



June 7, 2019

Delaware River Basin Commission
West Trenton, New Jersey

Re: DOCKET NO. D-2017-009-2 , DELAWARE RIVER BASIN COMMISSION , Delaware River Partners LLC, Gibbstown Logistics Center, Dock 2 , Greenwich Township, Gloucester County, New Jersey

Delaware Riverkeeper Network (DRN) submits this comment in opposition to the approval of Docket D-2017-009-2 on behalf of our approximately 20,000 members throughout the Delaware River Watershed including residents in the closest Gloucester County communities. The Delaware Riverkeeper Network (DRN) is a private non-profit membership organization, championing the rights of our communities to a Delaware River and tributary streams that are free flowing, clean, healthy, and abundant with a diversity of life.

DRN submits that, based on review of the materials submitted to Delaware River Basin Commission (DRBC) by the applicant, this project will have substantial negative impacts on the Delaware River, its water quality, its habitats, and the species that live, forage, shelter, migrate through and reproduce in the River, Estuary and Bay. DRN also submits that the application is substantially lacking in critical information for and assessment of described and yet-to-be described or assessed aspects of the proposed project. DRN requests that Docket approval be denied or, in the alternative, the Docket be withdrawn and specific reviews and analyses are conducted before further consideration of the project.

DRN points out that we commented on the last docket proposed and approved by DRBC in November 2017 for the Gibbstown Logistics Center (D-2017-009-1). Concerns we expressed about the incompleteness of the application materials, unfortunately, remain. We point out DRBC did not heed these concerns in 2017 and since it appears now that New Fortress Energy may have been planning LNG export from this site at that time but did not disclose that information, our concerns were well-founded and should have led to DRBC insisting that the missing information be provided before the first docket was approved. If that had been done, the public and the agencies may have learned of the planned export of LNG from the Center and a comprehensive analysis of the project would have been required.

As stated by DRN in our comment letter dated November 17, 2017:

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DRBC states its draft Docket is to approve dredging and the construction of a deepwater berth for the proposed Delaware River Partners (DRP) Gibbstown Logistics Center (“the Proposed Project”). However, the current draft docket, despite claiming to approve only the dredging and deep-water berth construction project, approves stormwater outfalls and land disturbances. Furthermore, the docket states that DRP “...is required to submit detailed site plans to the DRBC for the remainder of the Logistics Center, including the proposed: Automobile import area/parking lot; processing facilities; perishables, bulk-liquids and gases, and bulk cargo handling areas; warehouses and associated buildings; stormwater management system (including stormwater outfalls); and the associated infrastructure”.¹

Based on this lack of essential information, until all plans are completed, submitted to and assessed by DRBC, the draft docket for the Proposed Project should be put on hold. It is unreasonable to move ahead with an application that is so obviously incomplete and lacking in adequate assessment and review. It is impossible to accurately assess the potential impacts on the water resources of the Basin with the information made available for only a portion of the Proposed Project.

We point out that the condition (C.I.(c)) of the 2017 DRBC Docket, which requires the missing information to be provided, seems not to have been met by Delaware River Partners because in subsequent file reviews conducted by DRN through FOIA, we have not seen any written material in the files disclosing the plans of the applicant to include LNG as a cargo. This is despite repeated public statements by New Fortress Energy that LNG would be processed from Marcellus Shale gas in Bradford County, Pennsylvania, trucked to the Delaware River and exported out of the country through the Delaware River ports. The U.S. Army Corps of Engineers (ACE) Public Notice of April 4, 2019, listed various cargo to be transloaded at the Gibbstown Logistics Center. Included in the list was liquefied natural gas (LNG) and yet this was not added to this new draft docket for Dock 2. Obviously, the follow up information – site plans for handling of all cargo - that was to be provided by the applicant was either not supplied to DRBC or DRBC decided not to include LNG in the list of cargo published in the new draft docket. Either way, the public was deprived of this information and the missing information regarding the products to be handled at the Center, makes the application deficient based on incompleteness.

DRN points out that the exclusion of LNG from the cargo list is additionally important because of the dangers of handling and transloading LNG. LNG is arguably the most consequential and dangerous product to be handled at the Center, making it a glaring omission. We are including information regarding the potential impacts of LNG release and the special circumstances LNG requires at the end of this comment.

The additional dredging and deep-water berth construction project, named Dock 2, poses several unacceptable environmental hazards and potential pollution sources for the Delaware River and the region.

Environmental Impacts of the Proposed Activities Contained in the Draft Docket

Dredging: The dredging of 665,000 cubic yards of sediment from the Delaware River to provide a channel to the Federal Navigation Channel would go to a depth of 43 feet below mean water lower low water over a 45-acre area. Allowed is a two-foot overdraft. This almost doubles the amount of material that will be dredged for the entire Gibbstown Logistics Center project, increasing greatly the adverse environmental

¹ Docket No. D-2017-009-1, p. 3.

footprint of the dredging from the originally proposed Dock 1. The sediment to be dredged is silt, fine sand, and trace gravel, according to the draft docket. DRN is very concerned about the impacts of the dredging on water quality, fish, and aquatic life. We do not agree that the prevention measures included in the draft docket for controlling the sediment will provide adequate protection to species in the area of the Center.

The Delaware Riverkeeper Network has commented in the past on the significant environmental impacts that dredging causes in this section of the Delaware River. First, deepening 45 acres of river area to a depth of -40 feet mean lower low water with a 2-foot overdraft will open this newly deepened area to the potential for an increased risk of harm if there is a catastrophic spill event. With a deepened area, ships will access the proposed deepwater port and, when filled for export will be heavily laden with LNG, natural gas liquids or other chemicals. Using the catastrophic experience of the Athos I oil spill of November 26, 2004, the volume of carried material available to leak and wreak havoc on the environment and our communities will be greater and therefore more dangerous with the added capacity of the proposed port's dredging of 45 acres.²

The Athos I catastrophe exposed 115 miles of River, 280 miles of shoreline, 16,500 birds, as well as many species of fish, shellfish, and wildlife and a variety of important habitats to the heavy crude it dumped into the Delaware River.² Habitats, wildlife, water quality, air quality, industry, recreation, and communities were all significantly harmed by the spill. Any project that will increase the magnitude of such a tremendous level of damages in the event of a future catastrophe is a danger to all of these natural and human resources.

