would impact the red-bellied turtle population in a small pond classified as an Open Water and area wetlands.

The PAFBC proposed mitigation methods are seasonal timing restrictions (allowing construction near this area only from October to April when the turtles are inactive) and erecting exclusion fencing around the perimeter of the pond to keep turtles from wandering into the construction area. Red-bellied turtles nest on land from late May through June and dig nests in sites with loose soil and sparse leaf litter that receive many hours of direct sunlight. In urban areas, these nest sites often include dirt roads, gravel parking lots, fields, lawns, and gardens. In a 2003 study in Maryland, 14 marked red-bellied turtles returned to the same nesting sites in subsequent years, suggesting a degree of fidelity to particular nest sites. This same study noted that nests were dug up to 225 meters away from the water source where the turtles came from⁵.

Turtles spent one to two hours searching for a suitable nest site and were wary of humans during this time. If humans were nearby, the turtles were observed seeking cover in woods or low vegetation⁶. Due to this observed behavior, any type of construction activity would certainly disturb any nesting red-bellied turtles in the vicinity of the construction. The “temporary” impacts of the bore hole drilling, pipeline section stringing, workspaces, and even the boots of walking construction workers have the ability to destroy existing and future red-bellied turtle nesting habitat. Furthermore, the observed nesting distance of 225 meters from the water needs to be taken into account since this is a significant distance that the turtles may travel while selecting a nest site. Finally, beyond the pond itself, the adjacent wetlands need to be accounted for as potential habitat that the turtles may utilize during seasonal movements and because they are likely hydrologically connected.

Therefore, the Project can reasonably be expected to have permanent impact on the turtles and their habitat, not a temporary impact as is claimed by the applicant. Adequate protection for the turtles requires that there be no activity within at least 225 meters from the pond to provide available nesting area and that the time restriction be revised to include the nesting period (May-June), which is outside of the hibernation period of October to April. The nearby wetlands may be an important part of the habitat for these turtles, requiring that the wetlands also be classified as Exceptional Value and added to the protected area.

⁴ Ibid.

⁵ Swarth, C.W. (2003). Natural History and Reproductive Biology of the Red-bellied Turtle (*Pseudemys Rubriventris*). *Technical Report of the Jug Bay Wetlands Sanctuary, Lothian, Maryland*.

⁶ Ibid.

Additional protections are needed to preserve access to the river and feeding areas required by the turtles. There should be a comprehensive analysis done of the site to assess the areas needed to be excluded and the time restrictions for any and all activity within at least a 225 meter radius of the pond. Delaware Riverkeeper Network advocates that the work areas and Directional Drill Pullback Areas be moved from the proposed location to another location without Open Water or wetlands; the areas that are already paved and cannot support the turtle species are a reasonable option as a location.

Another 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).⁷ 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

⁷ 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.

summer months juveniles concentrate in three main areas, it is believed, Artificial Island, Cherry Island Flats, and the Marcus Hook Anchorage.

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, 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 Commission⁸ and National Marine Fisheries⁹. Important species of relevance for commercial fisheries include, among others, American eel (*Anguila 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).¹⁰

It is assumed that because the project will be using HDD that all Delaware River species will not be impacted. This conclusion is not supported by evidence in the file. The attached Hydroquest report explains several ways that HDD drilling can result in polluting and disruptive releases and eruptions, as well as crater formations, in the waterway that is being drilled under, either during construction or during operation. These hazards and their potential impacts to fish, indigenous as well as migratory (anadromous and catadromous), and river flora and fauna are not taken into consideration.

Additionally, Little Tinicum Island is located off shore and contains a heron rookery and could be home or foraging area for other species as well. Species on nearby islands will be disturbed by the drilling noise, vibrations, lights, equipment emissions and round-the-clock construction activity related to the Project. These potential impacts are not addressed, discussed, or mitigated in any way in the file documents.

Delaware River Water Quality

⁸ PFBC, Smiles, 2014, Penn East app, Docket CP15-558, 9.25.15
http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14380457

⁹ <http://www.nmfs.noaa.gov/pr/species/fish/shortnosesturgeon.htm>

¹⁰ PFBC, Smiles, 2014, Penn East app, Docket CP15-558, 9.25.15
http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14380457

All options considered involved crossing the Delaware River. There may be options that do not require crossing the river with a new pipeline but these were not explored or offered in the record. To ensure that river species are not adversely affected options that avoid river crossing must be considered.

