Comments regarding the Pipeline and Hazardous Materials Safety Administration Notice, "Hazardous Materials Safety: Draft Environmental Assessment for a Special Permit Request for Liquefied Natural Gas by Rail"

Docket ID: PHMSA-2019-0100

On behalf of our tens of thousands of member physicians, nurses, health professionals and concerned citizens across the nation, we are pleased to submit comments to the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA) regarding the Draft Environmental Assessment for a Special Permit Request for Liquefied Natural Gas by Rail. The special permit in question would allow the company Energy Transport Solutions LLC to transport liquefied natural gas (LNG) by rail in unit trains as much as 100 cars long for the express purpose of moving the LNG to export facilities.

We oppose issuance of this permit on the grounds that it poses unacceptable threats to human health and life.

To date, the Federal Railroad Administration (FRA), which shares regulatory jurisdiction over LNG transportation with PHMSA, has kept bulk transportation of LNG by rail tank car in the "Forbidden" category of the federal Hazardous Materials Table, allowed only under special permit from FRA, rarely granted. This or a comparably high degree of restriction on or refusal to allow rail transport of LNG should be maintained, for the following reasons:

1. The trains and the tank cars being proposed to carry LNG by rail have not been demonstrated to be safe for this purpose.

The permit requested by Energy Transport Solutions for LNG-by-rail would authorize unit trains (trains carrying a single commodity) of up to 100 cars, made up of the heaviest allowed tank cars. These long, heavy unit trains would, as per PHMSA's recommendation, be authorized to travel at a speed of 50 miles per hour. The appropriateness of a 50 mile-per-hour speed limit is not supported by safety data; rather, it reflects the recommendation by the Association of American Railroads that trains carrying certain amounts of hazardous materials be limited to 50 miles per hour. This rate of speed may be unsafe; it exceeds by 25 percent the maximum allowable speed of 40 miles per hour proposed by the Federal Railroad Administration for oil trains traveling near major population centers. PHMSA should reconsider the maximum allowable speed for trains bearing LNG and not allow it to exceed the speed recommended for oil trains.

The tank cars that would make up these heavy and fast-moving trains are the Class DOT-113 cryogenic tank car. This tank car is built using a fifty year-old design which has never before been authorized for LNG service. In fact, no rail tank car standards for transport of LNG have yet been established. Alarmingly, instances exist of serious damage to DOT-113 tank cars during transportation, including instances where a DOT-113 lost cargo due to breach of both its

outer and its inner tanks. Should the outer and inner tanks of a car carrying LNG be breached, the results could be a catastrophic explosion and fire. No permit should be approved without specific regulations in place for LNG tank cars.

2. In case of an accident, LNG-by-rail can cause catastrophic fires and explosions.

We are particularly concerned about the risk that LNG-by-rail would pose to people living in proximity to rail lines, especially in densely populated urban and suburban areas. The permit application would establish no restriction on routing of LNG unit trains through these population centers. Several factors underscore the risk of potentially disastrous accidents that this would impose on virtually all major U.S. cities.

In case of an accident, first responders would be unable to control and contain the incident. Should an LNG tank car leak, rupture or otherwise emit LNG and should that LNG return to gaseous form and burn, the resulting fire is likely to be beyond the capacity of first responders to extinguish. Natural gas is valued precisely because it burns readily and hot. As we have witnessed in cases of fires resulting from leaks or breaches in natural gas pipelines, natural gas fires can result in massive flames that first responders cannot extinguish; the fire is only controlled when the flow of gas through the pipeline is shut down. Similarly, when oil trains have derailed, exploded and burned, first responders have been unable to protect surrounding communities other than by providing evacuation; the trains are usually left to burn out. In its Draft Environmental Assessment, PHMSA acknowledges that essentially the same limited options apply to a burning LNG tank car, stating, "Response and mitigation techniques beyond evacuation for breaches in cryogenic tank cars do not exist or are impractical during a derailment scenario."

Rupture is not the only scenario that threatens human life and limb. In the case that an LNG tank car is caught in a fire and engulfed by external flames, a bomb-like explosion can result. In an event known as a "Boiling Liquid Expanding Vapor Explosion" or BLEVE, flames heat the tank and the liquid it contains. When the liquid vaporizes, the vapor pressure within the tank can become so extreme that the tank explodes, spewing hot metal and releasing large quantities of both liquid and vapor methane. PHMSA acknowledges that "No test data or mathematical models exist to predict whether and when an LNG tank car exposed to an external fire would undergo a BLEVE." We take that as further evidence that issuing a permit for LNG-by-rail would be premature.

