



*Submitted via email and certified mail*

May 15, 2017

Pipeline and Hazardous Materials Safety Administration  
Department of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590

**Re: Petition from Association of American Railroads (Petition No. P-1697, Dkt. No: PHMSA-2017-0020) to Allow Transport of LNG in Rail Cars**

The Center for Biological Diversity (the Center) submits this letter in response to the Pipeline and Hazardous Materials Safety Administration's (PHMSA) acknowledgement of the request by the Association of American Railroads (AAR) to allow the shipment of Liquefied Natural Gas (LNG) by rail nationwide.

PHMSA currently prohibits transporting LNG by rail, and for good reason. Transporting LNG by rail is inherently dangerous, and risks explosions, pool fires that are impossible to put out, and other accidents that can harm public health and the environment. PHMSA should therefore deny AAR's request. At the very least, PHMSA cannot revise federal regulations to allow for the transportation of LNG in railcars nationwide unless and until it fully complies with the environmental review requirements of the National Environmental Policy Act (NEPA), 42 U.S.C § 4342(c), and the public comment provisions of the Hazardous Materials Transportation Act (HMTA), 29 U.S.C. § 5103 and Administrative Procedure Act (APA), 5 U.S.C. § 553. These federal statutes are essential in ensuring the environmental impacts of this decision are fully examined, and the public is given the opportunity to comment. PHMSA cannot allow for the transport of LNG, a hazardous substance, by rail, until and unless it complies with the environmental and public process mandates of NEPA and the HMTA. If the agency fails to act, PHMSA will be putting our communities in danger and violating the law, and the Center will take action seeking legal remedies.

**I. Background**

A. AAR's Petition

The AAR submitted its petition to PHMSA on January 17, 2017. Specifically, AAR requested that the "Hazardous Materials Table in 49 C.F.R. section 102" be amended so that "the

column 8(c) entry for methane, refrigerated liquid, should refer to ‘319’ in addition to ‘318.’” Because 49 C.F.R. section 102 does not exist, we presume AAR is referring to the hazardous materials table found at 49 C.F.R. § 172.101. Column 8 is entitled “Packaging (§ 173.\*\*\*), and 8(c) refers to bulk packaging.

In addition, AAR requested that PHMSA “revise 173.319 to include specific requirements for Department of Transportation (DOT)-113 rail cars to allow for the transportation of Liquefied Natural Gas (LNG).” 49 C.F.R. Part 173 is entitled “Shippers – General Requirements for Shipments and Packaging,” and is housed in 49 C.F.R. Chapter I, Subchapter C – Hazardous Materials Regulations.

AAR submitted its petition pursuant to 49 C.F.R. § 106.100, which details the rulemaking process under the HMTA, 49 U.S.C. §§ 5101-5128. The regulations detail a procedure of notice and comment for any petitions for rulemaking, 49 C.F.R. Part 106, Subpart B, and also explain that PHMSA uses informal rulemaking procedures under the APA, 5 U.S.C. § 553, to amend any regulations. 49 C.F.R. § 106.10. Therefore, to change a regulation, the agency must publish rulemaking documents in the Federal Register and allow interested parties the opportunity to participate in the rulemaking proceeding. In addition to the requirements laid out in the regulations, the HMTA itself requires that rulemakings regarding the transportation of hazardous materials must be conducted “under section 553 of title 5 [APA], including an opportunity for informal oral presentation.” 49 U.S.C. § 5103.

#### B. Environmental Impacts of LNG

LNG, as the name suggests, is natural gas that has been converted to liquid for ease of storage or transport. Transport of LNG by rail poses serious environmental concerns. First, LNG poses concerns about the fate of the material in the event of a crash or spill. As noted by the Congressional Research Service, potentially catastrophic pool fires or vapor cloud fires could arise from a serious accident or attack on LNG infrastructure.<sup>1</sup> Natural gas is combustible, so an uncontrolled release of LNG poses a hazard of fire or, in confined spaces, explosion. LNG also poses hazards because it is so cold. If LNG spills near an ignition source, the evaporating gas in a combustible gas-air concentration will burn above the LNG pool. The resulting “pool fire” would spread as the LNG pool expanded away from its source and continued evaporating. A pool fire is intense, burning far more hotly and rapidly than oil or gasoline fires. It cannot be extinguished — all the LNG must be consumed before it goes out. Because an LNG pool fire is so hot, its thermal radiation may injure people and damage property a considerable distance from the fire itself. Many experts agree that a large pool fire, especially on water (due to heat transfer), is the most serious LNG hazard.