Adding LNG transport to the dangers of shipping on the river exponentially increases the potential for a far-reaching catastrophe. Considering that the zone of blast around a container release and/or fire is at least one mile and could be miles larger depending on how quickly the gas cloud created by the vaporizing LNG spreads, communities along the river, including metropolitan areas such as Philadelphia, Camden, Chester and other high density population centers), passing ships, bridges, facilities such as airports (the Gibbstown Logistics Center is across the river from the Philadelphia Airport), motor vehicle traffic and workers would all be exposed to potential life-threatening injury if an LNG marine vessel were to have an accident and release LNG. There is no discussion in the Docket about the shipping dangers that the dredging would enable. This is one reason why a comprehensive environmental analysis of this LNG project is required.

Dredge spoils significantly increase the amount of heavy metals and toxins that would be released into waterways and the environment², especially with the amount of material that appears to be contaminated at this site. The impacts of the spoil disposal plans and potential pollution impacts could have significant community and environmental effects. The threat posed by dredged spoils is known to be a source of water pollution after on-land disposal.² In addition to polluting the water and land, there are likely to be air quality impacts including NOx emissions associated with the construction and associated traffic from this additional dock and dredging project that should be considered as well. Yet there is no analysis of air pollution in the draft docket.

Atlantic sturgeon will be directly negatively impacted by the development and operation of this site. The draft docket states that the revised wharf design is under review currently by USACE in consultation with

² Delaware Riverkeeper Network (2011). Comment Re: 2011 Draft EA for Delaware River Main Channel Deepening Project Philadelphia. Submitted to U.S. Army Corps of Engineers on July 6, 2011.

NMFS regarding two threatened and endangered sturgeon species, and the critical habitat for the Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*). However, the docket fails to acknowledge that the federal government established the Delaware Estuary as Critical Habitat for the New York Bight DPS of Atlantic Sturgeon in August 2017. DRBC's Water Quality Regulations at §4.30.5-B.1 acknowledge that the Commission must evaluate Critical Habitat, and that this evaluation must follow its Rules of Practice and Procedure. Despite the federal ruling, DRBC has yet to initiate its procedures for verifying the Critical Habitat established by the federal government, and the role that Critical Habitat will play in docket decisions. DRBC should not approve any project that could directly and indirectly affect this Critical Habitat until it has completed all necessary procedures in the Critical Habitat evaluation. To do so would be premature, would undermine the required process for DRBC review and approvals, would be unfair in terms of just application of its regulations, and jeopardizes the Critical Habitat of the Atlantic Sturgeon. The DRBC is not ready to grant approval to any project that involves the Critical Habitat of the Delaware Estuary for the New York Bight DPS of Atlantic Sturgeon.

Both direct take and incidental take of sturgeon are a distinct possibility with a project of this nature. Both the Atlantic sturgeon and shortnose sturgeon are threatened and adversely affected by dredging and effects to water quality including dissolved oxygen (DO) levels, water temperature, and contaminants.² The proposed project will entail significant levels of dredging as well as significant water quality effects and dramatic changes in important habitats including juvenile habitat and spawning grounds.

The dredging of river systems significantly impacts aquatic ecosystems in a number of ways that will harm both sturgeon species. Among the effects that the project will have on the Delaware River populations of both sturgeon species are:

- ✓ Deep-draft vessel traffic in the Delaware River has been cited as the biggest threat to the survival of the Delaware River population Atlantic sturgeon; the increased vessel traffic and increased area for deep-draft vessels to strike Atlantic sturgeon directly resulting from this project will significantly increase sturgeon vessel strikes and could accelerate the extinction of this endangered species population.³
- ✓ Dredging activities remove, disturb, dispose of and re-suspend river sediments, modifying the river bottom substrate and impacting the community of benthic macrofauna;
- ✓ Dredging operations can remove or bury organisms and destroy benthic feeding areas;
- ✓ Dredging operations can create noise and disturbance, and can disrupt spawning migrations;
- ✓ Dredging activities can re-suspend contaminants, affect turbidity and siltation, and deposit fine sediments in spawning habitats; and
- ✓ Dredging activities alter the hydrodynamic regime, alter physical habitats, and create the loss of riparian habitat.²

The act of dredging can entrain sturgeon, taking them up into the dredge drag-arms and impeller pumps and resulting in death.² New data from tagged Atlantic sturgeon continue to show their presence in or near the main navigation channel, making them vulnerable to direct take by dredging operations, as well as direct take from the larger vessels that will be using the channel.² These lethal takes are significant for a species

³ Brown and Murphy. 2010. Atlantic Sturgeon Vessel-Strike Mortalities in the Delaware Estuary. Fisheries 35(2): 72-83.

that is at such low levels (fewer than 300, maybe even fewer than 100), and as genetically unique as the Atlantic sturgeon of the Delaware River are.²

Dredging in the portions of the River near Philadelphia is likely to be detrimental to the successful spawning of sturgeon in the Delaware – not just because of the act of dredging but also because of the degradation of spawning habitat.² Dredging increases the level of suspended sediments and contaminants in the water. An increase in suspended sediments could be detrimental to egg survival of sturgeon – increasing the probability that eggs adhere to suspended solids and suffocate.² increasing contaminant loads can alter growth and reproductive performance in sturgeon.²

Dredging is a factor in the destruction, modification, or curtailment of the Atlantic sturgeon’s habitat and range.² The environmental impacts of dredging include direct removal or burial of organisms, elevated turbidity or siltation, contaminant re-suspension, noise or disturbance, alterations to hydrodynamic regime and physical habitat, and loss of riparian habitat.² Furthermore, an increase in vessel traffic on the Delaware River resulting from the project would increase the likelihood of vessel strikes to sturgeon.²