Another potential source of an LNG-by-rail disaster must be taken into account: the possibility of a terrorist attack. The frequent, routinely scheduled routing of LNG unit trains would make them highly vulnerable to attack by terrorists. The predictability and visibility of commercial rail traffic would make targeting easy; the passage of LNG trains through urban settings would make attacks potentially devastating. Human lives would be at risk, as would critical infrastructure and, potentially, other adjacent strategic targets.

In case of an LNG-by-rail fire and/or an explosion, PHMSA appears unable to adequately define the hazard zone and the risk to nearby populations. PHMSA refers to a "limited zone of hazard" and labels it "significant." Neither term is defined, leaving first responders, health professionals, planners and concerned citizens in the dark as to how extensive that hazard zone is, and the

nature and degree of risk posed within that zone. PHMSA does state that "exposure to heat from an LNG pool fire or ignition of LNG vapors could result in fatalities, serious injuries, and property damage for those within the limited zone of hazard." This recognition of the dangers clearly calls for greater elaboration, including the measures that would be required to minimize harm and protect human life.

PHMSA's Draft Environmental Assessment also notes, in regard to a potential breach of a cryogenic tank car, that "Incidents are rare, though rail impacts can be high-consequence, given the quantity of hazardous materials in transportation." Rare or not, such incidents have occurred. PHMSA should not issue a permit in the absence of regulations that analyze, quantify, and reduce the threats of fire and explosion.

3. LNG-by-rail builds demand for fracked gas, which pollutes the air and water and drives climate change.

Finally, we call on PHMSA to take into account the long-term, large-scale consequences to our nation and to the global environment that LNG train traffic would exacerbate. We recognize both upstream and downstream impacts of LNG-by-rail:

The permit being requested for LNG-by-rail would deliver LNG to export facilities for shipment to foreign markets. By serving this external demand for methane, it helps drive the demand for horizontal hydraulic fracturing or "fracking" in the United States. Fracking harms human health. It requires the injection deep underground of a mixture of toxic chemicals, many of which are known to be carcinogenic. Drilling, extraction, processing and transport processes release hazardous pollutants and carcinogens into the air and water, including benzene, formaldehyde, and soot. Fracking-related pollutants are implicated in a wide range of physical harm and disease in humans, including cancer, heart disease, birth defects, asthma, lung disease, and more. Further information and links to published scientific and medical reports are available in the Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction), published by Physicians for Social Responsibility and Concerned Health Professionals of New York.

Natural gas is primarily methane, and methane in the atmosphere drives climate change. Climate change is one of the greatest health threats facing humanity in the 21st century. It creates potentially lethal heat waves, extreme storms and rising sea levels that contribute to disease, injury and death. Indirect effects of climate change include droughts, floods, worsening air and water pollution, crop damage, and the spread of pest- and waterborne diseases. Children, the poor, the elderly, and those with a weak or impaired immune system are especially vulnerable. Because methane leaks across the entire natural gas supply chain, extracting, transporting, processing, loading and unloading natural gas all this a terribly potent heat-trapping gas to the atmosphere.

Investing in LNG postpones our society's highly necessary transition to renewable energy sources. Our health and the future livability of our planetary home require that we end our reliance on fossil fuels. Further investments in LNG-related processes and infrastructure serve to prolong the fossil fuel era. We should instead be directing those investments to clean, safe,

renewable energy resources that will allow us to power our economy and our lives while preserving health, clean air and clean water, and a life-supporting climate.

For all of these reasons, and in the name of health and life, our organizations call upon PHMSA to reject Energy Transport Solutions LLC's request for a special permit to transport liquefied natural gas (LNG) by rail.

Sincerely,

Physicians for Social Responsibility (PSR)

Alliance of Nurses for Healthy Environments

Chesapeake PSR

Greater Boston PSR

PSR Arizona

PSR Colorado Working Group

PSR Florida

PSR Harrisburg

PSR Iowa

PSR Maine

PSR New Mexico

PSR New York

San Francisco Bay Area PSR

Washington PSR