# Attachment A

## Riverkeeper and Scenic Hudson Comments on PHMSA Rulemaking

## Riverkeeper, Inc. and Scenic Hudson Comments on Docket USCG-2014-0602

## Review and Update of the New York/New Jersey Area Contingency Plan

**October 10, 2014**



September 30, 2014

Cynthia Quarterman
Administrator
Pipeline and Hazardous Materials Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

**Re: Oil Spill Response Plans, Enhanced Tank Car Standards, and Operational Controls for High-Hazard Flammable Trains and the Transport of Crude Oil by Rail.**

Dear Administrator Quarterman,

On behalf of Riverkeeper, Scenic Hudson, and their members (the Commenters), we submit the following comments on the Notice of Proposed Rulemaking issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) August 1, 2014 on Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains (HHFTs) (Docket PHMSA-2012-0082 (HM-251)), and the Advance Notice of Proposed Rulemaking on Oil Spill Response Plans for High Hazard Flammable Trains (Docket PHMSA-2014-0105 (HM-251B)).[1]

The actions taken to date by the Department of Transportation (DOT) and its subagencies, the Pipeline and Hazardous Materials Safety Administration and the Federal Railroad Administration (FRA), which include safety advisories, reliance on voluntary industry measures, and a trio of Emergency Orders, along with the two proposed sets of regulations at issue here, do not go far enough, fast enough, to protect our communities, our environment, and our economies. For the reasons outlined in detail in these Comments, PHMSA's proposals fail to satisfy its statutory duty to "prescribe regulations for the safe transportation, including security, of hazardous material"[2] and to "consider the assignment and maintenance of safety as the highest priority."[3] Therefore, PHMSA's rulemaking, as currently proposed, violates federal law.

We urge the DOT to implement vital, immediate changes to the crude-by-rail industry through its emergency order authority, and we call on PHMSA to issue much more protective, transparent, and far-reaching regulations than those that are currently proposed.

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[1] See 79 F.R. 45015 (August 1, 2014), 79 F.R. 45079 (August 1, 2014).
[2] 49 U.S.C. § 5103(b)(1).
[3] 49 U.S.C. § 108(b).

## I. INTRODUCTION

Given recent derailments, explosions, and spills from across the nation and into Canada, our concern about a potentially catastrophic crude oil release from rail cars is fully justified.[4] Recently, the public has become increasingly aware of the dangers posed by crude-by-rail transportation, seemingly at the same time as federal agencies. According to an analysis of PHMSA data by research firm McClatchy DC, more crude oil was spilled by rail in 2013 (over 1.15 million gallons) than was spilled during all the years between 1975 and 2012 combined (800,000 gallons). State records support this growing concern, showing a startling increase in small spills and releases across the nation.[5] Indeed, a separate analysis of accident records by the Associated Press concludes that at least 10 crude train derailments since 2008 have resulted in significant quantities of crude oil spills, totaling almost 3 million gallons of oil, nearly twice as much as the largest pipeline spill in the U.S. since 1986.

On top of – and indeed exacerbating – this emerging evidence of risk, federal data show that rail transport of crude is growing at a very significant rate. According to industry officials, "U.S. freight railroads are estimated to have carried more than 400,000 carloads of crude oil in 2013, or roughly 280 million barrels, compared to 9,500 carloads in 2008."[6] By volume, "crude oil carried by rail increased 423% between 2011 and 2012."[7] That this increase has caused a corresponding increase in the number of mainline train accidents involving crude oil ("from zero in 2010 to five in 2013 and [through August,] five in 2014") led PHMSA to conclude that the potential for "future severe train accidents involving crude oil in [unit trains] has increased substantially."[8] Indeed, in the regulations under consideration here, PHMSA presents this growth in terms of overall hazardous material transport programs, noting that "[a]pproximately 68 percent of the flammable liquids transported by rail are comprised of crude oil or ethanol."[9] As such PHMSA concluded "prompt action must be taken;" thereafter, it proposed these rules.[10]

By law, PHMSA has a mandate to provide for the safe transportation of hazardous materials.[11] PHMSA must also, in making any decisions regarding such transport, remain focused on safety as its top priority.[12] In our view, PHMSA's proposed regulations on crude-by-rail operations, railcar design, and, oil spill response planning (each discussed in detail below), fail to make meaningful, immediate, and comprehensive progress in ensuring the safety of the public, our communities, and the environment.

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[4] For the purposes of these comments, which are in response to proposed rules that generally apply to trains carrying 20 or more railcars of Class 3 flammable hazardous materials (i.e., volatile crude oils and ethanol), use of the phrase "crude oil" should be read to include concerns about ethanol transport, and, unless otherwise specified, concerns about transport of any quantity of such materials.
[5] U.S. Rail Transportation of Crude Oil: Background and Issues for Congress, Congressional Research Service Report R43390 (February 6, 2014), at 10 ("CRS Report").
[6] See CRS Report, at 1.
[7] Id., at 4.
[8] 79 F.R., at 45019.
[9] 79 F.R., at 45019.
[10] 79 F.R., at 45039.
[11] 49 U.S.C. § 5103(b)(1).
[12] 49 U.S.C. § 108(b).

## II. BACKGROUND

Beginning in 2008, as the U.S. saw expansion of shale oil production in the Bakken fields in North Dakota and Montana as well as the Eagle Ford and Permian Basins in Texas, rail transport of crude oil also began to increase.[13] According a report on crude-by-rail issued by the Congressional Research Service (CRS),

> "In the face of continued uncertainty about the prospects for additional pipeline capacity, and as a quicker, more flexible alternative to new pipeline projects, North American crude oil producers are increasingly turning to rail as a means of transporting crude supplies to U.S. markets."[14]

Indeed, between 2008 and 2012, U.S. refinery receipts of domestic crude oil by rail increased more than sevenfold from 4 million barrels to 30 million barrels.[15] Crude transport by rail was not only supplying refineries; crude oil trains were also servicing transloading hubs where oil could be transferred to barges and vessels. This "flexibility," as the CRS describes it, meant "that U.S. freight railroads are estimated to have carried 434,000 carloads of crude oil in 2013 (roughly equivalent to 300 million barrels), compared to 9,500 carloads in 2008;" a 45-fold increase.[16] The federal government estimates that there could be up to 650,000 carloads of crude oil shipped in 2014, and more in the years beyond.[17]

This dramatic growth in the amount of crude oil transported by rail did not come without drawbacks. According to an August, 2014 report on Oil and Gas Transportation by the Government Accountability Office (GAO), "[t]ransporting oil and gas by any means – through pipelines, rail, truck, or barge – poses **inherent** safety risks."[18] This review included an analysis of PHMSA, FRA, and DOT fatality reports over four years (2007-2011) concluded that, across all modes of transportation, "increased transport of oil and gas by rail, truck, or barge could increase safety risks."[19] Specifically for railroads, PHMSA builds on this baseline, noting that because of the particular dangers of rail transport, these risks are multiplied:

> "transporting crude oil can be dangerous if the crude oil is released into the environment because of its flammability. This risk of ignition is compounded in the context of rail transportation of crude oil. It is commonly shipped in [unit trains] that may consist of over 100 loaded tank cars, and there appear to be uniquely hazardous characteristics of crude oil."[20]

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[13] See 79 F.R., at 45035.
[14] U.S. Rail Transportation of Crude Oil: Background and Issues for Congress Update, Congressional Research Service Report R43390 (May 5, 2014) ("CRS Report Update"), at *i*.
[15] Oil and Gas Transportation, Government Accountability Office Report GAO-14-667 ("GAO Report"), at 15.
[16] CRS Report Update, at *i*.
[17] Id. Note also the GAO estimates that crude oil production in the U.S. will grow 48% between 2012 and 2019, and stay at that level through 2050. GAO Report, at 7.
[18] GAO Report, at 18.
[19] GAO Report, at 19.
[20] 79 F.R., at 45041.

The type of crude oil has also added to the compounding risks – oils derived from shale formations often have "variable composition and may sometimes contain higher than usual levels of dissolved natural gases."[21] The Association of American Railroads, the group representing the railroad industry, has concluded that "this can lead to flammable gases building up in a tank car during transport ... [and] that the presence of natural gas makes fires more likely when crude oil tank cars are involved in an accident."[22]

Given the dramatic growth in the transported quantity of this especially flammable, volatile type of crude oil, it is unsurprising the GAO found that from 2007 – 2011 "fatalities averaged about 14 per year for all pipeline incidents reported to PHMSA," while in just 2010, 730 resulted from railroad incidents.[23] Internal PHMSA data shows that, specifically for crude oil, "incidents in the United States increased from 8 incidents in 2008 to 119 incidents in 2013."[24]

After an explosion in Lac-Mégantic, Quebec, where 47 people lost their lives when a crude oil train derailed and exploded, the industry, the National Transportation Safety Board (NTSB), and the agencies in charge of regulating crude-by-rail began to act.

In January, 2014, the DOT issued a "'Call to Action' to actively engage all the stakeholders in the crude oil industry," in improving rail safety.[25] The outcome of this collaboration was that "the rail and crude oil industries agreed to voluntarily consider or implement potential improvements" from speed reductions in certain areas and investments in response training to the use of distributive power braking systems.[26]

That same month, the NTSB issued to PHMSA Safety Recommendations R-14-4 through R-14-6. These recommendations, built upon some of the lessons learned after Lac-Mégantic as well as recommendations the NTSB has been issuing for decades, urge "PHMSA and FRA to take action to address routing, oil spill response plans, and identification and classification of flammable liquids by rail."[27]

Over the course of the past year, from the Lac-Mégantic disaster through to the notices issued by PHMSA for the rulemakings at issue today, the DOT, PHMSA, and FRA also took action to address the known risks and growing concerns of crude-by-rail. In August 2013, immediately after the Lac-Mégantic derailment, "PHMSA, with FRA assistance, initiated an ongoing special inspection program to examine whether crude oil rail shipments are

[21] GAO Report, at 38.
[22] GAO Report, at 38.
[23] GAO Report, at 19.
[24] GAO Report, at 34. While most of these incidents are categorized by the GAO as small, "significant accidents involving crude oil have increased in recent years, with one incident occurring between 2008 and 2012 compared to eight incidents since 2012." GAO Report, at 34.
[25] 79 F.R., at 45033.
[26] 79 F.R., at 45033.
[27] 79 F.R., at 45035.

appropriately tested and packaged."[28] As PHMSA notes in the present rulemaking, initial findings show than many crude oil offerors were not properly testing and classifying crude oil; this led to "fines against three companies in February 2014 for not following proper crude oil packaging procedures."[29] At the same time, PHMSA and FRA issued a series of safety alerts, notifying the public and the crude-by-rail industry that, generally, Bakken-derived crude oil is more flammable and explosive than traditional crude oils, and that railroads should take special care in loading, classifying, and transporting crude in DOT-111 railcars. Meanwhile, in August 2013, February 2014, and May 2014, the "DOT issued emergency orders to compel shippers and railroads to address safety risks by taking steps to secure unattended trains, ensure proper testing and packaging of crude oil, and notify emergency responders about crude oil shipments."[30]

The Commenters are concerned that the warnings issued and changes made by these safety alerts and Emergency Orders, as discussed in more detail below (Appendix A), were often too narrowly tailored to affect real improvements in safety. In the regulations proposed today, PHMSA relies on these previous actions, voluntary industry commitments, and NTSB recommendations in formulating its proposal; yet again, however, we feel the agency is taking too narrow an approach to the protection of public health, welfare and the environment.

## III. PROPOSED REGULATIONS FAIL TO PROTECT PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT

Despite the actions that have been taken to-date, the threats of crude-by-rail, for communities, the environment, and the economy, remain unabated.[31] On August 1, 2014, PHMSA (in coordination with FRA) released a notice of proposed rulemaking on "Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains" (hereafter, "Operations Rule") which is the subject of this comment letter and issued a 60-day call for public comment.[32] According to the companion regulatory impact analysis (RIA) for the notice, the proposed rule is a "system-wide" comprehensive approach to mitigating and preventing these ongoing disaster risks posed by crude oil and ethanol trains.[33] In these rules, PHMSA is proposing "new operational requirements for *certain trains* transporting a large volume of Class 3 flammable liquids; improvements in tank car standards; and revision of the general requirements for offerors to ensure proper classification and characterization of mined gases and liquids."[34]

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[28] GAO Report, at 35. "The effort consists of spot inspections, data collection, and testing crude oil samples taken from tank cars … According to PHMSA officials, this effort inspects about 2 percent of Bakken crude oil trains." Id.
[29] GAO Report, at 35.
[30] GAO Report, at 36.
[31] The only actions which were binding on the industry, the three Emergency Orders discussed in more detail in Appendix A, below, failed to meaningfully limit the risks the DOT itself identifies as being inherent in the shipment of crude by rail – either by addressing railcar design specifications or by broadly, publicly, and transparently demanding robust change in the way railroads operate and regulators oversee those operations.
[32] 79 F.R. 45015.
[33] Regulatory Impact Analysis (RIA), PHMSA Docket #PHMSA-2012-0082-0179, at 10.
[34] 79 F.R. 45015 (emphasis added).