A study of mortality rates on Atlantic sturgeon in the Delaware River between 2005 and 2008 found that 50% of the mortalities were the result of vessel strikes. The remaining 50% were too decomposed to determine if they were caused by vessel strikes but it is likely most were.² For small remnant populations of Atlantic sturgeon, such as that in the Delaware River, the loss of just a few individuals per year due to anthropogenic sources of mortality, such as vessel strikes, may continue to hamper restoration efforts.² According to a 2010 research article on vessel strikes, “Both the dredging to deepen the channel and the subsequent increase in large vessel traffic may further hamper the recovery of the Delaware River Atlantic sturgeon population.”² Of critical importance, this study is concerned about the size of the vessels resulting from deepening as opposed to any increase in the volume of vessels. The larger size of the vessels from the deepened channel will likely increase the number of vessel strikes for both sturgeon species.²

The continued dredging of new deep-water areas will further impact Atlantic sturgeon spawning by accelerating the intrusion of brackish water into the hard-bottom spawning grounds, and thus forcing Atlantic sturgeon to spawn further upstream in the zone of depressed dissolved oxygen. This shift then exposes the eggs and larvae of newly spawned Atlantic sturgeon to low oxygen conditions from which they may not survive. This “squeeze” between increased salt intrusion in the estuary downstream (exacerbated by channel deepening, new deep-dredged berthing areas, and rising sea levels) and the near-lethal dissolved oxygen levels upstream limits the ability of Atlantic sturgeon to successfully reproduce, and increases the likelihood of extinction. This project makes a significant contribution to such salt-intrusion by adding 45 acres of new deep-water channel and berthing to an estuary under siege.⁴

The remobilization (and dewatering of dredged sediments) will create higher exposure to PCBs and other contaminants, and the Atlantic Sturgeon spawning and rearing that begins in June and extends the early-life-stages through July and August, with increasing evidence for high aggregations of young-of-year in the Proposed Project vicinity, means that elevated exposure will occur for larval and juvenile stages of this endangered species in the Delaware River. The currently proposed methods and timing are insufficient to

⁴ Moberg and DeLucia. 2016. Potential Impacts of Dissolved Oxygen, Salinity and Flow on the Successful Recruitment of Atlantic Sturgeon in the Delaware River. The Nature Conservancy. Harrisburg, PA. 69 pp.

protect this endangered species, and more evidence and analysis would be required in order to claim that the project does not impair NOAA Trust Resources, fish and wildlife, and the water resources of the Basin.

In November of 2010, researchers discovered beds of freshwater mussels in the Delaware River between Chester, PA and Trenton, NJ.² The species found included the alewife floater (*Anodonta implicata*) and the tidewater mucket (*Leptodea ochracea*), only found in New Jersey in the tidal Delaware River; the pond mussel (*Ligumia nasuta*) and the yellow lampmussel (*Lampsilis cariosa*), both considered critically-imperiled; and the creeper (*Strophitus undulatus*) and the eastern floater (*Pyganodon cataracta*) both considered vulnerable; as well as the eastern elliptio (*Elliptio complanata*), the only mussel known to be native to our Delaware River that is not considered to be in jeopardy.² Mussels are not mentioned in the application or in the applicant's Compliance Statement. Particularly because some of these estuarine species are state-listed and/or critically imperiled, the extent and composition of these mussel beds needs to be accurately surveyed prior to any in-water work at the site. Once the locations, abundance, and identify of these species are documented, a relocation plan would be needed to move individual mussels out of areas where direct mortality might occur.

Freshwater mussels can live 80 to 100 years old, and most species do not begin reproducing until they are 8 to 10 years old.² Because they are so slow growing and don't begin to reproduce until this older age, they are not able to quickly recover from disturbances and the population cannot recover quickly from impacts that result in death to individuals.² Freshwater mussels require a fish host, a specific species depending on the mussel, to complete their life cycle. Activities that damage the needed fish hosts in turn do direct harm to the freshwater mussel species they help serve in the life cycle.²

Mussels are vital for filtering pollution and filling important habitat niches. Experts believe that revitalizing freshwater mussels in the Delaware River could improve water quality downstream and thereby benefit estuarine species.² All of the freshwater mussels in the Delaware River system, except for one (the Eastern elliptio, *Elliptio complanata*), are identified by one or more of the states as endangered, threatened, imperiled, vulnerable, critically impaired, very rare, extremely rare or extirpated.²

Freshwater mussels are very sensitive to water quality. Exposure to contaminants either directly via dissolved compounds or contaminants that are particle-mediated can have adverse consequences.² Freshwater mussels are highly exposed to changes in water quality because of their filtering activities and the passage of large volumes of water across many thin tissue layers. Dissolved toxins, such as heavy metals, are rapidly taken up by direct absorption and indirectly via food.² Because this project will likely result in pollution both directly and through contaminants from spoil disposal, the implications of this pollution for the mussels in this area must be examined.

Stressed mussels require more oxygen. The dredging described for this project is a threat to any submerged aquatic vegetation in the area that is critical for providing oxygen in the Estuary, including the Philadelphia reach of the River, which includes the location of the proposed project. Although dissolved oxygen levels can become excessively low in this area even today, they have improved significantly compared to decades past. In fact, the DRBC is considering elevating their "Aquatic Life Designated Use" rule in this section of the Delaware River to maintain and protect dissolved oxygen levels.⁵ Increased sedimentation from

⁵ Delaware River Basin Commission (2017) Draft Resolution, February 23, 2017. Retrieved from http://www.nj.gov/drbc/library/documents/Res_EstuaryAquaticLifeUses_draft022317.pdf

dredging activity inhibits mussels and their host fish species from taking in oxygen.² Additionally, invasive or exotic species resulting from interbasin transfers of water can be a very direct threat to freshwater mussels as well as many other species. Increased ballast water from deeper ships, and increased ship traffic, brought up the River by a deeper channel could heighten this risk.² The issue of invasive and exotic species and ballast water and their ecological and economic implications for freshwater mussels and other River fish and wildlife species must also be considered.

Identification of host fish needed for freshwater mussels is one of the least studied aspects of freshwater mussel life history. American eel are known to be hosts for *Elliptio complanata*; some believe they are in fact the preferred host.² Some species of trout and yellow perch too can serve as hosts and data shows that some of the species found in the tidal estuary, *Strophitus undulatus*, can use pumpkinseed and yellow perch.² Shad too are considered by some as possible host species.² The potential impacts to these host species are additional factors to consider when assessing the threats to mussels.