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<sup>1</sup> Congressional Research Service, January 28, 2004. “Liquefied Natural Gas (LNG) Import Terminals: Siting, Safety and Regulation.” Available at: [http://www.iags.org/CRS\\_RL32205.pdf](http://www.iags.org/CRS_RL32205.pdf)

More importantly, most natural gas produced in this country has been extracted utilizing new hydraulic fracturing technologies that are causing environmental and public health problems throughout the country. Numerous scientific and technical studies have shown that the practice of fracturing rocks and sediment to reach deeply buried pockets of natural gas is fundamentally counterproductive to human health, public well-being, wildlife conservation, water quality and quantity, renewable energy production and transmission, geologic stability, toxics reduction, and a host of other societal problems. Significant amounts of methane are being released into the atmosphere by U.S. natural gas extraction activities, and these emissions are often underestimated and misleading. Furthermore, in addition to the greenhouse gas emission leakage problems associated with the entire natural gas extraction process writ large, other harmful air pollutants are emitted from these processes as well. For example, a typical natural gas production facility (i.e., wellpads) emits leaked hazardous air pollutant (HAP) emissions at a rate of 0.671 tons per year. Assuming each wellpad has three producing gas wells (which is a conservative estimate), this equates to roughly 200,000 tons of HAP emissions per year for the entire country, given that there are nearly one million gas wells in the U.S..<sup>2</sup> This number, which far exceeds EPA's estimates of total fossil fuel industry emission of 127,000 tons a year, does not take into account leaks from any other infrastructure such as storage facilities, transportation infrastructure, or gathering and boosting facilities, all of which exhibit leakage as well.<sup>3</sup> For these reasons, PHMSA should deny AAR's request. Transporting LNG by rail is simply too big a gamble with public health and safety, and environmental protection.

## **II. Violations of Law**

If PHMSA does not deny AAR's request, PHMSA may not allow for the transportation of LNG in rail cars until it has fully complied with applicable environmental laws. Specifically, PHMSA must prepare an Environmental Impact Statement (EIS), or at least an Environmental Assessment (EA), as required by NEPA, 42 U.S.C. § 4332, and must ensure that the public participates in the rulemaking process pursuant to the HMTA, 49 U.S.C. § 5103, and the APA, 5

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<sup>2</sup> See Memorandum from Bradley Nelson & Heather Brown, EC/R Incorporated, to Greg Nizich & Bruce Moore, EPA, Re: Equipment Leak Emission Reduction and Cost Analysis for Well Pads, Gathering and Boosting Stations, and Transmission and Storage Facilities Using Emission and Cost Data from the Uniform Standards 6 Tbl. 2 (April 17, 2012), Document ID No. EPA-HQ-OAR-2010-0505-4496; U.S. DEP'T OF ENERGY, U.S. ENERGY INFO. ADMIN., Number of Producing Natural Gas Wells, [http://www.eia.gov/dnav/ng/ng\\_prod\\_wells\\_s1\\_a.htm](http://www.eia.gov/dnav/ng/ng_prod_wells_s1_a.htm) (updated Dec. 31, 2014) If the average wellpad is assumed to contain two wells, the estimated leaked HAP emissions go up to roughly 300,000 per year.

<sup>3</sup> See Carbon Limits, Quantifying Cost-effectiveness of Systematic Leak Detection and Repair Programs Using Infrared Cameras, 11 Fig. 5, CL report CL-13-27 (March 2014), [http://www.catf.us/resources/publications/files/Carbon\\_Limits\\_LDAR.pdf](http://www.catf.us/resources/publications/files/Carbon_Limits_LDAR.pdf); Environmental Integrity Project, Accident Prone: Malfunctions and "Abnormal" Emission Events at Refineries, Chemical Plants, and Natural Gas Facilities in Texas, 2009-2011 [http://www.environmentalintegrity.org/news\\_reports/07\\_18\\_2012.php](http://www.environmentalintegrity.org/news_reports/07_18_2012.php); Memorandum from Bradley Nelson & Heather Brown, EC/R Incorporated, to Greg Nizich & Bruce Moore, EPA, Re: Equipment Leak Emission Reduction and Cost Analysis for Well Pads, Gathering and Boosting Stations, and Transmission and Storage Facilities Using Emission and Cost Data from the Uniform Standards 6 Tbl. 2 (April 17, 2012), Document ID No. EPA-HQ-OAR-2010-0505-4496.