Calculations made by the agency in support of the proposed changes indicate that *without* a system-wide overhaul of current regulations, $4 - $14 billion in damages could result from crude-by-rail disasters over the next two decades.[35] These damages would result from the expected accidents the nation is facing in coming years; PHMSA estimates there will be "between 0 and 10 higher consequence events over 20 years," and "5 to 15 annual mainline lower consequence [events]."[36] PHMSA claims that its rule proposal is designed both to mitigate damages from accidents and to, at least in some cases, prevent those accidents.[37]

In conjunction with PHMSA's proposed Operations Rules, the agency also released an advanced notice of proposed rulemaking (ANPRM) on "Oil Spill Response Plans for High-Hazard Flammable Trains" (hereafter, "Response Rule"), with a contemporaneous public comment period.[38] Much narrower in scope, the issuance of this ANPRM only seeks comment on proposed changes to "regulations that would expand the applicability of comprehensive oil spill response plans (OSRPs)" to these high hazard flammable trains.[39]

Here, we are concerned that PHMSA's proposed rulemakings fail to accomplish what a year of safety alerts, emergency orders, and industry actions have also failed to do: immediately take DOT-111s off the rails, limit the length of unit trains of hazardous materials, require comprehensive spill response plans for all trains, reform agency oversight and transparency, and, overall, protect public health, welfare, and the environment.

## A. Flawed Rulemaking Fails to Provide Comprehensive and Immediate Protections

For the reasons discussed below, we conclude that PHMSA's proposed Operations Rule sections on tank car design, rulemaking scope, and operational changes to classification, braking, speed, and routing do not go far enough and will not be effective soon enough to protect the public and the environment.

### 1. Proposed rule fails to adequately address railcar safety risks

#### *a. DOT-111 ban should be put into effect immediately and the cars prohibited from hazardous material transport of any kind*

Given the danger they pose to the public and the environment, DOT Specification 111 railcars ("DOT-111s") should be immediately prohibited from use in moving hazardous materials such as crude oil. In the proposed Operations Rule, however, the cars are not decommissioned quickly enough or comprehensively enough.

As the NTSB concluded in the wake of the past several decades of hazardous material rail disasters, and PHMSA cited in these proposed rules, DOT-111s "**can almost always be**

[35] Id.
[36] RIA, at 192-193.
[37] Id.
[38] 79 F.R. 45079 (August 1, 2014).
[39] Id.

**expected to breach in the event of a train accident resulting in car-to-car impacts or pileups.**"[40] Moreover, according to PHMSA, "[i]t has been demonstrated that the DOT Specification 111 tank car provides insufficient puncture resistance, is vulnerable to fire and roll-over accidents, and the current bottom outlet valves are easily severable in HHFT accidents."[41] Despite these known risks, "DOT-111 tank cars are most commonly used" in crude-by-rail, according to the railroad industry because "PHMSA's regulations allow its use for all types of crude oil, regardless of packing group."[42]

Given these clear and uncompromising risks, the fact that PHMSA drafted these Operations Rules to allow DOT-111s to remain in use, remain in production, and be transferred to tar sands service, is unacceptable.[43] Despite a robust agency discussion of the inherent risks and clear vulnerabilities of DOT-111s, PHMSA's Operations Rule proposes "[f]or the purposes of crude oil and ethanol that are classed as flammable liquids, [that] the DOT Specification 111 tank car would no longer be authorized for use in HHFT."[44] Although this statement appears to be both immediate (banning DOT-111s from use in shipping crude and ethanol) and comprehensive (pertaining to all DOT-111 railcars), it is, in fact, neither.

First, PHMSA's proposed Operations Rule will still allow "continued use of the DOT Specification 111 tank car [in] non-HHFTs;" as discussed below, this means any train hauling fewer than 20 cars of crude (regardless of the total train length).[45] This becomes problematic when railroads haul mixed-freight trains (as opposed to single-commodity unit trains). As the GAO reports, railroad officials warn that "transporting crude oil in trains that carry a mixture of freight commodities could be higher risk."[46]

Second, although the DOT-111s will be phased out of use through 2020 (assuming immediate promulgation of the proposed Operations Rule), this phase-out will not immediately remove the cars from the rails. Rather, it will gradually (in three phases expected in 2017, 2018, and 2020) prohibit their use in transporting certain packing groups.[47] Other commenters with statements already submitted to the docket have even proposed extending this timeline until 2021 or 2022.[48]

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[40] 79 F.R., at 45026, citing National Transportation Safety Board, Railroad Accident Report—Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire (emphasis added), http://www.ntsb.gov/doclib/reports/2012/RAR1201.pdf (February 2012).
[41] Id., at 45059. PHMSA, however, does not discuss how the puncture-prone, easily-severable, or roll-over-risky DOT-111s only exist when they are used in HHFTs (see discussion on loopholes, below).
[42] GAO Report, at 40. Packing groups are, for crude oil, the three different classifications that can be assigned to a cargo of product with varying degrees of dangerous flammability characteristics.
[43] 79 F.R., at 45026.
[44] 79 F.R., at 45059.
[45] 79 F.R., at 45059.
[46] GAO Report, at 44.
[47] In Table 15 or the proposed Operations Rule, PHMSA details that Packing Group I Class 3 flammable materials cannot be shipped in DOT-111s after October 1, 2017, Packing Group II after October 1, 2018, and Packing Group III after October 1, 2020. 79 F.R., at 45043.
[48] See Comments by Dakota Gasification Company, Document ID PHMSA-2012-0082-0327.

Third, only railcars "manufactured after October 1, 2015 that will be used in a HHFT must meet or exceed the new DOT Specification 117 standard." (See below.)[49]

Clearly, we are concerned that these railcars can still:

- be used in groups of 19 or fewer, with no increased protections, retrofits, or oversight;
- be used for flammable crude oil transport through at least 2020;
- be manufactured through 2015 (or beyond, depending on the ultimate promulgation date of the Operations Rule); and, perhaps most egregiously,
- be used in the transport of other crude oils (e.g., heavy tar sands oils) and hazardous materials around the nation, regardless of unit train size.

This result is unacceptable and will allow known dangers to continue.

PHMSA's rulemaking is internally inconsistent on this key issue. The agency notes that large volumes crude oil pose "safety and environmental risk[s] **regardless of the packing group**," that even one tank car breaching can lead to a "considerable oil spill (~35,000 gallon per tank car)," and that, on average, recent accidents show that five cars "release product with an average quantity release of approximately 84,000 gallons … result[ing] in significant environmental damage."[50] PHMSA also warns that DOT-111s "provide insufficient puncture resistance, [are] vulnerable to fire and roll-over accidents, [have] easily severable" bottom outlet valves, and, citing NTSB findings that these cars "can almost always be expected to breach in the event of a train accident."[51] At the same time, PHMSA has proposed regulations that fail to address the transport of large volumes of crude (regardless of packing group), fail to get the disaster-prone and "almost-always-breach" DOT-111s off the rails, and fail to address the risk of spills from anything under 20 railcars.

In allowing DOT-111s to remain on the rail, PHMSA is overlooking many of its own conclusions about the dangers these cars pose to safety. Before this rule was noticed, PHMSA issued a safety alert urging the oil industry (railroads and the offerors) "to select and use the railroad tank car designs with the *highest level of integrity reasonably available within their fleet* for shipment of [crude oil] by rail;"[52] adding, in no uncertain terms, that the industry should "avoid the use of older, legacy [DOT-111 cars] for the shipment of such oil to the extent reasonably practicable."[53] Yet under the proposed regulations, these cars will remain on the rails.

Overall, in so thoroughly detailing the dangers of DOT-111s, spills of any size, and unit trains of any packing group, PHMSA has presented a strong case for the immediate removal of

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[49] 79 F.R., at 45059.
[50] 79 F.R., at 45061, Table 22 (emphasis added).
[51] 79 F.R., at 45025. In the rulemaking notices, PHMSA concludes that 35,000 gallons is a "considerable oil spill" and that "84,000 gallons" can result in "significant environmental damage" – yet chooses instead to propose million-gallon thresholds. Id., at 45061, Table 22 (emphasis added).
[52] Id. (emphasis added).
[53] Id.

such railcars from hazardous material transport. Unfortunately, PHMSA failed to heed its own warnings. We suggest that this proposal, which would allow for the knowing endangerment of communities and environments around the nation from the continued use of DOT-111s, should be amended to require that such railcars be removed from the rails immediately.

### *b. New railcar design options must be driven solely by safety and security; only the most protective design should be allowed*

In the Operations Rule, PHMSA proposes a new model car design: DOT Specification 117 ("DOT-117"). The proposed regulations lay out a series of options designed to "increase puncture resistance; provide thermal protection to survive a 100-minute pool fire; and protect top fitting … and bottom outlets during a derailment." [54] PHMSA claims that each option – individually – is an enhancement over DOT-111s in that they "would reduce the consequences of a derailment of tank cars; … [t]here would be fewer car punctures, fewer releases from the service equipment (top and bottom fittings), and delayed release of flammable liquid from the tank cars through the pressure relief devices."[55]

In general, PHMSA proposes three types of car designs, one of which would become the standard minimum railcar specification for shipping Class 3 flammable crude oil by rail in trains with 20 or more tank cars, beginning in October, 2015.[56] The first option for a design is an "Enhanced Jacketed" CPC-1232, a modification on an existing design with "improvements to the bottom outlet handle and pressure relief valve."[57] The second option is a design proposed by the Association of American Railroads ("AAR"), which would have, as compared to a DOT-111, a thicker shell, more thermal protection, and full head shields.[58] This design differs from the third choice, developed by PHMSA and FRA, which has more "rollover protection and … [electronically controlled pneumatic] brake equipment."[59]

Once a design is chosen, after October 2015 all newly manufactured cars must either be "DOT-117s or meet the performance standards" of the chosen design.[60] Railcars could have different types of shields, gaskets, or jackets, as long as the overall safety level was on par with the adopted DOT-117.

We recommend that PHMSA and the DOT require the best, most protective model railcar if it intends to continue to allow the transport of crude oil by rail. Among the available options presented in this rulemaking, the PHMSA/FRA proposed railcar is the most protective and therefore our recommended choice. However, the Commenters do have two key reservations about this option.

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[54] 79 F.R., at 45021.
[55] 79 F.R., at 45021.
[56] As noted above, this target date may change, depending on when the regulations are finally promulgated, and after any litigation, challenge, or amendment.
[57] Id., at 45052. Note: PHMSA believes this will be what's built anyways, without new regulations; 7/16$^{th}$ inch shell (just like DOT-111s), with no rollover protection, no better brake systems.
[58] Id., at 45052.
[59] Id., at 45052.
[60] Id., at 45051.

First, we are concerned that this proposal has only been designed to account for slow rollovers on flat surfaces where only stationary objects are hit. The top fittings for this railcar choice are designed to account for, "without failure, a rollover accident at a speed of **9 mph**, in which the rolling protective housing strikes a **stationary surface assumed to be flat**, **level**, **and rigid** and the speed is determined as a linear velocity."[61]

From Lac-Mégantic to Aliceville, Casselton to Paulsboro, the recent few years have seen many derailments and rollovers of tank cars – none of which saw a slow-speed, flat-ground, stationary-impact collision. Indeed, of the thirteen hazardous materials accidents (From 2006 – 2014) highlighted by PHMSA in its regulatory impact analysis, only one was going 9 mph, one more was going 19 mph, and average speed among all crashes was over 32 mph.[62] Clearly more likely than not, these cars will be rolling over at high speeds, along railroads (the railbed and rail tracks of which can be assumed not to be flat or level), and over, under, and through other railcars which are also moving at high speeds. These real-world rollover risks should be the baseline against which top fitting protections are judged in the final rule. Certainly the evidence shows that only accounting for the lowest-known recent derailment speed will not address the vast majority of derailments.

Second, we are concerned that PHMSA's plans to allow non-DOT-117 railcars in HHFTs that meet the same performance standards as the new design chosen by PHMSA pursuant to this rulemaking will not adequately protect the public, given that PHMSA is proposing to exempt retrofits from top-fitting performance standards.[63] According to the rulemaking, "PHMSA chose not to include top fitting protections as part of any retrofit requirement as the costliness of such retrofit is not supported with a corresponding appropriate safety benefit."[64] A review of the federal docket for this rulemaking shows that PHMSA originally did find the top-fittings retrofit beneficial; only after cost concerns were raised by the Office of Management and Budget was this requirement struck.[65]

Elsewhere in the notice, however, PHMSA notes that even though top-fittings failures during rollover represent only a small fraction of releases from railcars, they "represent *25 percent of the documented damage to tank cars in recent train accidents*." (Emphasis added.)[66] Thus, even though PHMSA presents evidence on the rulemaking record that this top-fittings weakness has lead to a significant portion of recent accidents, and even after it acknowledges that the prevention of a "release of flammable liquids in a derailment, regardless of the volume that is lost from a specific source, reduces risk to public health and the environment," top fitting protections are not required for retrofits.[67]

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[61] Id., at 45052 (emphasis added).
[62] RIA, at 19, Table 1.
[63] 79 F.R., at 45058.
[64] Id., at 45058.
[65] Substantive Differences between NPRM Submitted to OIRA on April 30th and Published in the F.R. on August 1st, PHMSA Docket #PHMSA-2012-0082-0233.
[66] Id., at 45055 (emphasis added).
[67] Id., at 45055.

Overall, none of the proposed railcar designs can prevent worst-case disasters, because, as conceded by PHMSA, crude-by-rail is an inherently dangerous undertaking. That said, the PHMSA/FRA tank car design option is the strongest option *of those presented* for protecting the public and the environment, and should be the design ultimately selected by PHMSA. The Commenters recommend that the final rule have improved and reengineered top-fittings protections that protect against releases in real-world scenarios and should require that retrofit railcars, which will be held to the new DOT-117 performance standards, also have retrofit top-fittings and the newest, safest brakes.