There is evidence that the acoustic impacts from construction activities, such as those described for this project, can significantly harm fish.⁶ The effects of underwater sounds created by pile driving on fish may range from a brief acoustic annoyance to instantaneous lethal injury depending on many factors.⁵ Even at non-lethal levels, low levels of acoustic damage may result in the fish not being able to swim normally, detect predators, stay oriented relative to other fish in the school, or feed or breed successfully.⁵ This is a potential threat to all fish, including both sturgeon species as well as all the fish that serve as host species to mussels.

There are bald eagle (*Haliaeetus leucocephalus*) nests and osprey (*Pandion haliaetus*) nests near or within the project site.⁷ Even with the best mitigation plan in place, there would inevitably be some level of disturbance to these nests versus the no-action alternative, which would leave the nests as they currently are. The nests are not even mentioned in the public notice and this is an issue that the public should be aware of. While formerly a highly-degraded site when DuPont owned and operated the property, the wetland and upland portions of the site have reverted to a natural state with a diverse ecosystem suitable as nesting habitat for these two imperiled bird species. Any disturbances or alterations to these nesting areas could be detrimental to the breeding success of these birds and therefore the future viability of their populations in this area.

The additional deepened 45 acres of river area that would provide access to the proposed deepwater port Dock 2 would result in larger and deeper draft vessels coming up the River. The draft docket states ocean-going vessels up to 966 feet long with a draft of 39.7 feet will be accommodated at the two deep after berths. This triples the amount of vessel traffic that was originally planned for the facility. This additional traffic being layered on to the facility is not being analyzed in the draft docket in terms of the amount of truck traffic, parking areas, turning radius areas and other related knock-on logistical needs that are available on this site, which had some non-specified areas but without an analysis showing that the additional traffic can be handled at the Center, it is unknown if the site is too small for this additional vessel

⁶ Delaware Riverkeeper Network (2011). Supplemental Comment Re: 2011 Draft EA for Delaware River Main Channel Deepening Project Philadelphia. Submitted to U.S. Army Corps of Engineers on July 6, 2011.

⁷ Ramboll Environ (2016). Compliance Statement in Support of Multiple Individual Permit Applications. Appendix E, Habitat Impact Assessment Report, July 2016.

traffic. The additional ship traffic and the specific types of ships required for LNG and NGL overseas transport will significantly increase. There is no discussion of this in the draft docket.

Additionally, the additional emissions of the truck traffic, impacts of rail traffic, and other related environmental impacts are not discussed in the docket, nor is any additional stormwater runoff (in terms of quantity and also quality due to the additional traffic and additional types of cargo, including LNG) and other related infrastructure need to handle and service the new shipping traffic. The transloading area needs to also be analyzed to be certain the additional cargo that will be transloaded, especially if it is hazardous material such as NGL or LNG or other bulk liquids that possess toxic properties can be safely handled with adequate environmental protections and that stormwater produced will not pollute receiving waterways?

Again, this is an example of partial review of the proposed Dock 2 that represents segmentation of the project since DRBC had included stormwater outfalls and systems on land in the 2017 docket but does not here address that infrastructure that now may need to be changed due to the additional activities Dock 2 will enable. When will these aspects of the expanded project be assessed and will DRBC consider these aspects as they have in the last docket? How can DRBC conclude that water resources will not be adversely impacted without this analysis? Furthermore, if LNG is the cargo that is being added with Dock 2, or is among the cargo being added, what special considerations and conditions will be required to assure the handling and transloading of the LNG can be safely accomplished? This is not discussed in the draft docket.

Another question that must be answered is whether simultaneous handling of LNG and other cargoes, including dangerous NGLs, can be done safely. If the transloading to the ship from truck or railcar is considered similar to “truck to ship bunkering” when assessed by the U.S. Coast Guard, there are Coast Guard regulations that apply to these activities when there are SIMOPS or “simultaneous operations” planned in the same vicinity. The usual procedure is for a Policy Letter to be issued by the Coast Guard after the specific logistics are evaluated.⁸ Similar to SIMOPS considerations, it is additionally important to evaluate the activities and storage planned for export of other products such as NGL from the terminal for compatibility with LNG activities. An informed decision needs to be made about timing, location, and proximity to the LNG facilities and activities. It may be that other activities planned for the terminal cannot occur at the same site that is handling LNG. This issue must be resolved prior to any further permitting for the Gibbstown Logistics Center facility.

More shipping vessels mean more ballast water needs, discharges, and impacts. Impingement and entrainment of the variety of species discussed in this comment and beyond due to the intake and discharge of ballast water could be significant. The increased intake of ballast water from the River as a result of the commercial vessels coming into the River due to this project would entrain early life stages of commercially and recreationally important fish including American shad, alewife, blueback herring and striped bass.² The cumulative effects of this impingement and entrainment need to be considered in conjunction with the impingement and entrainment that already occurs at existing cooling water intakes operating in the Delaware Estuary and River, including the nearby Paulsboro and West Deptford Township facilities.

⁸ CG-OES Policy Letter, No.01-17, JUN - 8 2017, GUIDANCE FOR EVALUATING SIMULTANEOUS OPERATIONS (SIMOPS) DURING LIQUEFIED NATURAL GAS (LNG) FUEL TRANSFER OPERATIONS, Ref: (a) CG-OES Policy Letter No, 01-15.

In addition, the concerns about invasive exotic species that may result from larger discharges of ballast water from larger vessels cannot be overstated in terms of either ecological or economic impacts. The invasion of such species into major ports and waterways of the U.S. have cost billions of dollars in control efforts and lost economic value from damage to important fish and wildlife species as well as the habitats that support them.² For more information see

http://water.epa.gov/polwaste/vwd/ballastwater/invasive_species_index.cfm

http://water.epa.gov/polwaste/vwd/ballastwater/invasive_species_bal_links.cfm

<http://www.invasivespecies.gov/index.html>

DRN is very concerned about the release of PCBs from the site. EPA identified the Repauno site in 2003 as one of the largest PCB point sources in the Delaware Estuary (among the top 10). A TMDL was established for the Estuary to remediate the contamination. Dredging; construction in the water, riverbank and on uplands; and site disturbance and stormwater systems will disturb PCBs, which have been found in near-shore sediments and in runoff from the site. There is a zone of highly contaminated sediments immediately adjacent to the shore and port facility. DRBC's dedicated role in reducing PCBs in the Estuary and its role to ensure that PCB Pollution Minimization Plans (PMP) are effectively implemented is compromised by the plan to disturb, construct on, and dredge this site.

