

MODEL LNG TRANSPORTATION RESOLUTION – DE

WHEREAS, a fundamental purpose of government is to protect the health, safety, and welfare of citizens; and

WHEREAS, the State of Delaware Department of Natural Resources and Environmental Control (DNREC) envisions a Delaware that offers a healthy environment where people embrace a commitment to the protection, enhancement and enjoyment of the environment in their daily lives; where Delawareans' stewardship of natural resources ensures the sustainability of these resources for the appreciation and enjoyment of future generations; and where people recognize that a healthy environment and a strong economy support one another¹; and

WHEREAS, DNREC's Strategic Priorities are described as including: Preserving Outdoor Heritage and Promoting Tourism; Supporting Healthy Families; Improving Delaware's Preparedness; Creating Cleaner, Lower Priced and More Reliable Energy; Ensuring Clean Water; and Supporting Safe and Sustainable Communities²; and

WHEREAS, Delaware River Partners LLC, a subsidiary of Fortress Transportation and Infrastructure Investors, LLC, intends to ship Liquefied Natural Gas (LNG) originating from Pennsylvania Marcellus Shale gas wells; liquefied at a facility being built in Bradford County, PA; transported by truck or rail to Gibbstown, Gloucester County, New Jersey; transloaded into ships at a proposed Dock to be built at the Gibbstown Logistics Center on the Delaware River; then shipped on the Delaware River through the Delaware Bay, with no required review or permitting from DENREC; and

WHEREAS Delaware River Partners intends to ship LNG from the proposed export terminal dock on the Delaware River for sale overseas, to the benefit of the company and its investors, while those in Delaware who are potentially adversely impacted by the project and its operations are subject to bearing the external costs; and

WHEREAS, the transport of LNG by shipping vessel on the Delaware River will require the ships to traverse the Delaware River and Bay, passing many Delaware communities, including densely populated areas, environmental justice communities, and areas of unique and vulnerable environmental and natural value to reach the Atlantic Ocean and foreign ports; and

WHEREAS, the transport of LNG by shipping vessel will negatively impact the aesthetic, scenic, and recreational value of tourism and eco-tourism in Delaware's coastal communities and impinge on economically and environmentally important and irreplaceable coastal and marine resources; and

WHEREAS, LNG is a liquefied cryogenic flammable gas, cooled to at least -260 degrees F. It is dangerous to handle, store, and transport bringing with it "unique safety hazards". When LNG liquid is released it immediately expands by more than 600 times its liquid volume, making it more powerful than hazardous liquids that don't expand exponentially. An unignited ground-

¹ <https://dnrec.alpha.delaware.gov/mission/>

² Ibid.

hugging vapor cloud can move far distances,³ and exposure to the vapor can cause extreme freeze burns. If in an enclosed space such as a basement or tunnel, it asphyxiates, causing death⁴. If ignited, the fire is inextinguishable; the fire is so hot that second degree burns can occur within 30 seconds for those exposed within a mile. An LNG release can cause a Boiling Liquid Expanding Vapor Explosion.⁵ Spillage of LNG into water presents a hazardous situation where the water quickly transfers heat to the liquid methane, causing it to expand with explosive speed that can result in damage to nearby structures.⁶ Explosion can occur and have a cascading effect as the vapor cloud moves downwind or along topographical features such as a tributary, ditch, or human built structures, threatening public safety, human life and the environment; and

WHEREAS, New Fortress Energy is planning the overland transport of Liquefied Natural Gas (“LNG”, also known as liquid methane) by truck on public highways and by rail car on existing railways from a yet-to-be-completed liquefaction plant in Wyalusing, Pennsylvania, to a proposed LNG export terminal in Gibbstown, New Jersey on the Delaware River (the “Gibbstown Logistics Center”); and

WHEREAS, the transport of LNG has unique safety hazards, exposing those near the navigation path of shipping vessels and/or transportation routes over land or water or near facility sites to unprecedented and unjustifiable risk. Fire, explosion, freeze burning, embrittlement of ordinary carbon steel, and other potent effects of an accident pose significant and unacceptable threats to communities and the environment; and the 2016 US Emergency Response Guidebook advises fire chiefs initially to immediately evacuate the surrounding 1-mile area on land.⁷ Scientific research shows that a spill fire from a large LNG release on water could cause burns greater than one mile from the edge of the fire⁸ and a vapor cloud can disperse 1.46 miles in a stable atmosphere⁹. No federal field research has concluded a definitive impact zone so in the most recent serious Plymouth, Washington, LNG fire, they evacuated a 2-mile radius;¹⁰ and