### *c. The transport of heavy crude oils in DOT-111s, as individual railcars or elements of a unit train, should be reviewed and addressed by this rule*

Finally, with regard to the manner in which the Operations Rule addresses new railcar designs and the phase-out of DOT-111s from transporting Class 3 hazardous materials, we are concerned that PHMSA is clearly failing to consider the dangers of the continued transport of heavy crude oils in these flawed railcars. According to the agency's proposal, "[a]s a result of this rule, PHMSA expects all [DOT-111 and CPC-1232] Jacketed crude oil and ethanol cars (about 15,000 cars) to be transferred to Alberta, Canada tar sands services."[68] Another 8,000 unjacketed railcars are also expected to be transferred into heavy crude service,[69] meaning that overall "PHMSA assumes that 23,237 existing cars would be transferred to tar sands service."[70]

Importantly, PHMSA projects that "no existing tank cars will be forced into early retirement"[71] as heavy crude oil – "combustible rather than flammable … [with] a high flashpoint …will not be covered by this rule."[72] Instead, "PHMSA assumes that the older cars would be repurposed to tar sands crude service because it reduces retrofit costs, is cheaper than buying a new tank car for tar sands service, and provides a better return for the remaining service life of the car than fully retrofitting the car to keep it in flammable liquid service."[73]

Given that the agency fully expects that these dangerous, puncture-prone, rollover-risk, weak-top-fitting, and thinned-shelled railcars (which can "almost always be expected to breach"), will be used to transport heavy oil, it should have included environmental and economic risks posed by such transport in its analysis of the proposed rule. Heavy, sinking oils have led to one of the most disastrous oil spills in recent years when a pipeline ruptured, spilling heavy oil into the Kalamazoo River. Indeed, PHMSA specifically notes the risk posed by heavy oils:

> "The heavy crude oil from the tar sands is carbon-heavy and hydrogen-light which is the opposite of light crude which is hydrogen-heavy and carbon light. The high hydrogen content in light crude enables it to flow easily but also makes it very explosive. The

[68] Id., at 45060.
[69] Id., at 45060.
[70] RIA, at 81.
[71] 79 F.R., at 45061.
[72] RIA, at 81.
[73] RIA, at 81-82.

bitumen-laden heavy crude from the tar sands is not as volatile as light crude **but it may be particularly damaging to the environment.**"[74]

Yet, PHMSA admits that this oil will be transported with few safety measures, in railcars that would, by this rule be rejected as unsafe; "only jackets and insulation are necessary for tar sands crude service."[75]

Overall, heavy oil transport by rail should not be ignored simply because, as it lacks significant flammability, heavy oils do not fit within the definition of an HHFT. Any oil spill of any size presents a significant risk to communities, the environment, and the economy; the type of oil spilled changes the nature of the risk, not the presence of the risk. PHMSA's unsupported categorization of tar sands as "less hazardous"[76] to support the agency's decision to create a significant loophole in its crude-by-rail regulations ignores the known risks and significant impacts of a heavy crude spill. We propose that PHMSA's rulemaking address crude-by-rail risks presented by all forms of crude oil. Therefore, the Commenters urge PHMSA to close this loophole in the proposed regulation.

## 2. Deficient rulemaking proposes million-gallon loopholes and opaque reporting requirements

As proposed, the Operations Rule creates two significant loopholes that put the public and the environment at unnecessary risk. First, PHMSA arbitrarily limits the applicability of this rule in its narrow definition of High-Hazard Flammable Trains. This decision, coupled with the proposals to allow DOT-111s to be used in non-HHFT trains and to allow heavy crude oil transport to be entirely exempted, will result in a clear and ongoing threat to public safety and the environment. Second, the proposed codification of the May 7, 2014 Emergency Order on state notifications locks in a yet another million-gallon transparency loophole and fails to address weak reporting metrics and agency oversight.

### *a. PHMSA's limited application of safety improvements and oversight is arbitrary*

As noticed, the purpose of the Operations Rule is to "lessen the frequency and consequences of train accidents/incidents (train accidents) involving certain trains transporting a large volume of flammable liquids."[77] Specifically, the proposal aims to ensure that "rail requirements are more closely aligned with the risks posed" by crude-by-rail.[78] From the outset, however, the rule only applies to trains that fall in a newly created category of "High-Hazard Flammable Trains," which are trains "comprised of 20 or more carloads of a Class 3 flammable liquid."[79] Given this limitation, none of the standards in the Operations Rule apply to trains hauling fewer than 20 railcars loaded with Class 3 flammable liquids – meaning ethanol and

[74] RIA, at 81, n. 66 (emphasis added).
[75] RIA, at 81.
[76] RIA, at 126.
[77] 79 F.R. 45015.
[78] 79 F.R. 45015, at 45017.
[79] 79 F.R. 45015, at 45017.

certain crude oils. This definition inevitably will lead to the continued availability of DOT-111s for use in groups of 19 or fewer cars and the ability of unimproved railcars to be switched to transporting heavy crude oils.

*i. Baseless Assumptions Do Not Justify the Limits That the Rule Arbitrarily Adopts*

PHMSA has provided no basis for limiting the applicability of these rules to trains with this newly defined length or content, and is therefore arbitrarily putting the public and the environment at unnecessary and avoidable risk. In attempting to justify this definition, PHMSA relies on two unsupportable assumptions.

First, PHMSA claims that the reason that only trains with 20 or more railcars of flammable crude oil need to be regulated is because that is what a "typical" train looks like.[80] For several reasons, this assumption should not be the basis for the agency's final decision. As PHMSA has noted, even one tank car breach can lead to a "considerable oil spill" and that a five-car release can "result in significant environmental damage."[81] In other words, catastrophe can strike with any derailment, not just derailments involving more than 20 railcars, a fact the agency admits:

> "We assume that **any catastrophic event will stem from a derailment resulting in the damage of 5 or more tank cars**."[82]

The basis for the proposed regulation should be reduction in this acknowledged risk, not what may or may not be typical. Moreover, beyond the dangers which will be created by this loophole, PHMSA fails to provide evidence substantiating its claim that a "typical" train has 20 or more crude railcars. As will be discussed elsewhere in these comments, neither PHMSA nor FRA maintains accurate (or even complete) data on crude oil trains. Choosing a 20-car threshold solely at the behest of the industry, without any other supporting data, completely fails to address the risk that PHMSA itself has identified.[83]

Second, PHMSA concludes that because volatile, explosive light crude oils are shipped in long, heavy trains, the risks inherent in transporting that material (in any quantity) are compounded.[84] PHMSA attempts to show that trains with 20 or more cars of crude oil are inherently more dangerous than trains with 19 or fewer – to the extent that such shorter trains do not present threats that need to be addressed by safety upgrades, new regulations, or tank car updates. To try to prove this point, PHMSA states that:

> "many unique features to the operation of unit trains to differentiate their risk[; they] are longer, heavier in total, more challenging to control, and can produce considerably higher

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[80] Id., at 45017.
[81] Id., at 45061, Table 22 (emphasis added).
[82] RIA, at 192.
[83] The definition of HHFT was based on the industry's definition of "key train" from AAR Circular No. OT-55-N. 9 F.R., at 45040.
[84] RIA, at 20.

> buff and draft forces which affect train stability. … [Long, heavy trains are more] challenging to slow down or stop, can be more prone to derailments when put in emergency braking, and the loaded tank cars are stiffer and do not react well to track warp which when combined with high buff/draft forces can increase the risk of derailments."[85]

This rationale paints an entirely accurate picture of the dangers of long, heavy trains, whatever product or mix of products they carry. A long, heavy train with over 100 railcars filled to capacity is, PHMSA argues here, inherently dangerous. Clearly, then, PHMSA should be looking to mitigate this inherent danger. Unfortunately, the one way to reduce the danger of long, heavy trains that was not considered in this rule, however, was to limit the length or weight of these trains. Instead of limiting the overall length, PHMSA chose to exempt short trains segments.[86]

*ii. Crude-by-Rail Inherently Dangerous*

All crude-by-rail transport has proved to be dangerous; certainly the more railcars there are in a train the more danger there is. But PHMSA has not established that this means there is a threshold below which there is no risk. Instead of basing the applicability threshold on an unsupported claim of typical train length or on the misapplication of a threat assessment, PHMSA should have developed regulations that address the *several* known contributors to risk.[87] Based upon PHMSA's own statements on the issue, this is a position supported in the agency's own analysis:

> "In general, PHMSA and FRA found that several factors give rise to higher expected damages and probability of a catastrophic event. **First**, the volumes of crude oil and ethanol carried by rail are relatively large when compared to rail shipments of other flammable liquids. In particular, the volume of crude oil shipped by rail has been increasing rapidly during the past several years. **Second**, the crude oil originating in the Bakken oil fields is volatile which increases the risks while it is in transportation. **Finally**, crude oil and ethanol are shipped in HHFTs, compounding the risk when an accident does occur."[88]

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[85] RIA, at 24.

[86] In reality, were 15 crude oil railcars (or any number between 1 and 120) part of a 120 railcar train carrying mixed, heavy commodities, operators would still have a difficult time slowing or stopping the train, the train could still be more prone to derailments during emergency braking, and the train generally would be challenging to control. Furthermore, if the product were changed, from Bakken crude to tar sands heavy crude, the long, heavy train would, again, be just as difficult to control. Indeed, numerous scenarios can be created; for example, under this rule, a hypothetical train with 19 cars of Bakken, explosive crude oil, 19 of tar sands heavy crude, 19 of non-ethanol hazardous chemicals, and, say, 60 coal cars would be exempt from any of PHMSA's new requirements (i.e., brakes, speed reduction, disclosure, tank car design upgrades, etc.). Were such a train to need to suddenly brake, or encounter failing track infrastructure, disaster would surely result.

[87] An additional risk not discussed at all by PHMSA is residue train traffic, i.e., "empty" train cars with residue of class 3 flammable hazardous materials inside. These trains are still dangerous, explosive, and have a clear potential for pollution, yet go unaddressed by these proposed rules.

[88] RIA, at 20.

Clearly, all three of these factors are individually *and* collectively significant, yet in the proposed rules, PHMSA fails to collectively (and, in the end, individually) address this multifaceted, compound risk.

Data presented by PHMSA in support of this rule clearly demonstrates the need to address all crude-by-rail shipments, regardless of train length.[89] Historically, of 13 PHMSA-verified U.S. hazardous material rail disasters in recent years, only four of thirteen (31%) had over 20 cars punctured, and only six of thirteen (46%) had over 20 cars derail.[90] Put simply, long, heavy, 120-car trains that qualify as HHFTs are just as difficult to stop, prone to derailments, and unwieldy as long, heavy, 120-car trains with mixed cargo which do not qualify as HHFTs because they only have 19 railcars of Class 3 flammable crude oil. For both, were 19 railcars to derail and breach, the public safety and environmental disaster would be equally devastating. However, f these proposed safety rules would apply to HHFTs as currently defined, but not to mixed cargo trains.

By basing the applicability of safety standards on this minimum train length, PHMSA is ignoring the effect that location, routing, population, human error, track condition, and a host of other elements have on disasters. Is a spill of one railcar's crude oil, if it happens into the drinking water supply of a large city less concerning than 20 cars that don't spill? Are 19 railcars of explosive, flammable crude oil rolling alongside the runway at Newark International Airport, in New Jersey, or running under West Point Military Academy, less of a security threat than 20 railcars? Or, considering that "the existing fleet of DOT Specification 111 tank cars can be repurposed and continue to be used for flammable liquids when *not* being transported in a HHFT" if this rule is promulgated, does PHMSA consider it to be more of a risk to have ten DOT-111 railcars derail or twenty of the new DOT-117 railcars?[91] PHMSA has provided no basis for supporting such risk distinctions.

Recent examples clearly demonstrate why this PHMSA mismatch of disaster causes and their "HHFT" proposed solution is inadvisable and unsupportable. Trains carrying 19 or fewer railcars of crude oil can be struck by oncoming derailed grain trains (as in Casselton, ND), can have brake systems fail while unattended and roll downhill, gathering speed before derailing at a sharp curve in the track (as in Lac-Mégantic), or be rolled over a moveable bridge that was not locked in place, spilling the railcars into a river (as in Paulsboro, NJ). Again, PHMSA provides no basis for excluding these risks from consideration.

*iii. Conclusions*

It is clear that the compounding risk presented by long, heavy unit trains is not entirely or solely due to either the contents of the railcars or the fact that there are more than 20 of them. The compounding danger, highlighted by PHMSA, results from the physics of operating heavy, long trains with bad brakes, over poorly-maintained rails, at dangerous speeds, through vulnerable areas, in ever-increasing rates. Yet, PHMSA fails to consider – anywhere – whether

[89] RIA, at 19 (Table 1).
[90] RIA, at 19 (Table 1).
[91] 79 F.R., at 45040.

it should limit the length of trains. This omission, with respect to train length limits, even after noting the difficulties of operating trains which are "longer, heavier in total, more challenging to control," less stable, harder to stop, and more vulnerable to warped track, is shocking.[92]

In short, the proposed 20-railcar threshold is ***functionally disconnected*** from, and will not address, the realities of spills – which are caused by a broad range of factors, from human error and track infrastructure to other trains.