The 2017 DRBC docket approved dredging and other disturbances that could significantly increase PCB loading to the already-impaired Delaware Estuary. DRBC did require in the current docket a PCB sampling program to be conducted by Delaware River Partners and stated that capping to raise the site to a higher elevation would help to minimize PCB release. We did not see any analysis that proves that statement. A NPDES permit was supposed to be required to assess PCB migration from the site and to possibly require a separate pollutant minimization plan to be conducted by Delaware River Partners. However, the project is currently under construction while no NPDES permit is in place that requires sampling and monitoring of the release of PCBs during this critical disturbance phase of the project.

There are several unaddressed questions regarding this PCB issue. First, the sampling and the controls should have gone into operation prior to dredging and land disturbance that could release PCBs but this apparently is not the case unless the NPDES permit has been issued without public disclosure. Second, Chemours claims that the site is "substantially remediated" for PCBs yet there is no evidence that PCBs are remediated and the sampling as recently as 2018 shows otherwise. Third, Chemours currently operates the site remediation program, including a groundwater pumping system which is supposed to continue during the operation of the facility. If the 2017 DRBC Docket condition is carried out, how will the Delaware River Partners operation of a separate PCB plan, possibly connected to the stormwater infrastructure, be coordinated physically, managerially, and legally in concert with the cleanup of the groundwater by Chemours?

DEP had informed DRBC during the last docket review that there would be a stormwater permit issued for the facility that would address the PCB issues through a DEP-issued NPDES permit. However, there was no stormwater permit issued after the DRBC Docket was approved. Instead, after a year of phone calls and file reviews, DRN finally got a copy of the stormwater permit in 2019 for the site – a permit DEP claimed did not exist since the time DRN filed an OPRA for the project. It was issued in 2017 but had no mention of PCBs. This permit was not even contained in the DRBC's files.

More perplexing is that the 2017 DRBC docket at C.(I)l. requires that when the DEP NPDES permit is issued “the docket holder shall perform an investigation of the site to assess the disposition of stormwater and the flow paths for the individual stormwater outfalls either directly or indirectly to the Delaware River in order to develop and implement a PCB stormwater sampling plan. Upon evaluation of the sampling results by the NJDEP in consultation with the DRBC, DRP may be required to develop and implement a separate PMP for PCBs in accordance with Section 4.30.9 of the Commission’s Water Code and Water Quality Regulations (18 CFR Part 410).”⁹

The draft docket has no mention of a NPDES permit and records obtained by DRN from DRBC through FOIA, show that the applicant stated that a NJPDES permit is pending in an email dated May 14, 2019. However, a week later an email from the applicant dated May 21, 2019 states, without any explanation, that the NJPDES permit is “not required”. The NPDES permit is not listed in Table B-1 in the draft docket. DRN asks why the NPDES permit was, suddenly, not required, who made that determination and why and how is a condition of the current (2017) docket summarily violated? How will the PCB sampling program be carried out, how will PCB be controlled from the site for the current development of the site and what precautionary measures are being taken by DRBC to ensure that the PCBs released from the activities required for Dock 2 do not contribute to PCB contamination of the Delaware River Estuary?

The Gibbstown Logistics Center is wholly compromised by its location on a highly contaminated property. Construction and operation of the Center can be expected to disturb and mobilize soil, sediment, surface water and groundwater pollution that is present on this Superfund site. This is a former industrial site that is under remediation known as the Repauno Plant. It is a 1,856-acre site located along the Delaware River in Gloucester County, NJ. The site is bounded to the north by the Delaware River, to the east by a former Hercules Chemical manufacturing plant, to the south by the city of Gibbstown, and to the west by wetlands and Repauno Creek. The western half of the site consists almost entirely of surface water bodies and wetlands. Former and current production operations are located in the northeastern part of the site. Several production areas have discontinued operations and structures have been razed. The eastern half of the site also consists of some upland and wetland ecological communities (EPA, 2003). Altogether, the site contains approximately 1,500 acres of wetlands (Fichera, 2015). The Gibbstown Logistics Center is planned to use 218 acres.

DuPont operated the site as an explosive manufacturing facility since 1880. In 1917, DuPont expanded operations to include the manufacturing of organic compounds, which continued until 1986. All explosive manufacturing and ammonia production were discontinued during the 1960s. Repauno is a CERCLA site undergoing remediation (<https://cumulis.epa.gov/supercpad/CurSites/calinfo.cfm?id=0200783>). The area previously used by DuPont as a terminal location for anhydrous ammonia began being cleaned for reuse in 2002, according to the 2002 Annual Groundwater Progress report (EPA, 2003).

One of the dangerous contaminants on the site is nitrobenzene, a highly toxic chemical classified by the Centers for Disease Control as “Immediately Dangerous to Life or Health” if people are exposed at specific concentrations. Nitrobenzene is a likely human carcinogen according to the United States EPA and is linked to several carcinomas and cancers as well as other dangerous human health effects. The area where the logistics center would operate is the area is most likely exposed to aniline, a toxic chemical with adverse health effects; aniline is involved with the processing of benzene to make nitrobenzene. The area where

⁹ Docket No. D-2017-009-1, p. 9.

acids were used is also at least partly included in the proposed site. These acids were most likely “mixed acids” associated with the nitrobenzene manufacturing process and are toxic. Redevelopment can disturb and distribute in unforeseen ways contaminants that remain on the property. DRN advocates that no disturbance of the contaminated site be allowed until all contaminants are removed from the soil, sediment, groundwater, surface water, wetlands and other related natural systems.

In addition, several different companies have leased areas at the Repauno facility. In 1998, Repauno Products LLC purchased the manufacturing operation that produced sodium nitrite and nitrosylsulfuric acid. In 1999, Spring AG purchased the industrial diamond refining operation, which ceased in late 2002. Industrial diamond processing may have used chemical vapor deposition or other dangerous processes that are used to manufacture industrial and synthetic diamonds, contributing additional contaminants to the site’s environment that require investigation prior to use of the property.