The proximity to the river of the active work areas and drill areas is deemed by the Department to be justified because there are other features that prevent moving to the east, west or further back from the river. It is stated that there were discussions with PHL Airport, presumably to gain access beyond their security fencing and future expansion area but there seems to have been no success in negotiating even a few hundred feet of area to allow for greater distance between the river and the construction work areas and permanent operating portions of the Project. This is not an acceptable reason to not provide adequate buffering between the Project and the river. It can be expected that runoff from day to day operations could enter the river due to the proximity of the river and any spills, eruptions, accidental releases from the drilling operations could quickly effect the river and its water quality.

It is interesting that it is claimed that the lay down area cannot be lengthened to remove the drilling further from the river because the length of the HDD drilling and pipeline construction is “at the limit of current technology”. What are the environmental, water quality, health and safety risks of this “at the limit” drilling project, which apparently is straining the edge of what is known to be achievable? Is this HDD using the Delaware River crossing on a *de facto* experimental basis? Are the risks associated with this apparently unusually tricky drilling process known, assessed and prepared for? This information is not provided in the file.

A variety of effective options are inadequately evaluated for the Project.

Wetlands

The wetlands that will be impacted, whether qualified as temporary or permanent impacts, will suffer unjustifiable harm. The conversion of forested/shrub wetlands has lasting and devastating impacts, as documented in the attached report, ***“The Effects of Converting Forest or Scrub Wetlands into Herbaceous Wetlands in Pennsylvania”***. The applicant baldly asserts that some activities associated with the project will not result in permanent impacts to wetlands, and that wetlands will be restored to pre-existing conditions. This is impossible given that trenching activities would require the permanent removal of vegetation and result in a decrease in water quality, as detailed in the attached reports. The permanent impacts to wetlands require mitigation or replacement but the applicant does not address this requirement whatsoever.

DRN is unclear of the “Exceptional Value Open Water” classification for the pond (also named Wetland 3) and located on Delaware River Crossing Site Sketch Plan 38-17378-C-100. “Exceptional Value

Open Water” is a classification that does not appear to be in Chapter 93 water quality designations. We do not see any listings of “Exceptional Value Open Waters” in Chapter 93 PA Code or within designations for waterbodies in PA. We also do not see any “Exceptional Value Open Water” designations on PA DEP’s Existing Use list (dated Sept 29, 2016 Version)

<http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Existing%20Use/EU%20table%20list.pdf>. However Exceptional Value wetlands and Exceptional Value streams make up a small percentage of the waterbodies in the Commonwealth and are therefore prized areas to preserve and anti-degradation regulations apply. Freshwater streams, more indicative to headwater tributaries that are not tidal, may have inline ponds or impoundments that technically could be Exceptional Value if they were within a segment of an Exceptional Value stream. But examining the natural areas of this proposed HDD location and surrounding sensitive habitats – it is more likely that the “Exceptional Value Open Water” is mischaracterized and actually part of the unique hydrologically connected wetland complex system and therefore an “Exceptional Value wetlands”. Exceptional Value resources are not to be degraded. Socio-economic justification that is allowed for HQ streams, is not to be allowed for Exceptional Value (EV) waterbodies. The PA Code is noted below:

“In Pennsylvania law, a surface water of exceptional ecological significance meets the necessary condition for designation as an EV stream.¹¹ Pennsylvania defines surface water of exceptional ecological significance is defined as ‘[a] surface water which is important, unique or sensitive ecologically, but whose water quality as measured by traditional parameters (for example, chemical, physical or biological) may not be particularly high, or whose character cannot be adequately described by these parameters.’¹² **These waters include wetlands which are exceptional value wetlands because they serve as habitat for fauna or flora listed as threatened or endangered under the federal Endangered Species Act.**¹³