Because this HHFT loophole would allow smaller groups of just-as-dangerous railcars to be used to ship crude oil without additional safety requirements and would allow heavy crude to be shipped without limitation, and because this Rule does not address track safety, inspections, oversight, infrastructure, financial liability, or even what TSB-Canada describes as a lax "safety culture" among railroads, this arbitrary loophole puts the nation at risk. We urge PHMSA to modify its proposed Operations Rule avoid knowingly endangering the public and environment by changing its proposed Operation Rule (and Response Rule, which also proposes limiting planning requirements to HHFTs) to apply to any and all shipments and types of crude oil and ethanol.

### *b. Proposed codification of the Notification Emergency Order will preserve dangerous loopholes and lock-in reporting requirements that are far from adequate*

On May 7, 2014, the DOT issued an Emergency Order providing for state-notification of "High-Volume Rail Transport of Bakken Crude Oil."[93] This Order required each railroad "operating trains containing more than 1,000,000 gallons of Bakken crude oil (approximately 35 tank cars) … to provide the State Emergency Response Commission notification regarding the expected movement of such trains through the counties in that state."[94] These disclosures, which only had to provide an estimate of the number of trains per week, per county, failed to provide any oversight of the disclosure process and exempted a broad range of crude-by-rail operations (i.e., anything not from the Bakken region or under one million gallons). "If adopted," the proposed Operations Rule at issue today "would supplant the requirements in the Order."[95]

As discussed more thoroughly in Appendix A, the existing, presently controlling Emergency Order fails to adequately protect the public in three main ways. First, it fails to require consultation between railroads and responders, instead simply demanding that one state office be notified of all state-wide train schedules. Second, it fails to include any real-time updated disclosures, instead allowing railroads to set their own schedules for amending the data provided to first responders. This is particularly concerning given the PHMSA admission that FRA has few oversight resources to devote to enforcing this Order, and that the Order fails to

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[92] RIA, at 24. Note, also, that there are many possible numbers of railcars between 20 and 120 (the generally cited upper-end of length for crude-by-rail); and no rationale is provided (beyond perhaps the customary industrial definition of ("key train") for why 20, instead of 22, 30, or any other lower number, is used in the definition of HHFT.

[93] 79 F.R. 27363 (May 13, 2014).

[94] Id.

[95] 79 F.R., at 45041.

even require that such disclosures be filed with the FRA. Third, the Order only applies to the largest trains carrying Bakken crude oil; entirely failing to recognize the dangers posed by other hazardous cargoes that come from other locations.[96]

*i. Flawed Assumptions Have Led to Missed Opportunity*

By proposing to codify an Emergency Order with this many egregious loopholes, PHMSA is missing an opportunity to create a meaningful and transparent system of oversight and emergency response coordination where decisions can be made – from zoning to budgeting – that account for the real risks that crude-by-rail presents. PHMSA has, instead, proposed codifying the existing Emergency Order that only requires railroads moving trains of more than 1,000,000 gallons of Bakken crude oil to disclose traffic patterns.[97]

To support its decision not to amend the threshold amount of oil needed to trigger disclosure set by the Emergency Order, PHMSA cites incident data and the Clean Water Act:

> "For purposes of the Emergency Order, DOT assumed [1,000,000 gallons or more] was a reasonable threshold when considering that the major incidents … involved trains consisting of more than 70 railroad tank cars carrying petroleum crude oil. … In setting this threshold quantity of 1,000,000 gallons in the Order, DOT also relied on a [Clean Water Act] mandate for regulations requiring a comprehensive spill response plan to be prepared by an owner or operator of an onshore facility."[98]

PHMSA's own data presented in the regulatory impact analysis conducted for this rulemaking bring into question the metric it has chosen to use to justify the million-gallon reporting trigger. Of the thirteen PHMSA-verified U.S. hazardous material rail disasters in recent years that the agency considers to be indicative of the "the potential harm from future releases," only four (31%) involved over 20 cars punctured, and only six (46%) had over 20 cars derail.[99] Each of the resulting spills involved far less than one million gallons, but nonetheless had disastrous impacts.[100]

PHMSA's reliance on the Clean Water Act mandate for a comprehensive spill response plan at a major onshore oil storage facility is also misplaced. There are significant differences

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[96] "DOT also stated that for purposes of compliance with the Emergency Order, crude oil tendered to railroads for transportation from any facility directly located within the Williston Basin (North Dakota, South Dakota, and Montana in the United States, or Saskatchewan or Manitoba in Canada) is Bakken crude oil." 79 F.R., at 45042.
[97] 79 F.R., at 45041.
[98] 79 F.R., at 45041.
[99] RIA, at 18-19 (Table 1).
[100] There is some indication PHMSA believes it is requiring the disclosure of "information regarding the estimated ***volumes*** and frequencies of train traffic implicated." RIA, at 178. This is another fallacy. The Emergency Order and these proposed rules only trigger disclosure of the number of trains over 1 million gallons; as this is typically assumed to be around the volume of 35 railcars and the largest unit trains move between 100 and 120 railcars, there is no real way to know what volume is being shipped, or when, or where. First responders would be better served knowing these specific details (i.e., that twice a day 45 million gallons are moving through) than generally knowing that vague timetables (e.g., that large trains are moving through around 15 times a week).

between onshore facilities subject to Clean Water Act jurisdiction and crude-by-rail unit trains. Chiefly, unlike what is required for each and every individual onshore oil facility over this million-gallon reporting threshold, PHMSA is not proposing that any specific size or type of trains be required to have comprehensive spill response plans. In addition, these onshore facilities have secondary spill controls, stormwater management systems, regular facility-specific inspections, and regularly have more than one employee on site at all times (employees who are able to safely monitor non-moving storage tanks). Moreover, not only are these facilities often located away from vulnerable communities – social or ecological – they are also subject to a host of other regulatory programs that address all aspects of hazardous material management and storage, Clean Air Act emissions, coastal zone consistency, and drinking water protection programs; regulatory programs to which that trains and railroads generally are not subject.

As for its decision to continue the policy of requiring routing disclosure for only Bakken-sourced oil trains, DOT claims the only downside is one of mismatched paperwork:

> "With regard to the identification of Bakken crude oil versus crude oil extracted from other geographic locations, DOT acknowledges that the HMR's current shipping paper requirements do not distinguish Bakken crude oil from crude oil sourced in other locations. … [DOT suggests] railroads and offerors should work together to develop a means for identifying Bakken crude oil prior to transport, such as a Standard Transportation Commodity Code number, that identifies the crude oil by its geographic source."[101]

While PHMSA notes that "it may be possible in any final rule action that this proposed [limitation] could be expanded to include threshold quantities of all petroleum crude oils or all HHFTs (versus only trains transporting threshold quantities of Bakken crude oil)," the preferred option and proposed regulations do not expand on the already existing Emergency Order.[102]

Overall, therefore, the assumptions made by PHMSA in deciding to continue DOT's Emergency Order requiring disclosure of trains carrying a certain quantity and type of oil are fatally flawed. In particular, with respect to the limits based on the source of the crude oil, PHMSA fails to even address the benefits that might be realized were states notified of all of the crude oil moving through their states.

*ii. Reopened Question of Confidentiality*

Finally, instead of revisiting DOT's justifications for quantity thresholds, or discussing anything beyond the paperwork problems with expanding disclosure requirements beyond Bakken crude, PHMSA chose to reopen and reconsider the railroad request that this data be kept confidential. In the wake of the Emergency Order, after meeting with railroads, DOT expressed

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[101] 79 F.R., at 45042. PHMSA does state, as DOT eventually did, that "for purposes of compliance with the Emergency Order, crude oil tendered to railroads for transportation from any facility directly located within the Williston Basin (North Dakota, South Dakota, and Montana in the United States, or Saskatchewan or Manitoba in Canada) is Bakken crude oil." Id.

[102] 79 F.R., at 45042.

a preference that routing and train traffic "information be kept confidential," but acknowledged that railroads may face *state law* claims (i.e., claims under more restrictive state open records laws) which would not affect DOT's conclusions.[103] DOT, at the time, "encouraged the railroads to work with states to find the most appropriate means for sharing this information."[104]

With this rulemaking, PHMSA inserts itself into this railroad-state conversation by raising the question of whether states could be required to sign confidentiality agreements before receiving this information, or that the disclosed information could be deemed "Sensitive Security Information (SSI)" under federal regulation.[105] Without specifically proposing a departure from DOT's finding that the disclosures are federally not confidential, PHMSA is asking for comments on the matter, meaning that the final rule could include an element of confidentiality. Specifically, PHMSA asks, with respect to this data:

> "[w]hether PHMSA should place restrictions in the [regulations] on the disclosure of the notification information provided to SERCs or to another state or local government entity, … [or w]hether such information should be deemed SSI, and the reasons indicating why such a determination is appropriate, considering safety, security, and the public's interest in information."[106]

In our view, this data should not be restricted; if anything, the data disclosure requirements are too vague. Furthermore, the data should not be deemed a security issue, nor should there be any restrictions placed on intra-government dissemination of the data. This data is vital to the public welfare – for everything from city planning and tax assessments to emergency preparedness and climate change. To keep these train movements secret would directly endanger the public.

*iii. Significant Room for Improvement on Existing Order*

The Commenters strongly recommend that PHMSA does not codify the State Notification Emergency Order as proposed; but rather develops a robust and transparent system of coordinated federal oversight and emergency preparedness that protects the public from all crude-by-rail. Among the changes we recommend that PHMSA make are:

- Routing and traffic data on <u>all</u> Class 3 Flammable hazardous materials transported by railcar should be made available to first responders and the public;[107]

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[103] 79 F.R., at 45041.
[104] 79 F.R., at 45041.
[105] 79 F.R., at 45041, citing 49 C.F.R. Part 15.
[106] 79 F.R., at 45042.
[107] Note that in the RIA, PHMSA describes more fully what the codification of the EO would look like: "PHMSA would require notifications from rail carriers that transport in a single train in commerce within the United States, 1,000,000 gallons or more of UN 1267, Petroleum crude oil, Class 3, in **packing groups I and II** sourced from the Bakken shale formation in the Williston Basin (Bakken crude oil)." RIA, at 177 (emphasis added). The fact that, unlike the Emergency Order, this rule would only require notification for the transport of packing group I and II Bakken oils, is also unacceptable.

- This disclosure requirement should apply to all shipments of such products, not just those in certain size trains (unit or mixed, full or residue);
- With respect to the type of crude oil, PHMSA should not arbitrarily (and without presenting any evidence whatsoever) limit disclosures to Bakken/Williston trains; a unit train of explosive, flammable, volatile crude oil from Colorado, or Texas, or Utah is just as dangerous as one from the Bakken – as are unit trains of heavy oils, trains with fewer railcars, or residue-bearing loads headed back to oil fields for refilling;
- The DOT's determination that this information is not subject to federal confidentiality rules should stand and PHMSA should not attempt to build state-industry confidentiality requirements into these new federal rules;
- Data on train routes, volumes shipped, and derailments should all be publicly available – such information is vital for a broad array of reasons from emergency response to city planning, infrastructure improvement budgeting, air and noise pollution monitoring, and climate change adaptation – PHMSA should not keep the public in the dark about this critical information related to crude-by-rail; and
- Beyond the data currently required (number of trains, per week, per county), railroads should be required to develop real-time tracking and real-time updating that can be shared with states. FRA and PHMSA should also develop a more robust oversight program for these disclosures to ensure that railroads are being as transparent as required by law and are updating their disclosures whenever their on-the-ground traffic changes.

Overall, with these improvements, which we recommend made to the proposed codification of the notification Emergency Order, states, localities, and the public will be better prepared for disaster, and more aware of the daily risks facing their communities.

### 3. <u>Proposed classification, routing, speed, and braking rules must be strengthened</u>

In this rulemaking, PHMSA proposes to address a trio of operational issues: routing, speed, and braking. Beyond these three changes, PHMSA proposes codifying, clarifying, and enhancing the currently-in-effect Emergency Order on classification of crude-by-rail. The agency does not "directly address regulations governing the inspection and maintenance of track" because, according to PHMSA, these four main changes, classification, routing, speed, and braking, "sufficiently address safety issues involving rail defects and human factors."[108] Our position is that these four operational focal areas, taken together, not only fail to sufficiently address rail defects and human factors, but also are themselves inadequately addressed in the proposed rulemaking.

#### *a. Proposed new classification system fails to meaningfully change status quo or reduced acknowledged risk*

As proposed in the Operations Rule, PHMSA aims to "clarify and enhance the current classification requirements" by "explicitly requir[ing] a sampling and testing program for mined

[108] 79 F.R., at 45026-45027.

gases and liquids, including crude oil."[109] The proposed change would address what PHMSA considers to be a key failing of current regulations, the fact that they "do not prescribe a specific test **frequency** for classification and characterization of hazardous materials."[110]

Currently, federal hazardous materials regulations pertaining to crude oil require the proper classification of oil into one of three packing groups. Classification, which is the responsibility of the offeror, "is simply ensuring the proper hazard class and packing group (if applicable) are assigned to a particular material."[111] Once a packing group is determined, an offeror of a crude oil railcar can "select the most appropriate" package (e.g., railcar).[112] Because, in principle, packing groups determine what kind of railcar must be used, PHMSA warns that "[i]ncorrect classification and characterization of hazardous material may lead to failures throughout the transportation system."[113]

After Lac-Mégantic, PHMSA and FRA launched "Operation Classification" and the DOT issued its classification Emergency Order; two attempts to determine the extent of misclassification of crude oil around the nation. In the Emergency Order, DOT required "those who offer crude oil for transportation by rail to ensure that the product is properly tested and classified in accordance with Federal safety regulations."[114] This "new" requirement, as discussed in Appendix A below, was simply a restatement of the existing regulations and imposes no additional requirements on the industry.