U.S.C. § 553, respectively. From the letter acknowledging receipt of AAR's petition, it appears PHMSA has not begun to comply with either of these statutory obligations.

#### A. PHMSA Must Comply with NEPA

NEPA is "our basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). NEPA's twin aims are to ensure that federal agencies consider the environmental impacts of their proposed actions and to ensure that agencies inform the public that environmental concerns have been considered. NEPA requires "responsible [federal] officials" to prepare an EIS to consider the effects of each "major Federal action[ ] significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C)(i). The scope of this requirement is "exceptionally broad," *Found. for N. Am. Wild Sheep v. United States Dep't of Agric.*, 681 F.2d 1172, 1177 (9th Cir. 1982), and it is intended to "compel agencies . . . to take seriously the potential environmental consequences of a proposed action." *Ocean Advocates v. United States Army Corps of Eng'rs*, 402 F.3d 846, 864 (9th Cir. 2005).

An agency may avoid preparing a full EIS if the agency: (1) prepares an EA identifying and analyzing the action's environmental effects; and (2) makes a finding of no significant impact, which presents the agency's reasons for concluding that the action's environmental effects are not significant. 40 C.F.R. §§ 1501.4(b), (e); 1508.9; 1508.1.3. A full EIS is required if "substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor." *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149-50 (9th Cir. 1998). To trigger this requirement, the plaintiff "need not show that significant effects will in fact occur;" but rather, "an EIS must be prepared if substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor." *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998) (citation omitted).

Whether an action may have "significant" impacts on the environment is determined by considering the "context" and "intensity" of the action. 40 C.F.R. § 1508.27. "Context" means the significance of the project "must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality." *Id.* § 1508.27(a). Intensity of the action is determined by considering the following ten factors: (1) impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial; (2) the degree to which the proposed action affects public health or safety; (3) unique characteristics of the geographic area such as proximity to ecologically critical areas; (4) the degree to which the effects on the quality of the human environment are likely to be highly controversial; (5) the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks; (6) the degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration; (7) whether the action is related to

other actions with individually insignificant but cumulatively significant impacts; (8) the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources; (9) the degree to which the action may adversely affect an endangered or threatened species or its critical habitat; (10) whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. *Id.* § 1508.27(b)(1)-(10).

In the case of the LNG-by-rail, the applicability of several factors, including effects on public health and safety, the highly controversial nature of the authorization and the degree to which the possible effects on the environment are highly uncertain, indicates that PHMSA must prepare at least an EA for the permit, and likely triggers the need for a full EIS. *See, e.g. Nat'l Parks & Conserv. Ass'n. v. Babbitt*, 241 F.3d 722, 731 (9th Cir. 2001) (either of two significance factors considered by the court “may be sufficient to require preparation of an EIS in appropriate circumstances”); *Anderson v. Evans*, 350 F.3d 815, 835 (9th Cir. 2003) (presence of one or more factors can necessitate preparation of a full EIS). If PHMSA does not prepare an EA or EIS for this authorization, the agency has abrogated its duty to fully analyze the impacts of, alternatives to, and mitigation measures for the action. 40 C.F.R. §§ 1502.14, 1502.16, 1508.7, 1508.8.

In evaluating the environmental impact of this authorization, an EIS must describe the direct, indirect and cumulative impacts. 40 C.F.R §§ 1502.16, 1508.7, 1508.8; *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1072-73 (9th Cir. 2011). These terms are distinct from one another: direct effects are “caused by the action and occur at the same time and place.” 40 C.F.R. § 1508.8(a). Indirect effects are caused by the action but, “are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effect on air and water and other natural systems, including ecosystems.” *Id.* § 1508.8(b). Cumulative impacts are “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” *Id.* § 1508.7.