³ “Immediate ignition with liquid still on the ground could cause the spill to develop into a pool fire and present a radiant heat hazard. If there is no ignition source, the LNG will vaporize rapidly forming a cold gas cloud that is initially heavier than air, mixes with ambient air, spreads and is carried downwind.” P. 10 “Methane in vapor state can be an asphyxiant when it displaces oxygen in a confined space.” P. 11. SP 20534 Special Permit to transport LNG by rail in DOT-113C120W rail tank cars. Final Environmental Assessment. Docket No. PHMSA-2019-0100. December 5, 2019. P. 10.

⁴ SP 20534 Special Permit to transport LNG by rail in DOT-113C120W rail tank cars. Final Environmental Assessment. Docket No. PHMSA-2019-0100. December 5, 2019. P, 11.

⁵ “LNG tank BLEVE is possible in some transportation scenarios.” Sandia National Laboratories, “LNG Use and Safety Concerns (LNG export facility, refueling stations, marine/barge/ferry/rail/truck transport)”, Tom Blanchat, Mike Hightower, Anay Luketa. November 2014. <https://www.osti.gov/servlets/purl/1367739> P. 23.

⁶ Rapid Phase Transitions of LNG illustrated at <https://www.youtube.com/watch?v=h-EY82cVKuA>

⁷ US DOT Emergency Response Guidebook. <https://www.phmsa.dot.gov/hazmat/erg/emergency-response-guidebook-erg>

⁸ Jerry Havens, “LNG: Safety in Science”, Bulletin of the Atomic Scientists January/February 2004, Research Article, <https://doi.org/10.2968/060001010>.

⁹ Phani K. Raja,*, Theodore Lemoffb, “Risk analysis based LNG facility siting standard in NFPA 59A”, Journal of Loss Prevention in the Process Industries 22 (2009) 820–829. [http://www.savepassamaquoddybay.org/downloads/2016Feb_Complaint_to_JusticeDept/individual_files/33_08_20_140625-5010\(29539740\).pdf](http://www.savepassamaquoddybay.org/downloads/2016Feb_Complaint_to_JusticeDept/individual_files/33_08_20_140625-5010(29539740).pdf)

¹⁰ <https://www.sightline.org/2016/06/03/williams-companies-failed-to-protect-employees-in-plymouth-lng-explosion/>

WHEREAS, Delaware River Partners, LLC has submitted an application to the Delaware River Basin Commission under Docket D-2017-009-2 to construct a transloading facility (“Dock 2”) at the Gibbstown Logistics Center that would transfer LNG from trucks and railcars to shipping vessels for export; and

WHEREAS, the Delaware River Basin Commission states, “The vision of the Delaware River Basin Commission is built upon the Compact signed in 1961 by Delaware, New Jersey, New York, Pennsylvania, and the federal government. It is defined in the Delaware River Basin Compact as, “the conservation, utilization, development, management and control of water and related resources of the Delaware River Basin under a comprehensive multipurpose plan will bring the greatest benefits and produce the most efficient service in the public welfare”¹¹; and

WHEREAS, the Delaware River Basin Commission has recently affirmed in its statement on Diversity, Equity, Inclusion & Justice that its “core values” are “Service: to the public, the regulated community and our DRBC colleagues; Respect: for each other, the public and the Basin’s water resources; Professionalism: defined by high ethical standards, integrity, continuous improvement and accountability¹²; and

WHEREAS, Delaware River Partners has not received a letter of recommendation from The United States Coast Guard approving the shipping of LNG from Gibbstown overseas through the Delaware River and Bay; and

WHEREAS, neither the State of Delaware nor the Delaware River Basin Commission has assessed the potential public safety, public health or environmental impacts of the proposed shipping of LNG from the Delaware River Basin or the overland transport of LNG by truck or by rail car on the communities along the possible transportation routes between Wyalusing, Pennsylvania, and Gibbstown, New Jersey; and

WHEREAS, no federal, state, or local agency has conducted a risk assessment of the specific overland transportation route(s) along which the LNG would travel; and