In 1990, 8,500 tons of sediments were removed from the ditches in the former Nitrobenzene and PMDA/DMT production areas (EPA, 2005). In the three rounds of sitewide investigation completed in 1993, 1996, and 2000 respectively, DuPont screened all Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) for their investigation/remediation priorities and focused on the migration/flow of groundwater and the soils in former production areas. The currently ongoing fourth round of investigation is to complete the investigation of the remaining two SWMUs/AOCs and to conduct an ecological risk assessment for the wetlands, streams, and the ditch system (EPA, 2005). In 1985, DuPont installed a system to pump contaminated groundwater and to treat it. The groundwater interceptor system has been in operation since, in conjunction with a groundwater-monitoring program, owned and operated by Chemours, DuPont’s spinoff company since 2015. Chemours is required to continue the groundwater interceptor system together with the sitewide groundwater monitoring program to confirm that contaminated groundwater is under control. How the operation of the Center and the remediation program will compatibly operate is difficult to understand and needs further analysis by EPA, DEP and other relevant agencies, including DRBC, due to the potential for negative impacts from pollution to the water resources of the Delaware River Basin.

DEP is supposed to impose restrictions on the use of groundwater for as long as it remains contaminated (EPA, 2005). The draft docket states that water and sewer for the Center will be provided by the local municipal facilities, which is important for public health and safety. Has there been an analysis that shows the local facilities have the capacity to add the Center? EPA claimed in 2005 that the site was no longer a risk for human exposure and groundwater contamination (Romalino, 2015). These new uses at the site should require a re-analysis of that conclusion. The site plans call for one or more of the monitoring wells being used to track remediation to be paved over for a parking lot. Baseline and years of data will be compromised if consistent sampling is lost. It is essential that the current monitoring wells remain.

Permits

As stated in the letter dated June 3, 2019 submitted by DRN to DRBC, there are several permits that have not been identified by the applicant that are needed for this project. Some permits that are still needed are listed in the letter but we also point out that other permits should have also been identified in the draft docket but were not. These include approvals from the United States Coast Guard under 18 CFR Parts 153 and 157? Has Delaware River Partners filed a Letter of Intent (LOI), which is due one year in advance? Has a Water Suitability Assessment been filed with the LOI as required at 33CFR 127.007 (f) and (g)? Has

the Coast Guard issued a Letter of Recommendation? These analyses are essential to the decisionmaking about this facility, which may not proceed without the Coast Guard reviews. There has been no determination that the Delaware River at this location is suitable for LNG marine traffic. Until there is a Coast Guard determination for the transport from this terminal, it is premature to consider other approvals. The application is deficient for not including this important permit, in addition to the other federal and state permits DRN has listed in our letter.

Environmental and Health and Safety Impacts Regarding LNG

DRN provides the following information about the unique dangers of LNG and its transport, storage, and handling, illustrating that LNG is a special product that needs specific conditions that DRN does not consider to be available at this site or within the Delaware River Watershed:

It is known that, upon release in a liquid state, LNG expands to a gas cloud that is 600 times larger than the amount of liquid. The gas cloud then moves across the surface, can travel many miles quickly and can also become trapped under spaces that confine the gas, providing the conditions that cause explosion and, if there is a point of ignition such as a spark or flame, fire will result.

New information has shown that LNG can cause a catastrophic BLEVE or Boiling Liquid Expanding Vapor Explosion if the vessel is exposed to high temperatures or a fire. The expansion of the liquid LNG in a vessel causes the pressurized liquid to boil, and the gas takes up more room than the liquid, stressing the container as pressure builds. Relief valves are only designed to release pressure slowly to keep equilibrium in the pressurized container. Exposed to high heat, the valve will fail to keep up and the metal will weaken, cracks will result in the container, causing LNG to be released with an explosion.¹⁰ The result is a BLEVE, a catastrophic failure of the container. There are many incidents over the years of BLEVE catastrophes¹¹, some as recent as 2019, but the fact that a BLEVE can occur with LNG has only recently been established.

When the gas or vapor cloud in the container is released because it is flammable, it is likely to ignite after the BLEVE, typically causing a fireball that burns fast, hot and wide. A fuel air explosion can also occur, known as a “vapor cloud explosion”. A vapor cloud explosion is the mechanism used in a thermobaric weapon that uses air to generate a high-temperature explosion, producing a long duration blast wave. These weapons are also termed a fuel-air bomb.¹² This is the threat that LNG storage and transport brings to the Gibbstown region and to every traffic route used to carry the LNG to the Delaware River and on the river during export.

On dry land such as a terminal where LNG is stored or is contained in tankers on trucks or rail cars, a BLEVE where there is no liquid in the local environment to absorb the heat, can rupture even faster than a vessel on water. Truck transport regulations are being closely examined due to an increase in accidents involving truck transport of LNG. While it used to be assumed that truck transport had a low potential for explosion or fire, an accident in Spain changed that:

“In 2002, an LNG truck in Spain flipped over, burned, then exploded into a 500-foot fireball that killed the driver and burned two others. ‘The severity of this kind of explosion is something people haven’t usually considered applicable to LNG trucks,” says Jerry Havens, former director of the

¹⁰ https://en.m.wikipedia.org/wiki/Boiling_liquid_expanding_vapor_explosion

¹¹ Ibid.

¹² https://en.m.wikipedia.org/wiki/Thermobaric_weapon

Chemical Hazards Research Center at the University of Arkansas. ‘But what happened in Spain changes that picture. It shows you've got the potential for a massive explosion.’”¹³

In the accident in Spain, a BLEVE occurred, which resulted in death to the driver and burns to two people approximately 650 feet away, and threw large flaming debris, including the truck’s diesel engine, for 853 feet. A similar LNG truck accident with a catastrophic fire occurred in Spain in 2011, killing the driver.¹⁴ It was pointed out by an analyst in Savannah Georgia during debate over LNG truck transport that a pool fire and and/or explosion involving an LNG truck may have a low probability but it has a high consequence with instant injuries or death for those within several hundred feet.¹⁵ The chances, according to the analyst, of an LNG truck accident are 200 to 1.¹⁶ This is a great risk for populated areas and truck routes through urban centers.