Therefore, the wetlands on site should be classified as Exceptional Value as well. In addition to the PA Code requirement that the “Exceptional Value Open Water” pond is classified as Exceptional Value wetland, the fact that the red bellied turtle more than likely uses the wetlands as well as the Open Pond as habitat requires that the wetlands be classified as Exceptional Value to protect the threatened turtles or the species could be extirpated from the region. The conclusion in the Environmental Review that the existing wetlands on site are of limited value in terms of natural recharge and storm/floodwater storage and resting/nesting habitat is not supported by technical evidence. In fact, the presence of the state-listed threatened species contradicts that conclusion and supports a conclusion that the turtles' proximity and known range includes the use of the wetlands within at least a 225 meter radius. The wetlands at the project

¹¹ 25 Pa. Code § 93.4b. Qualifying as High Quality or Exceptional Value Waters

¹² 25 Pa. Code § 93.1. Definitions

¹³ 25 Pa. Code § 105.17. Wetlands

must be classified as Exceptional Value wetlands. The wetlands are mischaracterized and given a name that is not included in the PA Code.

The “temporary” qualification of the impacts to Wetland 1 and 2 hinges on the methods that will be used to protect the wetlands during construction and the restoration of the wetlands after construction. DRN does not have confidence in the capability of avoiding permanent damage using the methods proposed. The impacts of construction noise, vibration, subterranean drilling disturbance, have the potential to adversely affect the turtles and other species that may utilize the wetlands. The Directional Drill Pullback Area is located right next to the pond where the turtles live. Construction activity and machinery and foot traffic cause compaction that can be and often is permanent, even if mats and fabric techniques are employed. There is no evidence of soil testing to measure current soil conditions to ensure that restoration restores the soil structure and pore spaces that are essential for wetland ecosystems and functions and that compaction does not occur. It can reasonably be expected that these construction activities will not result in temporary but permanent impacts on the wetlands.

Affecting the classification of impacts as temporary or permanent and the level of adversity that occurs to these wetlands and the Exceptional Value Open Water pond also requires an analysis of the thermal impacts of the placement the pipeline. Attached is a report that illustrates the warming of the land when a pipeline is placed near an Exceptional Value waterbody, which can have substantially degrading impacts on wetlands and dependent species. *“Thermal Impacts to Exceptional Value Waterbodies in Pennsylvania Cut by Gas Pipeline Projects”*. These impacts must be evaluated for the Open Water pond and wetlands at this site.

The wetlands that will be impacted by the Project are not classified correctly, are not fully assessed in terms of uses and functions and therefore it cannot be concluded by the Department that there will be no adverse impacts to the waters or wetlands. The Department must classify the wetlands as Exceptional Value, requiring the permit be denied.

Public Participation

The public comment period has not been adequate for this Project. It should be extended so that the public can comment on any subsequent, complete application. Because the applicant has submitted an incomplete application and inaccurate assessments the public has been denied the ability to effectively comment on the application. Further, there is only a 30-day comment period provided and to obtain the records for this project through the Right to Know Law (RTKL) process, DRN was not able to obtain records through the RTKL prior to the expiration of the comment period. As an alternative means to allow access to the files, the Department provided DRN a file review on Thursday, Nov. 8, after DRN withdrew its RTKL request. We also note that the Environmental Review report conducted by the Department was not

available in the file until sometime after its completion date of November 22, which was after the date of public notice in the Pennsylvania Bulletin of November 12. It was not available to any public who reviewed the file prior to at least November 22 or whenever the report was placed in the file. The Project seems to have been rushed through the approval process to meet a construction timeline laid out by the applicant, depriving the public of adequate records and time to review and comment. The short 30-day comment period and the missing, late-filed and inaccurate information in the file, are reasonable grounds for the Department to require that the comment period be extended should the Department not deny the permit outright.

Conclusion

In conclusion, the Project's Water Obstructions and Encroachments permit application is incomplete and inaccurate, does not comply with Chapter 105 or the PA Code and is not consistent with a 401 Water Quality Certification under the Clean Water Act and as such should be denied.

Respectfully submitted,



Maya K. van Rossum
the Delaware Riverkeeper



Tracy Carluccio
Deputy Director

Attachments:

Environmental and Geotechnical Considerations Regarding the Proposed Paulsboro Natural Gas Pipeline Crossing beneath the Delaware River

Thermal Impacts to Exceptional Value Waterbodies in Pennsylvania Cut by Gas Pipeline Projects

The Effects of Converting Forest or Scrub Wetlands into Herbaceous Wetlands in Pennsylvania