While it also proposed no new safety requirements, Operation Classification, carried out by PHMSA and FRA, led to conclusions that startled the agency, as well as the public:

> "PHMSA and FRA audits of crude oil loading facilities … indicate that the classification of crude oil being transported by rail was often based solely on a generic Safety Data Sheet (SDS) … In these instances, it is possible no validation of the crude oil properties took place."[115] Further, "FRA's audits indicate that SDS information is often not assembled from any recently conducted tests or from testing for the many different sources (wells) of the crude oil."[116]

The agencies also concluded that "there is a potential of underreporting" of tank car weights (because "key trains" such as long crude-by-rail unit trains do not pass over classification weigh

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[109] 79 F.R., at 45043.
[110] 79 F.R., at 45024 (emphasis added).
[111] 79 F.R., at 45023. Note that "even though certain packagings are authorized, it is the responsibility of the offeror to ensure that such packagings are compatible with their lading. Such information and determination of the authorized packaging also ensure that the appropriate outage is maintained in accordance with." Id., at 45043.
[112] 79 F.R., at 45043.
[113] 79 F.R., at 45043. For crude-by-rail as it exists today, DOT-111s, the railcar most lacking in safety features, can be used to transport any and all packing group oils, so there is no marginal benefit to a particular shipment being classified in a more dangerous group.
[114] 79 F.R., at 45043.
[115] 79 F.R., at 45023.
[116] RIA, at 170.

stations),[117] and likely an extant yet not quantified risk of internal railcar corrosion "possibly from fracking fluid constituents."[118]

In order to ostensibly address what the agencies discovered during Operation Classification, PHMSA's proposed Operations Rule section on classification "would explicitly require a sampling and testing program for mined gases and liquids, including crude oil."[119] More specifically, PHMSA is requiring a more directed classification program, one that defers less to the offerors of crude oil, but also puts no new significant burdens on it. The proposed program specifics include frequency of sampling and testing to account for appreciable variability of the material; sampling along the entire supply chain (until passed out of offeror's control); methodologies that ensure tested samples are indicative of larger cargo; and provisions to ensure reliability of the data.[120]

Critically, however, these new classification testing program requirements fail in two key areas: providing for the proper characterization of oil and ensuring against noncompliance.

*i. Proposed Rulemaking Ignores Vapor Pressure Concerns and Fails to Require Characterization Testing that Could Address those Concerns*

Existing regulations, even with PHMSA-proposed changes, would only require testing of crude oil for the relevant properties needed to properly *classify* a flammable liquid, such as flash point and boiling point.[121] However, these regulations do "not specifically provide requirements for *characterization* tests," for example, "corrosivity, vapor pressure, specific gravity at loading and reference temperatures, and the presence and concentration of specific compounds such as sulfur."[122]

Unlike classification, which is how packing groups are determined, "characterization is a complete description of the properties of a material during the transportation cycle, [and] includes the identification of the effects a material has on both the reliability and safety of the packaging that contains it."[123] Proper characterization of the crude oil product to be loaded into a railcar is vital, as it enables "a shipper to ensure the reliability of the tank car."[124] Such data also allows shippers and offerors to "determine if there is a need for an interior coating or lining, alternative materials of construction for valves and fittings, and performance requirements for fluid sealing elements, such as gaskets and o-rings."[125]

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[117] 79 F.R., at 45024.
[118] 79 F.R., at 45024.
[119] 79 F.R., at 45044.
[120] 79 F.R., at 45044.
[121] 79 F.R., at 45043.
[122] 79 F.R., at 45023 (emphasis added).
[123] 79 F.R., at 45023.
[124] RIA, at 174.
[125] RIA, at 174.

If there is in improper characterization of properties like corrosivity, specific gravity, or the presence of other chemicals, a loaded railcar's "likelihood of a leak" is increased.[126] For vapor pressure specifically, hazardous material regulations in place before 1990 (though not in place for the past 24 years) mandated that this *characteristic* be part of the *classification* process:

> "[T]he packaging requirements for flammable liquids are based on a combination of flash point, boiling point, and vapor pressure. The regulations provided a point at which a flammable liquid had to be transported in a tank car suitable for compressed gases, commonly referred to as a 'pressure car.'"[127]

After noting that these "older regulations recognized that flammable liquids exhibiting high vapor pressures, such as those liquids with dissolved gases, posed significant risks and required a more robust packaging,"[128] PHMSA, without providing a reasoned elaboration, declares that it is "not currently proposing any regulatory changes related to vapor pressure of a material."[129]

PHMSA's failure to consider requiring characterization analyses, including but not limited to vapor pressure is unacceptable because as a result, the proposed rulemaking fails to address the significant risks that PHMSA itself has identified. Much (if not all) of this rule was developed for the purposes of regulating large unit trains of Bakken crude oil, known to have characteristics that would have, before 1990, triggered packaging in pressurized cars. As a consequence, we strongly recommend that PHMSA modify its rulemaking to require robust characterization tests and require offerors and shippers include those results in their packaging classification.

*ii. Paperwork Loophole Will Hamper Agency Oversight*

As part of the newly-proposed classification "sampling and testing program," offerors will be required to comply with a series of standards designed to "ensure that materials are properly classified."[130] PHMSA's proposed documentation requirements for this program are not sufficiently rigorous, and are opaque and counterproductive.

According to the proposed regulations, the new sampling and testing program must be "documented in writing and retained while it remains in effect."[131] Specifically, PHMSA is requiring that offerors keep on hand the most recent versions of the program documentation, provide that version to employees responsible for conducting the testing, and retain these program documents for five years.[132] This, however, is where documentation ends.

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[126] RIA, at 169.
[127] 79 F.R., at 45044. No reason was given in the background of PHMSA's proposed Operations Rule explaining why this was changed in 1990.
[128] 79 F.R., at 45026.
[129] 79 F.R., at 45043.
[130] 79 F.R., at 45021.
[131] 79 F.R., at 45044.
[132] 79 F.R., at 45045.

> "It should be noted the while the sampling and testing program is required be documented in writing and retained while it remains in effect we are not require a specified retention requirement for the actual testing records [*sic* throughout]. We acknowledge testing results will be supplemental materials to support the requirements of the sampling and testing program."[133]

In other words, PHMSA considers the actual classification results to be simply supplemental to the testing protocols.

Given that the impetus for most of the agency and industry actions taken to date was the special level of volatility Bakken crude presented, especially when shipped in unsuitable packaging, crude-by-rail offerors should not be allowed to discard classification testing results. The Commenters strongly recommend that PHMSA should, at a minimum, require this information to be submitted to the FRA (and the public, upon request) and be kept on hand with the railroad or offeror so that responsible packaging decisions can be made based on that data.

Overall, we recommend that the proposed provisions on classification sampling and testing programs be amended to require detailed characterization programs; to require that vapor pressure, corrosivity, specific gravity, and other characteristics are used in packaging classification determinations by offerors and railroads; and to require that testing results be submitted to the FRA, kept by the offerors and railroads, and provided to the public.

### *b. Operations Rule must be revised to meaningfully improve routing, speed, and braking regulations*

In the Operations Rule notice, PHMSA claims that while the majority of the proposed regulatory changes (from railcar design to state notification of risk) focus on accident mitigation, three changes (speed restriction, braking system and routing provisions) could also "prevent train accidents."[134] Even with the focus on mitigation instead of prevention, the agency recognizes that "[t]rain accidents are often the culmination of a sequence of events that are influenced by a variety of factors and conditions," including rail defects, train speed, and rail routes, and does attempt to take action to address these conditions.[135]

> "PHMSA and FRA find that existing regulations and on-going rulemaking efforts—together with this NPRM's proposals for speed, braking, and routing—sufficiently address safety issues involving rail defects and human factors. Specifically, the expansion of routing analysis to include HHFTs would require consideration of the 27 safety and security factors. These factors include track type, class, and maintenance schedule (which

[133] 79 F.R., at 45044.
[134] 79 F.R., at 45026.
[135] 79 F.R., at 45026.

would address rail defects) as well as training and skill level of crews (which would address human factors)."[136]

Because the proposed, limited routing analysis would not address rail defects or human factors, because the proposed speed and braking rules leave many communities at risk, and because, in our view, none of the agency's proposed changes will lead to meaningful enhancement of the *status quo*, PHMSA should not issue this final rule without significant improvements in these operational programs.

*i. Lack of Significant Improvements in Requirements for and Agency Oversight of Routing Analyses*

Under existing regulations, promulgated in 2008, rail carriers are required "to select a practicable route posing the least overall safety and security risk to transport security-sensitive hazardous materials."[137] This routing selection analysis currently only required for three types of materials, none of which is crude oil.[138] The federal agencies overseeing even this limited program rely heavily on the railroads; current regulations depend on the "carriers to make conscientious efforts to develop logical and defendable" analyses.[139] The basis for route selection, under current regulations, can be "quantitative, qualitative, or a combination of both," so long as the railroad considers 27 listed safety and security factors.[140]

With each disaster, PHMSA has seen growing "public and Congressional interest in the safe and secure rail routing of security-sensitive hazardous materials."[141] Looking forward, PHMSA assumes there will "be between 0 and 10 higher consequence events over 20 years, in addition to the 5 to 15 annual mainline [events]."[142] As a result, PHMSA now proposes to

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[136] 79 F.R., at 45026-45027. Note that even this (in our opinion) broad and unsubstantiated commitment is limited by PHMSA in other parts of the proposal; "[PHMSA] believes that the proposed rule will do little to mitigate…derailments that occurred in rail yards." RIA, at 21.
[137] 49 C.F.R. Part 172, Appendix D.
[138] See 49 C.F.R. 172.820(a). The three trains requiring routing analyses are trains with more than 2,268 kg (5,000 lbs) in a single carload of a Division 1.1, 1.2 or 1.3 explosive; trains with a quantity of a material poisonous by inhalation in a single bulk packaging; or a highway route-controlled quantity of a Class 7 (radioactive) material.
[139] 79 F.R., at 45029.
[140] 79 F.R., at 45029, Table 10. These 27 factors include: Volume of hazardous material transported; Rail traffic density; Trip length for route; Presence and characteristics of railroad facilities; Track type, class, and maintenance schedule; Track grade and curvature; Presence or absence of signals and train control systems along the route ("dark" versus signaled territory); Presence or absence of wayside hazard detectors; Number and types of grade crossings; Single versus double track territory; Frequency and location of track turnouts; Proximity to iconic targets; Environmentally sensitive or significant areas; Population density along the route; Venues along the route (stations, events, places of congregation); Emergency response capability along the route; Areas of high consequence along the route, including high consequence targets; Presence of passenger traffic along route (shared track); Speed of train operations; Proximity to en-route storage or repair facilities; Known threats, including any threat scenarios provided by the DHS or the DOT for carrier use in the development of the route assessment; Measures in place to address apparent safety and security risks; Availability of practicable alternative routes; Past accidents; Overall times in transit; Training and skill level of crews; and Impact on rail network traffic and congestion.
[141] 79 F.R., at 45028.
[142] RIA, at 192-193.

require routing analyses for HHFTs,[143] in order to "reduce the risk of a train accident" and require railroads to "balance the risk factors to identify the route that poses the lower risk."[144] Because of several key limitations, this proposal fails to go far enough to protect the public or achieve PHMSA's desired result.

First, PHMSA arbitrarily, and without explanation, limits the breadth of this rule to HHFTs only.[145] Each and every railcar, not just trains with over 20 cars of certain forms of crude oil, have the potential to significantly impact sensitive habitats, dense population centers, or drinking water supplies. We recommend strongly that an annual internal routing analysis of track risks should be done for any railroad moving any hazardous material, including and especially crude oil. At the very least, PHMSA should provide a reasoned elaboration for why a routing analysis should only be required for the HHFT-transport of crude oil and other hazardous materials. Without such a reasoned elaboration, PHMSA must eliminate this restriction on routing analysis requirements from its rulemaking.

Second, PHMSA is missing an opportunity presented by this rulemaking to improve the oversight of these routing analyses. As noted above, the "safe and secure rail routing of security-sensitive hazardous materials" is of growing concern to Congress and the public.[146] Hazardous material rail transport disasters can be catastrophic, wherever they occur. As a consequence, the FRA has specific oversight authority over these routing analyses:

> "FRA enforces the routing requirements in the HMR and is authorized … to require a railroad to use an alternative route other than the route selected by the railroad if it is determined that the railroad's route selection documentation and underlying analysis are deficient and fail to establish that the route chosen poses the least overall safety and security risk based on the information available."[147]

At first glance, this oversight appears clear and concise. In reality, the regulations require a long, opaque process before a railroad would be forced to ship crude by an alternate route:

- **Notice Letter**. If the FRA Administrator finds that a railroad's route selection is deficient (and is not the route with the least overall safety and security risk), FRA must send a notice letter to the railroad that specifies "each deficiency found" and may "include suggested mitigation measures that the railroad carrier may take to remedy the deficiencies found, including selection of an alternative commercially feasible routing." [148]

[143] 79 F.R., at 45027.
[144] 79 F.R., at 45021.
[145] 79 F.R., at 45042.
[146] 79 F.R., at 45028.
[147] 79 F.R., at 45029, referencing 49 C.F.R. § 209.501.
[148] 49 C.F.R. §209.501(a). Note that the mitigation measures F.R.A can send to the railroad are to be developed by the F.R.A, each deficiency must be specifically addressed; overall, a large burden on the F.R.A.