Regarding rail use, the U.S. Department of Transportation’s Federal Highway Administration (FRA) nor the Pipeline and Hazardous Materials Safety Administration (PHMSA) have not approved rail car regulations for the transport of LNG yet. There has been very limited use of rail so far, with only one approval in Alaska by the Obama Administration, local small use in Florida, and some use in Canada. Statistics that claim few accidents mean that trucking of LNG is safe are misleading because, similar to crude oil transported in unsafe train cars a few years ago before the Bakken crude phenomena, it has been rarely done. For Bakken oil trains, accidents increased 400% in one year once volume of traffic increased, creating the biggest jump in deadly and/or catastrophic train accidents in years.

The Trump Administration has provided a big push for the use of rail for LNG transport in April 2019 with President Donald Trump issuing an executive order directing federal regulators to create new rules allowing rail companies to transport LNG by rail in the next 13 months, or less.¹⁷ Considering the length of time it customarily takes PHMSA and the Federal Railroad Administration to develop new car specifications and use regulations, one year is a truncated period that fast-tracks the approval the President is seeking. The priority, according to LNG promoters, is a quick approval to meet the need for the industry to serve new markets. This does not inspire confidence in the results.

In the event of a release of LNG, the LNG must gas off naturally, as the container cannot be capped or interacted with, the area must be immediately evacuated and secured, ignition sources must be eliminated, and water cannot be used, as the release is cryogenic. Water can plug the valves of the container with ice and any cold air release can freeze skin in seconds and can even turn air to liquid or solid form, removing oxygen, an obvious disaster for anyone in the area. These handling procedures apply to any container of LNG under pressure, including those used in transportation such as truck or rail containers or storage vessels at a terminal, ships, or at a liquefaction facility.¹⁸ The dangers of an LNG release and fire from a tank accident are unique to LNG and require special handling due to the highly dangerous properties of the

¹³ <https://www.csmonitor.com/2006/0707/p02s01-usgn.html>

¹⁴ https://www.researchgate.net/publication/235976022_Explosion_of_a_road_tanker_containing_liquified_natural_gas

¹⁵ <https://www.savannahnow.com/article/20101006/NEWS/310069738>

¹⁶ Ibid.

¹⁷ <https://www.govinfo.gov/content/pkg/FR-2019-04-15/pdf/2019-07656.pdf>

¹⁸ PHMSA, “Safe Transport of Energy Products”, <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/research-and-development/hazmat/58176/day-1-pm-2.pdf>

LNG and its gases. This is well illustrated in a report of an LNG tank truck accident in Belgium, which has been used as a “lessons learned” example by first response trainers ¹⁹

When a fire erupts around or under a LNG container, it can cause a BLEVE quickly, in as little as 15 minutes for a large tank (2 ½ minutes for a small tank). Once a fire ignites around the container, the 2000 Department of Transportation (DOT) Emergency Response Guidebook (ERG) states that a 1,600-meter perimeter must be isolated around the container, as explained in the relevant text at Guide #112, the same as for explosives such as bombs and artillery. Since water cannot be used to cool the container or extinguish the fire, and the evacuation area is so large, the fire response is, especially if there are no lives at risk, for firefighters and first responders to evacuate the 1,600-meter area and let the fire burn out, similar to the response to crude oil derailments that risk explosion. In fact, even removing the damaged container can be risky. An example of how firefighters in Utah decided to handle a train derailment with damaged propane tanks illustrates the risks – it was less dangerous to detonate the cars in place than move them.²⁰ Of course, this is not possible in a populated area, begging the question of how much risk for communities is involved with flammable liquid in rail cars.

This makes the transport of LNG in containers and the storage of containers of LNG inherently dangerous and inappropriate for populated areas. The proposed Logistics Center is located next to a residential area in Gibbstown. There is a day care center and housing in Gibbstown adjacent to the Block and Lot of this site. These residential and day care uses are not compatible with the proposed activity, especially if the activity includes handling of hazardous substances such as LNG or NGL or other bulk liquids. Prevention of exposure to toxics and hazardous materials is the only way to provide protection to the especially vulnerable population of children at a day care center and to the workers, residents and families who are located adjacent to the site.

The transport routes, not yet identified by New Fortress, are through communities across Pennsylvania and New Jersey. Has the proximity of the LNG activities to structures, receptors, and residences been calculated and are there sufficient separation distances as required by U.S.DOT? US DOT has requirements (in 49 CFR Part 193) for thermal radiation and vapor dispersion hazard-based exclusion distances around land based, fixed LNG terminals. This is an essential analysis for the protection of Gibbstown and the region.

Transportation safety issues, while previously not a large concern when truck and rail transport was rare, are emerging as an important concern across the nation as transport by truck increases and rail is expected to be used as a major means of transport for an expanding industry in the near future. The Marcellus Shale has made Pennsylvania the second largest producer of natural gas in the nation, and the industry is looking for new markets and new means of delivering gas products. So, transport is ramping up to substantially increase. However, the current anti-regulation climate at the federal level means that the safety measures required for safe transport are not likely to be enacted under the current Trump Administration. The US Department of Transportation’s upper management and policymakers are heavily influenced by or transferred directly into their positions from industry and have been actively carrying out a roll back of transportation regulations. According to an Associated Press investigative report, the rolling back of transportation regulations and the elimination of regulations that were in progress, has been and is increasingly a hallmark of the Trump Administration.

¹⁹ <https://www.ctif.org/sites/default/files/2018-09/Retex%20LNG%202018%2006%2006%20ENG-reduced%20size.pdf>

²⁰ <https://www.desmogblog.com/2019/04/17/trump-executive-order-lng-rail-bomb-train-risks>

“Industry’s influence on regulations generally “is probably more powerful than it has ever been,” said Neil Eisner, who was the DOT assistant general counsel in charge of overseeing the issuing of regulations for more than three decades. DOT says having industry insiders in leadership positions provides deep practical experience in how the transportation industry works.”²¹

The AP article goes on to use as an example the statement by USDOT DOT of its intention to repeal “a 2015 rule opposed by freight railroads requiring trains that haul highly flammable crude oil be fitted with advanced braking systems that stop all rail cars simultaneously instead of conventional brakes that stop cars one after the other”.²² Delaware Riverkeeper Network and many other organizations and safety groups when proposed by USDOT after the deadly Lac-Mégantic rail disaster in Canada where 47 people died and a town was destroyed, supported this rule.