WHEREAS, no full scale Quantitative Risk Assessment, which quantifies the frequencies of events such as transportation accidents and their consequences, has been done of the trucks or rail cars that would contain the LNG that would travel from Wyalusing, Pennsylvania, to Gibbstown NJ¹³; and

¹¹ <https://www.nj.gov/drbc/library/documents/DRBCvision-mission-values.pdf>

¹² <https://www.nj.gov/drbc/about/staff/DEIJ.html>

¹³ “The QRA will help to evaluate the derailment and release probability of LNG rail cars over certain segments of the network, and account for a variety of track and train characteristics...An LNG risk model can be used to understand the probability and consequences for LNG transportation incidents for both rail and truck delivery. Even though they are treated differently, the underlying event tree analysis approach is the same. When the probability of LNG tank car derailment is understood, better decisions can be made regarding the crashworthiness, placement, and operation of rail cars and the potential consequences from an LNG release due to a derailment. Further study for modeling the probability and consequences of transporting LNG by rail and truck will help decision-makers understand public risks and make informed decisions.” “Risk Assessment of Surface Transport of Liquid Natural Gas”, *prepared for* U.S. DOT Pipeline and Hazardous Materials Safety Administration, Office of Hazardous

WHEREAS, neither the State of Delaware nor the Delaware River Basin Commission has conducted a comprehensive assessment of the cumulative and long-term impacts of the full scope of New Fortress Energy's plan to liquefy natural gas from fracking wells in Northern Pennsylvania, transport the LNG to the Gibbstown Logistics Center and export by marine vessels overseas on the Delaware River past Delaware and South Jersey bayshore communities; and

WHEREAS, training or support in [the township/county/district] has not been provided for emergency or first response service organizations to respond to accidents, fires, explosions, derailments, or other emergencies related to LNG transport within this jurisdiction; and

WHEREAS, the absence of such assessments and support prevents the appropriate management of and avoidance of accidents, derailments, catastrophic events, health harms, and environmental damage and degradation that could occur from the transportation of LNG through and nearby these communities, including risks to public health, property values and the clean air and water upon which all citizens and businesses depend; and

WHEREAS, the shipping vessel navigation path and the potential land transportation routes would travel past and/or through dense urban areas such as Wilmington and other communities with proportionately more minority and low income populations, compounding environmental injustices¹⁴;

WHEREAS, DENREC's stated priority of creating cleaner, lower priced and more reliable energy includes implementing energy efficiency recommendations, investing in clean and renewable energy infrastructure, modernizing power plants, working to reduce cross-state air pollution, and promoting cleaner transportation solutions¹⁵ and the shipping of LNG perpetuates the development of dirty fossil fuels that produce pollutants and greenhouse gas emissions; and

NOW, THEREFORE, BE IT RESOLVED that:

1. The [Township/County/District] calls upon the members of the Delaware River Basin Commission to disapprove the Dock 2 project, Docket D-2017-009-2.
2. The [Township/County/District] calls upon the State of Delaware to act in furtherance of its policy to transition away from fossil fuels by taking all measures possible to prevent the transportation of LNG by ship, truck and/or by rail through Delaware and by conducting a public health and safety analysis, a quantitative risk assessment, and a comprehensive environmental review of the potential impacts to communities and the natural environment in Delaware.
3. An official copy of this resolution be filed with the Delaware River Basin Commission, 25 Cosey Road, P.O. Box 7360, West Trenton, NJ 08628-0360 and that copies are sent to the voting members of the DRBC at their respective locations: the

Materials Safety prepared by Cambridge Systematics, Inc. with MaineWay Services, LLC, Rutgers University, Transport Analytics, LLC. ScienceSmith LLC, March 20, 2019. P. ES-9.

¹⁴ Delaware Riverkeeper Network, <https://www.delawariverkeeper.org/taxonomy/term/1174>

¹⁵ <https://dnrec.alpha.delaware.gov/mission/>

Governors of Pennsylvania, New Jersey, New York, and Delaware and the U.S.
Army Corps of Engineers.

4. An official copy of this resolution be filed with the Honorable John Carney, Office of the Governor, Tatnall Building, 150 Martin Luther King Jr Blvd South, Dover, DE, 19901.