- **30-Day Conference**. Once a notice letter is sent, the FRA is required to hold a 30-day conference with the railroad to discuss the deficiencies and mitigation measures; this period may take longer than 30 days, at the discretion of the FRA.[149]
- **Consultation**. If, after conferencing with the railroad, the FRA is not satisfied, it is required to consult with the Transportation Safety Administration and PHMSA in writing, and informally ask the Surface Transportation Board for written recommendations as to whether the FRA's proposed alternative is commercially feasible). This process has no specific timeline.[150]
- **Second Notice Letter**. If the FRA still maintains that its proposal is commercially feasible and more safe or secure than the railroad's proposed route, it must send a second letter giving the railroad 20 days notice before it is required to temporarily use the FRA's suggested route.[151] Once the railroad mitigates the risks of its proposed route, it can switch back.
- **Appeal**. If the FRA sends a second notice letter, the railroad can appeal the decision.[152]

Thus, despite the "limited resources" that FRA can bring to bear in "inspect[ing] only a small percentage of trains and vehicles for regulatory compliance,"[153] and despite the "number of serious accidents during rail transportation of flammable liquids since 2009" and the "significant growth in these types of rail shipments since 2011,"[154] PHMSA assumes that this process can "sufficiently address safety issues involving rail defects and human factors."[155] In its proposed rule, PHMSA provides no analysis as to how or why it expects routing analyses to address track defects or human error, or how an oversight process with no clear timetable is a reliable backstop for responsible route planning in the first instance. To leave such a growing and significant risk subject to such a non-transparent review process is unacceptable as it fails to provide adequate regulatory oversight.

Third, while noting throughout the rule that aspects of rail transportation like aging infrastructure and human error contribute significantly to hazardous material rail disasters, PHMSA proposes relying on this routing analysis to mitigate those risks. According to the agency, because HHFT-shipping railroads would need to now perform a routing analysis, many of the 27 factors that must be reviewed will generate solutions to these problems. Specifically, PHMSA assumes that a railroad's analysis of "track type, class, and maintenance schedule" will "address rail defects," and an analysis of "training and skill level of crews" will "address human factors."[156]

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[149] 49 C.F.R. §209.501(b).
[150] 49 C.F.R. §209.501(c).
[151] 49 C.F.R. §209.501(d)(2).
[152] 49 C.F.R. §209.501(e).
[153] Id.
[154] 78 F.R. 48218.
[155] 79 F.R., at 45026-45027. Note that even this (in our opinion) broad and unsubstantiated commitment is limited by PHMSA in other parts of the proposal; "[PHMSA] believes that the proposed rule will do little to mitigate…derailments that occurred in rail yards." RIA, at 21.
[156] 79 F.R., at 45027.

However, given that these review factors can be qualitative or quantitative, and that a railroad may claim rerouting around problematic track is not commercially practicable or that risks have been sufficiently mitigated, these internal industry routing analyses are clearly no substitute for agency action. PHMSA should not abrogate its responsibility to the public by assuming the railroads will route HHFTs around problem areas. Indeed, for areas where there are no other routing options (e.g., lines leading to transloading hubs, lines along rivers in densely populated areas, or lines leading from offeror facilities), a railroad could, under these regulations, easily avoid actually addressing any problems discovered.

Fourth and finally, PHMSA failed to propose regulations more stringent than what is being implemented by the industry – the use of the above-mentioned 27 factors for routing analyses is already ongoing. According to the notice for these rules, the railroad industry "has taken steps to extend the routing requirements [to HHFTs]," and, as a result of their internal analysis, has indicated that railroads "will focus on the risks related to population density along routes by reducing train speed."[157] Despite the fact that PHMSA presents no review of whether the industry's consideration of train speed in high threat urban areas is an adequate mitigation strategy for addressing routing risks, its proposed rulemaking goes no further.

The PHMSA proposal to extend certain routing analysis requirements to HHFTs fails to provide any additional safety benefits to communities and fails to address seriously deficient agency oversight practices. We suggest that these rules require robust railroad routing analyses for all shipments of hazardous materials-by-rail (not just HHFTs) that build upon – rather than just accepting – current industry practice, and should revise the proposed routing oversight regulations to provide for more immediate, thorough, and transparent routing enforcement. Moreover, we urge PHMSA to address rail defects, aging infrastructure, and human error directly – not by relying on the railroads to "examine" the problem through a non-transparent, qualitative, internal process like routing analyses.

*ii. Speed Limit Proposals Fail to Improve Rail Safety*

As would be expected, PHMSA warns that "[s]peed is a factor that may contribute to derailments."[158] Because going faster can "increase the kinetic energy of a train resulting in a greater possibility of the tank cars being punctured in the event of a derailment," and going slower can "allow for a brake application to stop the train before a collision,"[159] PHMSA has decided that part of the operational changes needed should be speed restrictions. Unfortunately, by once again setting the safety minimums at the industry *status quo*, PHMSA missed an opportunity to make any safety improvements in the crude-by-rail industry.

Currently, there are no speed restrictions on crude-by-rail imposed by rulemaking. The industry, however, has implemented a speed limit protocol in the past few months calling on all railroads to operate "key trains" (the industry term for crude-by-rail unit trains with more than 20 railcars of crude) at 40 mph. This applies for key trains with DOT-111s or CPC-1232s on all

[157] 79 F.R., at 45042.
[158] 79 F.R., at 45046.
[159] 79 F.R., at 45046.

rails, and key trains with any railcar design within the limits of any of the 46 nation-wide high-threat urban areas (HTUAs).[160] Under this industry protocol, for trains hauling railcars other than DOT-111s or CPC-1232s, outside of these HTUAs, a voluntary 50 mph speed limit is suggested.

For this rulemaking, PHMSA offers four choices of speed restrictions it is considering in the development of a final Operations Rule, a 50 mph limit and three area-based 40 mph limits. The 40 mph limit options are: for areas where there are over 100,000 people in city (an estimated 10% of track miles), for HTUAs (estimated 2% of track miles), or everywhere.[161] These options, and the assumptions on which they are based, are indefensible and fail to improve rail safety for a number of reasons.

First, the 50 mph option, if codified, would mean PHMSA is knowingly failing to make any incremental improvement over the *status quo*.

> "For purposes of this rulemaking and analysis PHMSA assumes that, in the absence of any regulatory action, all affected railroads will continue indefinitely to abide by the voluntary agreement currently in place to limit speeds to no more than 50 mph. Therefore, codification of the current 50 mph speed will result in the same level of damages occurring from derailments and the same probability of a higher consequence event, and there will be no marginal costs or benefits from this requirement … Under these circumstances, **this alternative would be, in effect, a "No Action" status quo alternative**."[162]

The sole rationale given for this proposal is that in the absence of a codified 50 mph limit, a "railroad can, without concern of a penalty, move these trains at speeds exceeding the industry standard."[163] PHMSA tries to claim the benefits of this limit by saying that "without codification of these requirements the speed restrictions could be subsequently lifted prematurely and increase risk."[164] However, PHMSA has already admitted that crude-by-rail is inherently dangerous (even with the new voluntary industry measures), that human error can be mitigated by slower trains, and that, as is discussed below, there are significant safety advantages to speeds below 50 mph. Given this, by deciding to go no further than a 50 mph speed limit, PHMSA would be acting arbitrarily and without basis.

Second, the options presented for various 40 mph restrictions are disconnected from any data or standards related to community safety or environmental protection.[165]

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[160] 79 F.R., at 45047. HTUAs are defined by regulation as "an area comprising one or more cities and surrounding areas including a 10-mile buffer zone, as listed in appendix A to this part." 49 C.F.R. § 1580.3. That list of HTUAs can be found in Appendix A of 49 C.F.R. Part 1580. Currently, there are only 46 HTUAs in the nation, fewer than an average of one per state.
[161] 79 F.R., at 45047.
[162] RIA, at 130 (emphasis added).
[163] RIA, at 129-130.
[164] RIA, at 129-130.
[165] Note that the issue of rail delays has been raised as a factor to consider when setting speed limits, but PHMSA has found that even if, "as the number of fuel trains increase[s], net delay increase[s] exponentially," (RIA, at 131)

Primarily, of the spills detailed in this rulemaking, only four of thirteen (approximately 31%) were derailments that occurred when a train was travelling at over 40 mph.[166] Given that the clear majority of the hazardous material accidents that are giving rise to this rulemaking happened at speeds lower than even the most restrictive threshold proposed by PHMSA, the current suite of rule options appear to be arbitrarily chosen.

Additionally, with respect to the first option (40 mph limit everywhere), there is no basis in the record for the decision to select 40 mph as opposed to some lesser speed. As the agency noted, a train going 10 mph slower has 36% less kinetic energy; a train moving slower would, it would logically seem, have even less kinetic energy. PHMSA's mission is to "prescribe regulations for the safe transportation," yet it provides no standard for what level of kinetic energy is considered "safe."[167]

For the other 40 mph choices (reductions in speed from 50 mph only in HTUAs or cities with over 100,000 people), PHMSA's record is plainly insufficient.[168] Under the law, PHMSA must "protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material,"[169] by promulgating regulations for the "safe transport" of these materials by rail.[170] The statutes do not give PHMSA the authority to limit its review to some lives, some property, and some environments. Thus, this fundamental element of PHMSA's analysis is flawed:

> "PHMSA believes that any accident prevented in a city with a population of more than 100,000 would have a greater than average impact in the total benefit pool."[171]

The proposed limitation of speed restriction to HTUAs is an even more restrictive attempt to improve safety, as "PHMSA estimates that around 2% of a crude oil corridor would have traversed through a HTUA."[172] PHMSA's calculations fail to account for the differences between small spills affecting large municipalities (e.g., Lynchburg, VA, where one CPC-1232 affected the drinking water for Richmond, VA), and large spills that have impacted small communities (e.g., Casselton, ND, where many exploding cars caused miles of evacuations). Even though the costs for evacuating larger cities and rebuilding or restoring dense urban areas may be significantly larger than the costs incurred in relatively more remote areas, PHMSA's mission is not to ensure hazardous material safety *where cost-effective*, it must ensure safety everywhere.

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the agency "**does not believe that the speed limitations and potential resulting delays will have a large effect on unit costs of shipping by rail**, and therefore any potential modal diversion would be minimal." RIA, at 133.

[166] RIA, at 19 (Table 1).

[167] 49 U.S.C. § 5103(b)(1).

[168] Moreover, these options are also simple codifications of existing industrial practices; the AAR already recommends slower speeds in HTUAs.

[169] 49 U.S.C. § 5101.

[170] 49 U.S.C. § 5103(b)(1).

[171] RIA, at 141.

[172] RIA, at 142.

Third, any speed limit below 50 mph would be rendered obsolete within a few years by this rulemaking. Despite the fact that safer cars and better brakes do not mitigate all speed-related risks, because PHMSA "anticipates additional safety benefits will be realized as the tank car fleet meets the proposed integrity standards," it therefore provides, under this proposed Operation Rule, that these speed restrictions would no longer apply once the railcar fleet was upgraded.[173]

> "PHMSA believes that with the enhanced braking, and greater car integrity, the risk from a derailment of a train that is authorized to travel at 50 mph is less than the risk from a train not so equipped with a maximum authorized speed of 40 mph."[174]

This belief is unsupported by the record and inconsistent with PHMSA's own findings. PHMSA recognizes that slower speeds "may allow a locomotive engineer to identify a safety problem ahead and stop the train before an accident, which could lead to accident prevention."[175] This human error concern is not mitigated by better tank car designs or (in all cases) by better brakes. Further, without qualification as to speed, the NTSB has recognized that DOT-111s and CPC-1232s can "almost always be expected to breach in the event of an accident."[176] Yet, one of the rail car options which would be allowed to return to a 50 mph limit under this rulemaking is a slightly retrofitted CPC-1232 design.

In sum, the Commenters recommend that any final rule on speed restrictions promulgated by PHMSA be protective of all communities and environments, not be rendered obsolete based on tank car design, and be an improvement over the *status quo* instead of a simple codification of existing industry practices.

*iii. Braking proposal should require quicker roll-out of currently available, best practice braking technology*

Because better brakes can both prevent and mitigate disasters, PHMSA is proposing new brake requirements. Clearly better brakes can "reduce kinetic energy and therefore help prevent and mitigate the effects of train accidents;"[177] and, as no rules currently exist, action by PHMSA is warranted. However, just as with railcar design, PHMSA's rulemaking limits the applicability of these regulations to HHFTs and is proposing an "implementation schedule that minimizes the impacts on rail carriers."[178] Also just as with railcar design, PHMSA has chosen to minimize the cost burden of safety requirements on the industry, instead of minimizing the costs that disasters impose on communities and the environment. The brake proposal of the

[173] RIA, at 129.
[174] RIA, at 130.
[175] RIA, at 130.
[176] 79 F.R., at 45026. Moreover, PHMSA is knowingly transferring 23,000 of these dangerous tank cars into tar sands service where the voluntary 50 mph restrictions developed by the industry can be "without concern of a penalty," exceeded.
[177] RIA, at 146.
[178] 79 F.R., at 45051.

Operations Rule must be strengthened by requiring immediate installation of existing, modern braking technology with a proven track record of safety improvement.