Here, for example, PHMSA must examine the substantial direct and indirect effects of authorizing LNG by rail car in the context of natural gas development in this country and abroad, and the potential for this authorization to increase infrastructure development and reliance on hydraulic fracturing. The significant environmental impacts from natural gas production are widespread and well documented. These impacts include climate change, air pollution, habitat destruction, water pollution, and water use. PHMSA must consider all of these impacts in its

analysis. An EA or EIS must also detail the potential for a catastrophic LNG rail car spill and resulting explosion. Any EA or EIS must also consider the cumulative impacts of the greenhouse gas and other pollutants that will be emitted as a result of the authorization. Indeed, as the Ninth Circuit has made perfectly clear, “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.” *Center for Biological Diversity v. NHTSA*, 538 F.3d 1172, 10857 (9th Cir. 2008).

In addition, NEPA requires that any EIS “rigorously explore and objectively evaluate all reasonable alternatives” to the authorization of LNG by rail car. 40 C.F.R. § 1502.14(a). This alternatives analysis “is ‘the heart’ of an EIS.” *Natural Resources Defense Council v. U.S. Forest Service*, 421 F.3d 797, 813 (9th Cir. 2005). The purpose of this requirement is to ensure agencies do not undertake projects “without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.” *Env’tl Defense Fund., Inc. v. U.S. Army Corps. of Eng’rs*, 492 F.2d 1123, 1135 (5th Cir. 1974); *see also*, *City of New York v. Dept. of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983) (NEPA’s requirement for consideration of a range of alternatives is intended to prevent the EIS from becoming “a foreordained formality.”). Importantly, this evaluation extends to considering more environmentally protective alternatives and mitigation measures. *See, e.g.*, *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122-1123 (9th Cir. 2002) (and cases cited therein).

In addition to requiring environmental review, NEPA was also enacted to ensure that agencies make relevant environmental information available to the public so that it may also play a role in both the decision-making process and the implementation of that decision. *See, e.g.*, 40 C.F.R. § 1500.1. To assure transparency and thoroughness, agencies must “to the fullest extent possible...[e]ncourage and facilitate public involvement” in decision-making. *Id.* §1500.2(d). The public must be given adequate information about the LNG-by-rail authorization and its environmental effects to be able to provide input prior to the issuance of the regulation.

PHMSA must prepare an EA or EIS before amending its regulations to allow LNG by rail. An EA or EIS would include complete scientific substantiation for the project, a thorough analysis of all direct, indirect, and cumulative environmental impacts, and consideration of a full range of alternatives to the project. Moreover, to meet its NEPA obligations, the NEPA document must be made available for public review and comment. *See, e.g.*, *Anderson v. Evans*, 314 F.3d 1006, 1016 (9th Cir. 2002) (“the public must be given an opportunity to comment on draft EAs and EISs”). As discussed above, there are a myriad of potentially significant environmental impacts resulting from the proposed authorization by PHMSA.

#### B. PHMSA Must Comply with HMTA

In addition to the requirements of NEPA, public comment provisions of the HMTA and its implementing regulations require PHMSA to seek public comment in its consideration of AAR's request. As detailed above, 49 U.S.C. § 5103 and its implementing regulations, 49 C.F.R. Part 106, Subpart B, require the agency to follow strict public notice and comment requirements when considering any petition for rulemaking.

While PHMSA is obligated to follow the procedures outlined in 49 C.F.R. Part 106, Subpart B, if it responds to AAR's petition, the agency may also ignore the petition as it fails to satisfy the basic requirements of petitions for rulemaking under the regulations. As detailed in 49 C.F.R. § 106.100, if the impact of the petitioned-for action is substantial, the applicant must provide information regarding the effects of the proposed action on the natural and social environments. The proposed action at issue here, permitting the transport of LNG by rail car nationwide, is indeed one with substantial impacts and the AAR was deficient in failing to include information on environmental impacts. PHMSA should determine that this request does not satisfy the mandatory petition requirements, and therefore does not justify a rulemaking action. 49 C.F.R. § 106.105.

### III. **Conclusion**

As the above makes clear, PHMSA should deny AAR's request in its entirety. At the very least, PHMSA may not proceed lawfully in evaluating AAR's request unless PHMSA fully complies with NEPA and prepares an EIS or EA to evaluate the environmental effects of the proposed action. In addition, the agency must comply with the public review and comment procedures of both NEPA and the HMTA. If PHMSA proceeds with AAR's request to authorize LNG by rail car nationwide without complying with these federal statutes, the Center is prepared to take legal action. If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,



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