“Trump has made reducing regulations a priority, seeing many rules as an unnecessary burden on industry. Last month he tweeted that his administration “has terminated more UNNECESSARY Regulations, in just 12 months, than any other Administration has terminated during their full term in office...”

The good news is,” he wrote, ‘THERE IS MUCH MORE TO COME!’²³

However, not every effected sector is supportive of the relaxation of regulations. Reflecting the concerns of workers:

“These rules have been written in blood,” said John Risch, national legislative director for the International Association of Sheet Metal, Air, Rail and Transportation Workers. “But we’re in a new era now of little-to-no new regulations no matter how beneficial they might be. The focus is what can we repeal and rescind.”²⁴

Additionally, it is unknown how the truck or rail-delivered LNG will be transloaded and what transfer systems will be employed. There is a cavern on the site that was presumably going to be used for natural gas liquids (NGL), although it was stated at the DRBC Hearing that there would be no storage on site of bulk liquids. Funds have been invested by the owner of the property in renovation of the cavern but whether it is expected to be enlarged and what is to be stored in it, is unknown but should be publicly disclosed and disclosed to all agencies, including DRBC. Storage conditions, even if kept in idling or parked trucks, are critical to avoid releases of the super-cooled LNG for safety as well as climate impact considerations. DRN asks why the site plans show a bulk liquid tank area, a sphere tank area and the on-site cavern for bulk liquids storage if, as stated by DRBC staff at the public hearing, there will be no bulk liquid storage on site and only truck or rail transloading directly to ships?

Another important consideration is the use of trucks to carry the LNG product will increase emissions of natural gas constituents, including methane, into the air and will emit hazardous air pollutants due to diesel exhaust. The emission of air pollutants to communities along the transport route unjustly exposes people to health hazards that they may be unaware of due to the transient nature of the vehicles. There should be an

²¹ <https://www.apnews.com/1936e77a11924c909880f1ef014c7ca7>

²² Ibid.

²³ Ibid.

²⁴ Ibid.

analysis of the truck route impacts on communities, environmental justice areas, and areas such as the Delaware River valley where there is already a non-attainment area for ozone, resulting in smog and the resulting respiratory and other adverse health effects that accompany air pollution and the deposition of air pollutants on water, such as the Delaware River, the water supply for millions in the region. The venting of the trucks (or railcars) is necessary en route to avoid over-pressurization, so those emissions are unavoidable but nonetheless, unacceptable.

As explained in an article about LNG-powered ships in Washington state, natural gas is composed mostly of methane, which is one of the four major greenhouse gases and a culprit in the the global warming of our atmosphere, exacerbating climate change. Moreover, methane leaks throughout the entire gas development process, from fracking at the extraction well, through pipeline and compressor delivery systems, during storage and in end use such as power plants and gas processing and petrochemical facilities, including when it is used for fuel in shipping. The article states “The International Coalition for Clean Transportation estimates [2.2-4.6% of methane on ships](#) escapes into the atmosphere after passing through the engine without combusting. This is known as methane slip and its rate depends on the type of engine.”²⁵

It explains further, that “Again, LNG is composed chiefly of methane, which is itself a nasty greenhouse gas – 86 times worse than CO₂ over a 20 year span and 36 times worse over a 100 year span. New research actually suggests that those numbers may be [underestimated by as much as 14%](#). This means that we don’t want to be adding any more methane to the atmosphere and, in fact, scientists point out that we can have [more immediate impacts on lessening climate change by reducing methane](#) since it doesn’t last as long in the atmosphere as CO₂. Alarming, US methane emissions [have risen 30%](#) in the past decade thanks mostly to the central US, a hotbed of fracking.”²⁶

The impacts of greenhouse gas emissions that will be released by this project are substantial and can be minimized if gas products – LNG and NGL -- are eliminated as cargo that will be handled at the Gibbstown Logistics Center. Methane and carbon are leaked, released or burned through the full life cycle of the hydraulically fractured (fracked) gas produced for this project – from extraction by fracking through delivery systems such as pipelines and compressors to the liquefaction plant, the processing at the LNG liquefaction plant, the transport by truck, rail, or pipeline to the export terminal, any interim storage, transloading of the material the storage in the ocean-going vessel and then the final re-gasification of the LNG and its end use. This uncontrollable and inefficient process is also deadly in its effects on atmospheric warming and the climate crisis we are facing globally. It is irresponsible and shortsighted to support the further development of fracked gas projects. At the very least, a climate change impact analysis must be done for this project to measure and then assess the potential effects of the full life cycle of LNG and NGL greenhouse gas emissions and climate change effects that would be produced for the Gibbstown Logistics Center.

This comment is submitted in addition to the two letters submitted by Delaware Riverkeeper Network to DRBC dated June 3, 2019 and May 28, 2019, and the verbal testimony of Tracy Carluccio at the public hearing of June 6, 2019.

Conclusion

²⁵ <https://www.350tacoma.org/the-origins-of-lng-as-a-maritime-fuel/>

²⁶ Ibid.

The draft docket is deficient and misleading. It lacks essential information and continues to obfuscate the major intended use of the facility, LNG export. DRN requests that the draft docket be held back from the DRBC's business meeting based on its incompleteness. We point out the lack of adequate time for the Commissioners to review the project to be a major obstacle for a full and fair review (only 2 days before the meeting when the usual review period for the Commissioners is 30 days).

If the docket is included on the agenda at the business meeting, we request the Commissioners either disapprove the draft docket based on the evidence presented showing substantial harm to Delaware River water resources or withdraw the draft docket from consideration until a comprehensive analysis by all relevant agencies is complete and permits have been subject to public review and input. If the DRBC considers this docket in the future, DRN requests that after all other permitting and exhaustive environmental reviews are complete, DRBC provide at least a 60 day comment period for the draft docket so the public can be afforded the time and information needed to assess and provide input into the decisionmaking.

Respectfully submitted,

Handwritten signatures in blue ink. The signature on the left is 'Maya van Rossum' and the signature on the right is 'Tracy Carluccio'.

Maya van Rossum
the Delaware Riverkeeper

Tracy Carluccio
Deputy Director