According to PHMSA, this modern, existing, proven braking technology is the Electronically Controlled Pneumatic (ECP) brake system. The ECP brakes system "simultaneously sends a braking command to all cars in the train, reducing the time before a car's pneumatic brakes are engaged compared to conventional brakes."[179] This system has several advantages over any existing brake system:

> "[ECP] permits the train crew to monitor the effectiveness of the brakes on each individual car in the train and provides real-time information on the performance of the entire braking system of the train. ECP brake system technology also reduces the wear and tear on brake system components and can significantly reduce fuel consumption. All cars in a train must be equipped with ECP before a train can operate in ECP brake mode."[180]

At the moment, trains are generally controlled by distributed power ("DP") braking (placing locomotives with powered brakes throughout a train, controlled from the lead locomotive), or end of train ("EOT") devices, where brakes at the end of a train are triggered by the lead locomotive.[181]

> "Compared with the potential performance of ECP brakes, conventional braking systems contribute to greater in-train forces, more complex train handling, longer stopping distances, and safety risks of prematurely depleting air brake reservoirs. Traditional train-handling procedures require anticipating draft (pulling) and buff (compressive) forces within the train, particularly on hilly terrain; and any misstep can result in derailment. Conventional braking systems are very complex and subject to failure, which is a maintenance challenge and a safety concern. Conventional brakes can also stop functioning on individual cars en route without the locomotive engineer being aware of it."[182]

Were upgrades to these conventional brake systems (EOT and DP brakes, which are not yet universally used on the rails) required, the DOT estimates that there would be an 18% reduction in the severity of a HHFT accident.[183] ECP Brakes would result in twice the improvement, a 36% reduction in the severity of accidents.[184]

The Commenters support PHMSA's conclusion that "[t]hese challenges and concerns are greatly reduced in the ECP brake mode of operation, during which all cars brake

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[179] 79 F.R., at 45048.
[180] 79 F.R., at 45048.
[181] 79 F.R., at 45048.
[182] RIA, at 159.
[183] 79 F.R., at 45050.
[184] 79 F.R., at 45050.

simultaneously."[185] If braking is more efficient, fuel costs can be saved, and, according to PHMSA, there can be as much as a 40-60% reduction in stopping distances.[186] Overall, ECP brakes appear to be a technology that is to some degree above the *status quo* and both prevent and mitigate crude-by-rail disasters. Our comments on PHMSA's Operations Rule therefore focus on where we disagree with PHMSA and where would urge PHMSA to improve its rulemaking with respect to the timetable and scope of ECP roll-out nation-wide.

According to the Operations Rule, as proposed, after October 1, 2015, all new railcars must have ECP brakes and be operated "on ECP."[187] This clear proposal, however, is subject to a number of significant loopholes and is just one of three increasingly more concerning alternatives under consideration.

First, the October 1, 2015 launch of nation-wide ECP brakes (called "Option 1" for braking systems) has two major loopholes. One loophole consists of a speed-limit penalty; "[i]f a rail carrier does not comply with the proposed braking requirements, the carrier may continue to operate HHFTs at speeds not to exceed 30 mph."[188] Thus, HHFTs can still be transported around the nation *without upgraded braking systems*, albeit at slower speeds. Another loophole that would endanger communities around the nation is that the ECP brakes roll-out would only apply to HHFTs. Railcars used in smaller unit trains, as 19-car (or fewer) portions of a multi-cargo train, or, most worryingly, in tar sands service, can continue to run without any brake safety minimums.

Second, the ECP brake roll-out targets are only triggered if PHMSA chooses the "PHMSA/FRA" railcar design option (discussed above).[189] If the agency instead chooses to allow enhanced CPC-1232s or the railroad industry design, what PHMSA calls "Option 2," only EOT and DP brakes would be required.[190] Option 3, PHMSA's "no action alternative," is just that, an Operations Rule that does not require any brake system safety upgrades. Tellingly, because the industry is already voluntarily running trains with EOT and DP braking systems, "PHMSA does not expect [Option 2] to differ in effect from [the no action alternative], the *status quo*."[191] Therefore, if the most protective railcar design is not chosen, the rule proposed by PHMSA will only require brakes that are half as protective as ECP brakes and no different than what is already on the rails.

While the Commenters are fully supportive of the use of ECP brakes that PHMSA has included in it proposed rulemaking, we recommend that PHMSA require these systems on all trains with railcars carrying hazardous materials, whether as unit trains or as part of mixed-cargo

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[185] RIA, at 159.
[186] RIA, at 159.
[187] 79 F.R., at 45051.
[188] 79 F.R., at 45051.
[189] RIA, at 150.
[190] Note, as with the first alternative, ECP roll-out on all cars by October 1, 2015, in Alternative 2, if a train is not an HHFT, or does not have EOT or distributed power braking, **it can still be transported laden with hazardous materials, just at a slower 30 mph speed limit**. RIA, at 146.
[191] RIA, at 153.

trains, and, specifically, those trains involved with crude oil transport; flammable, heavy, refined, or otherwise.

## B. The Proposed Operations Rule Completely Fails to Address a Number of Key Issues

### 1. Requirements addressing financial responsibility missing from proposed rules

Transport of crude-by-rail should not be allowed until a robust review of the industry's capacity to assume financial responsibility has been conducted and requirements established – a review that is noticeably missing from PHMSA's proposed rule.

Most recently, this issue was clearly and painfully raised in Quebec in the aftermath of the Lac-Mégantic disaster. According to the NTSB, after the "Lac-Mégantic accident, the [operator] did not have sufficient resources available to [respond to the] 1.6 million gallons of crude oil … released from the derailed tank cars."[192] The initial cleanup of that accident was estimated at well over $200 million, "significantly exceeding the [operator's] ability to respond to the accident and mitigate the release."[193] The cost of that response and cleanup now far exceeds $1 billion.

For heavy crude oils such as those generated at tar sand operations (and which will be shipped in over 23,000 DOT-111 railcars as a result of this rule), given that such crude oil sinks rather than floats, cleanup costs will likely be significantly higher, as has been the case with the Kalamazoo River spill in Michigan since 2010. In that spill, heavy crude oil from a ruptured pipeline led the operator to initially estimate "its response costs would be approximately $1.035 billion" which, industry-wide is "substantially higher than the average cost of cleaning up a similar amount of conventional oil."[194] Four years later, costs have exceeded $1.5 billion.

Given the observed and projected rise in crude-by-rail, specifically Bakken crude shipments and heavy crude oil imports from Canadian, it is clear that further review and updating of financial assurance requirements must be conducted. In its Operations Rule, PHMSA proposes no new solutions. Instead, it limits its analysis to detailing the problems in the market today:

> "At this time, the maximum coverage available in the commercial rail insurance market appears to be $1 billion per carrier, per incident. While this level of insurance is sufficient for the vast majority of accidents, it appears that **no amount of coverage is adequate to cover a higher consequence event**. One example of this issue is the incident that occurred at Lac Mégantic, Quebec, in July of 2013. The rail carrier responsible for the incident was covered for a maximum of $25 million in insurance liability and had to declare bankruptcy because **that coverage and the companies remaining capital combined were insufficient to pay for more than a fraction of the harm that was caused**. This is one example where rail carriers and shippers may not

[192] NTSB Recommendations to F.R.A, at 9.
[193] Id.
[194] CRS Report, at 12.

> bear the entire cost of 'making whole' those affected when an incident involving crude and ethanol shipment by rail occurs."[195]

Because of the current state of financial responsibility requirements and the failed market, shippers and rail companies are not insured against the full liability of the potential disasters they can cause.[196]

Aside from the obvious problem that arises with shifting cost to local and state governments when the responsible party cannot make whole those impacted by disaster, this market failure, combined with outdated railroad liability laws, creates a disincentive for safety:

> "[S]hippers, though responsible for packaging the material, and buying or leasing the tank cars in which these products are shipped, do not generally bear any liability for an incident once a rail carrier has accepted shipment, and rail carriers cannot refuse shipments. … Shippers, by virtue of not bearing liability, may **lack an appropriate full incentive to ensure that the package is adequate to appropriately address the level of risk.**"[197]

In other words, once a shipper passes a railcar into the control of the railroad, it is no longer that shipper's responsibility. Yet, railroads cannot – as common carriers – refuse to serve shippers looking to transport their railcars. Given that the shipper (and potentially, the railcar owner) are not responsible parties, both of them have no financial incentive to increase the level of safety, only an incentive to ensure the most profitable bottom line.

Overall, until a system is put in place whereby the levels of insurance carried by all sectors of the crude-by-rail industry are reasonably connected to the expected costs of response, recovery, remediation, and restitution in the wake of a disaster, PHMSA should not allow such dangerous materials to be transported in defective cars on poorly maintained rail infrastructure that PHMSA itself predicts will result in 15 mainline accidents a year beginning in 2015. Consequently, we urge the agency to amend these rules to include a hard look at possible regulatory changes PHMSA, FRA, and DOT can make to address this market failure, especially given the number of aspects of this rule that rely on the good intentions, follow-through, and financial stability of these railroads.

## 2. Track maintenance, repair, and inspection requirements omitted from proposed rules

In developing a set of rules designed to address the dangers posed by crude-by-rail, PHMSA has failed to address a major issue: track infrastructure. This omission is even more egregious given PHMSA's stated concerns about the nation's rail system.

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[195] RIA, at 17 (emphasis added) citing http://www.dot.gov/office-policy/transportation-hazardous-materials-insurance-security-and-safety-costs.
[196] RIA, at 17.
[197] RIA, at 17.

> "Broken rails or welds, track geometry, and human factors such as improper use of switches are leading causes of derailments. For example, one study found that broken rails or welds resulted in approximately 670 derailments between 2001 and 2010, which far exceed the average of 89 derailments for all other causes. Rail defects have caused major accidents involving HHFTs."[198]

After noting that track disrepair accounted for almost *eight times more derailments on average than all other causes*, and after the now ubiquitous note that with "limited resources, FRA can inspect only a small percentage of trains and vehicles for regulatory compliance," PHMSA still chose not to take any action on this key issue.[199] Instead, the agency concedes that "the focus of this NPRM is on mitigating the damages of train accidents," not on preventing them.[200] The Commenters find this omission and the focus of PHMSA's proposed action solely on mitigating – not preventing – these catastrophic disasters unacceptable.

Moreover, PHMSA's attempt to claim that track infrastructure is indeed being indirectly addressed by other aspects of the rule is not defensible. Specifically, the agency posits that "the speed restriction, braking system and routing provisions could also prevent train accidents."[201] Indeed, they claim that these speed, route, and braking provisions "*sufficiently address safety issues involving rail defects and human factors*."[202] As is discussed below, the speed, route, and braking provisions included in the proposed rulemaking are far from settled and may ultimately not be adopted. For example, in the case of speed reductions, PHMSA admits that there may be no eventual change in the *status quo*. Proposing business-as-usual provisions does not constitute "sufficiently addressing" a growing problem. Moreover, the key failing here is that PHMSA provides no evidence to support the idea that better brakes (on some cars), slower speeds (in the largest cities), or choosing different rail routes (where there is more than one choice), will sufficiently mitigate safety issues involving both rail defects and human factors.

Overall, PHMSA's unsupported contention that the proposed Operations Rule provisions on speed, routing, and brakes can sufficiently overcome human error and rail defects and therefore that no new infrastructure program is needed, is arbitrary and capricious. Consequently, the Commenters strongly recommend that PHMSA include in its final rule a system for improving the management, oversight, and implementation of a railroad infrastructure inspection and repair system.

### 3. Related rulemakings addressing crude-by-rail must be evaluated by PHMSA in this rulemaking

PHMSA's currently proposed rulemaking is only one of many Federal and State actions related to crude oil transport by rail that have been proposed. At the same time as the rulemaking on enhanced tank car standards, PHMSA has also issued an Advanced Notice of

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[198] 79 F.R., at 45026.
[199] 78 F.R. 48218.
[200] 79 F.R., at 45026.
[201] 79 F.R., at 45026.
[202] 79 F.R., at 45026-45027 (emphasis added).

Proposed Rulemaking on Oil Spill Response Plans for HHFTs. The proposed standards and operational controls for tank cars that PHMSA is currently reviewing should take into account their impact on oil spill response planning, and vice versa; given all of the dangers PHMSA concedes are inherent in crude-by-rail, that the agency may be months away from finalizing a proposal on spill response planning is unacceptable. These two proposed rules should be reviewed collectively, not separately, to ensure consistent and comprehensive requirements.

Other forthcoming State and Federal actions include:

- U.S. Coast Guard: Review and Update of the New York/New Jersey Area Contingency Plan
- U.S. Coast Guard: Consumer Price Index Adjustments of Oil Pollution Act of 1990 Limits of Liability-Vessels, Deepwater Ports and Onshore Facilities - Notice of Proposed Rulemaking
- Federal Railroad Administration: Positive Train Control Systems - Final Rule to be adopted October 21, 2014
- Federal Railroad Administration: Securement of Unattended Equipment - Notice of Proposed Rulemaking
- New York State Department of Environmental Conservation's pending determinations on Global Companies LLC's Clean Air Act Title V Air Facility permit applications for its Terminals in Albany and New Windsor, New York

The effectiveness of these major Federal and State actions, including PHMSA's oil transport regulations, will be interdependent on each other. It is therefore critical that their effects be considered by PHMSA in the process of evaluating its proposed rulemaking.

**4. <u>Lax federal oversight and flawed assumptions must be remedied in final rule</u>**

In developing these Operations and Response Rules, PHMSA, as well as FRA, relied on datasets missing key data, incomplete cost estimates, and records that, by design, fail to capture vital metrics. These datagaps, which have led to flawed assumptions, underscore the poor agency oversight plaguing national railroads. In failing to take action to address its own limitations, PHMSA's proposed rules risk continued endangerment of the public and the environment. Consequently, the Commenters urge the agency to include in any final regulations a plan for addressing all of the following problems.

First, neither PHMSA nor FRA have the real-time, robust, rail-wide data they need to adequately oversee hazardous material transport by rail generally, let alone crude-by-rail unit trains. For example, when considering new brake systems, PHMSA's proposed second option would require new railcars to be equipped with either EOT or distributed power ("DP") systems. PHMSA's selection of these two brake system options was not based on any study of their comparative safety benefits. Instead, this option sought to codify the status quo, which PHMSA and FRA assumed to be that all HHFTs are "equipped with either two-way EOT or DP."[203] However, the assumption itself is without basis; the agencies point to no evidence but the fact

[203] RIA, at 157.

that if trains did not use these systems, they would be moving at 30 mph (because all railroads promised to have either EOT or DP or go 30 mph).[204] Even more concerning is that neither agency has access to the data on the speed of HHFTs (individually, track-wide, or nation-wide) it needs to confirm this assumption.

Similarly, PHMSA cannot point to exact figures for the specific length of track that lies within urban areas of over 100,000 people (beyond an "estimated 10%" of track nation-wide) or in HTUAs (an "estimated 2%" of track). PHMSA was also unable to estimate the effect heavier (burdened with more safety features) railcars would have on railroad infrastructure because the agency has "very little specific information" that can give it "a better understanding" of the weight limits of many railroads.[205] Overall, most facets of this rule rest, in part, on assumptions PHMSA is making based on incomplete data.

Second, not only do these assumptions (with little or no basis in the record) call into question the agencies' conclusions, they also call into question the adequacy of PHMSA and FRA recordkeeping. When reviewing derailment trends, PHMSA noted that their predicted derailment rate was not developed based solely on data about crude oil or ethanol derailments "because neither PHMSA nor FRA databases capture all derailments of all trains carrying crude and ethanol."[206] While it is discouraging that PHMSA's cost-benefit analysis could not be based on derailment rates for the trains it is attempting to regulate, it is concerning to know that there may be derailments of crude and ethanol trains that go unreported.

That this recordkeeping flaw is attributed to disconnected information kept by PHMSA and FRA – resulting in a mismatched database with few overlapping datasets – highlights the agency's poor capacity for oversight of the industry. According to PHMSA,

> "FRA's derailment database lists whether a derailed train was carrying any quantity of hazardous material, whether or not material released, but does not provide the type of hazardous material present on the train. As a result, it is impossible to use FRA data to identify crude and ethanol derailments."[207]

Contrast this with PHMSA's recordkeeping program which "generally does not collect information on derailments unless the derailment results in the release of hazardous material."[208] Thus, "[d]ue [to] each dataset's limitations of the information collected it is possible that some mainline derailments of crude oil/ethanol that did not result in a release of product were not examined."[209]

Third, the result of this recordkeeping mismatch leads to yet another data deficiency: flawed long term and cumulative impact monitoring. In attempting to quantify the impacts of

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[204] RIA, at 157.
[205] Id., at 45057.
[206] RIA, at 23.
[207] RIA, at 22.
[208] RIA, at 25.
[209] RIA, at 25.

past hazardous material derailments (specifically crude and ethanol spills), PHMSA noticed that "the quantity of product lost and number of cars releasing product were misreported in a number of cases."[210] In addition to the fact that PHMSA incident reports "often do not reflect the full extent of damages" (such as long-term property damage or remediation costs which may take months to fully compute), several relatively discrete elements of derailment reporting are regularly misreported. Part of the problem, according to PHMSA, is that a railroad (or whoever is filing an accident report) "has a maximum of thirty days from the time of the incident to file a report," and one year to update that information and that PHMSA still does "not always obtain full information."[211]

In addition, given the above-noted mismatches in FRA and PHMSA databases, information from each agency is often contradictory. Examples of the oversight failures that have resulted include:

- A derailment in Parker's Prairie, MN, in March, 2013, where one car was initially reported derailed and 10,000 gallons spilled. In the narrative section of the report, four cars were described as having derailed, releasing 15,000 gallons. In the final FRA incident summary, the agency concurred with the amount spilled, but clarified that 14 cars derailed. [212]
- A derailment in Aliceville, AL, in November, 2013, where the initial FRA report stated that 28,000 gallons of crude oil were released. Subsequently, PHMSA investigations revealed that 450,000 gallons were released.[213]
- A derailment in Philadelphia, PA, in January, 2014, that was reported to FRA because it was a crude-oil-carrying derailment, but which went entirely unreported to PHMSA (until the agency undertook the final development of the regulatory impact analysis) because no product was released.[214]
- A derailment in New Augusta, MS, in January, 2014, where released product was reported as fuel oil to PHMSA of negligible amount. Subsequently, independent FRA investigation revealed that four railcars (of thirteen derailed cars) released 90,000 gallons of crude oil.[215]
- A derailment in Vandergrift, PA, in February, 2014, where a report submitted to PHMSA described a 6-car release of 9,800 gallons of hazardous product, but a report developed by FRA after an on-site inspection revealed that while the spill size was close to accurate, the initial report failed to mention that there were 21 total derailed cars.[216]

[210] RIA, at 26.
[211] RIA, at 26.
[212] RIA, at 27.
[213] RIA, at 27.
[214] RIA, at 27.
[215] RIA, at 27.
[216] RIA, at 27.

Reporting inadequacies and inconsistencies are due to the fact that railroads are responsible for reporting these incidents, and in part due to FRA's limited resources. Despite FRA's "extensive, well-established research and development program,"[217] "with limited resources, FRA can inspect only a small percentage of trains and vehicles for regulatory compliance."[218]

Fourth, specifically with respect to this rulemaking yet indicative of a wider agency data management problem, it is discouraging to note that PHMSA did not examine derailments of flammable liquid transport by rail in rail yards, on siding, or on private track "because [PHMSA] believe[s] that the proposed rule will do little to mitigate the derailments that occurred in rail yards."[219] There have been dozens and dozens of spills on sidings and in rail yards over the past year *in one county in New York State alone*. According to the New York State Department of Environmental Conservation Spill Records Database of spills in Albany County, NY, spills at Canadian Pacific and CSX rail yards and sidings leapt from a handful per year in the early 2000s to over two dozen in 2010 and, in 2014, 45 spills in the first six months of the year.[220] At the very least, accidents on these tracks could be mitigated or avoided to some extent if PHMSA requires ECP brakes, if characterization was included in classification (such that accurate measures of vapor pressure and corrosivity could drive use of pressurized railcars or well-lined tanks), or if PHMSA limited the size of unit trains.

Fifth and finally, beyond these datagaps and mismatched reporting systems, PHMSA and FRA have no clear way of considering the full impacts of oil and hazardous material spills. Generally, PHMSA relies solely on "cleanup and emergency response costs" as "socioeconomic and environmental damages" are not yet fully realized.[221] PHMSA "believes that these additional costs are sometimes significant, but lacks data sufficient to estimate their magnitude directly."[222] As a result, rulemaking analyses of the impacts of oil spills are limited, and tend to underestimate the true risks that hazardous material rail transport represent.

> "A year after [Lac-Mégantic], decontamination of the soil and water/sewer systems is still ongoing. Cleanup of the lake and river that flows from it has not been completed, and downstream communities are still using alternative sources for drinking water. Initial estimates of the cost of this event were roughly $1 billion, but the cleanup costs

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[217] 79 F.R., at 45023.
[218] Id.
[219] RIA, at 21.
[220] NYS DEC Spill Database, available at http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=2.
[221] RIA, at 29. For example, here, the cost of drinking water supply transition wasn't included – potentially limitless numbers of scenarios could be presented with large and small impacts (in a wetland, along a city, next to commuter trains, an airport, along an international border…etc), a fact echoed by PHMSA, "[c]learly, from the above examples, slight adjustments in the assumed characteristics of an event could result in dramatic increases in event consequences. It is unclear to PHMSA what assumptions would be reasonable." RIA, at 38-39.
[222] RIA, at 29. For example, here, the cost of drinking water supply transition wasn't included – potentially limitless numbers of scenarios could be presented with large and small impacts (in a wetland, along a city, next to commuter trains, an airport, along an international border…etc), a fact echoed by PHMSA, "[c]learly, from the above examples, slight adjustments in the assumed characteristics of an event could result in dramatic increases in event consequences. It is unclear to PHMSA what assumptions would be reasonable." RIA, at 38-39.

have doubled from initial estimates of $200 million to at least $400 million, and estimates of the total cost to clean up, remediate, and rebuild the town have risen as high as $2.7 billion."[223]

The Commenters recommend that PHMSA more thoroughly examine the real, long-term costs of oil spills for use in final rulemaking impact assessments. There are, unfortunately, numerous examples of oil spill clean-ups from around the nation, from the *Exxon Valdez* and *BP Deepwater Horizon* disasters to, more recently, the Galveston Bay, Kalamazoo River, and Mississippi River spills. The dearth of full, long-term cost information on spills from railroad disasters should not result in a thin, imprecise cost-benefit analysis that leads to an emphasis on the cost of regulatory compliance without giving adequate weight to the costs that would be imposed on impacted communities and the environment if a spill occurs.

In the view of the Commenters, PHMSA and FRA must use this rulemaking opportunity to demand more data submissions, collect this information in a more centralized database, fill in any gaps in reporting requirements, and discourage underreported spill data by penalizing railroads for erroneous reports. Given that PHMSA itself concluded that the "number and type of petroleum crude oil railroad accidents … that have occurred during the last year is **startling**, and the quantity of petroleum crude oil spilled as a result of those accidents is **voluminous** in comparison to past precedents,"[224] PHMSA must work with FRA, Congress, and the DOT to create a more effective enforcement, inspection, and oversight program.

## C. Conclusions and Recommendations with respect to the Proposed Rulemaking's Inadequacies

From coast to coast, the nation is facing an immediate, imminent threat from crude-by-rail operations and hazardous material transport in general. While ethanol overall moved in larger quantities in 2012, crude oil accounted for the "most non-accident releases by commodity … nearly doubling the next highest commodity."[225] Given that the problem is growing at an exponential rate, as DOT noted in it May, 2014 Emergency Order, immediate and comprehensive action is required.[226]

Despite this urgency, from the DOT to its subagencies PHMSA and FRA, the requisite response to this emerging threat is being deferred. Specifically, in the rulemakings on spill response planning, operations and railcar design, PHMSA puts off or ignores the most difficult decisions, including but not limited to the following:

- Despite recognizing the dangers of large, long, heavy trains and acknowledging that the inherently dangerous nature of crude oil is "compounded because it is commonly shipped in large units,"[227] **PHMSA fails to propose limiting the length of crude-by-rail unit trains**;

[223] RIA, at 37.
[224] 79 F.R. 27363 (emphasis added).
[225] RIA, at 174.
[226] 79 F.R. 27363 (emphasis added).
[227] 78 F.R. 48218, at 48221.

- Despite recognizing that because offerors rarely test for crude oil characteristics like specific gravity or vapor pressure,[228] and that "proper characterization of a hazardous material … is fundamental to ensuring the selection of proper packaging" and the prevention of releases and spills,[229] **PHMSA refuses to include commodity characterization in classification determinations** or require pressurized railcars for crude oils that need them;
- Despite determining that rail defects and aging infrastructure cause the vast majority of derailments, or that a quarter of all releases come from broken top fittings, **PHMSA fails to include any new track maintenance regulations and specifically removes top fitting retrofits from the required performance criteria for new railcars**; and, perhaps most egregiously,
- Despite recognizing that DOT-111s and CPC-1232s "can almost always be expected to breach" in the event of an accident, determining that they have brake systems that provide no safety benefit, and encouraging oil shippers not to use such cars in crude-by-rail transport, **PHMSA is proposing to move over 23,000 of the least safe railcars available into service transporting heavy tar sands crude oil**.

These oversights are not only disappointing; they are indefensible given PHMSA's obligations under the law. PHMSA's mandate is to "prescribe regulations for the safe transportation, including security, of hazardous material in intrastate, interstate, and foreign commerce;"[230] not regulations for safe transportation only when commercially practicable or only to the extent that the railroad industry has determined is needed for safe transportation. "In carrying out its duties, the Administration shall consider the assignment and maintenance of safety as the highest priority."[231] Given the "risks to life, property, and the environment that are inherent in the transportation of hazardous materials,"[232] and that PHMSA is bound by law to "reduce railroad-related accidents and incidents,"[233] it cannot legally ignore obvious restrictions like unit train length limits or pressurized railcar requirements. Further, as Congress enacted the Federal Railroad Safety Act to "promote safety in **every area of railroad operations**,"[234] PHMSA should not segment its development and review of rulemakings that address spill response planning and operations from those that deal with aging infrastructure, enforcement, and financial responsibility.

PHMSA's proposed rulemaking fails to meet its statutory obligation to ensure that "shipments of hazardous materials" are made safely from "**from origin to destination**," in violation of federal law.[235] Moreover, the disastrous events of the past year have made it clear that without immediate, comprehensive action as recommended in these comments, the citizens, communities, and natural resources of the nation are at grave risk of a catastrophic release of hazardous substances.

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[228] RIA, at 174.
[229] 78 F.R. 69746.
[230] 49 U.S.C. § 5103(b)(1) (emphasis added).
[231] 49 U.S.C. § 108(b).
[232] 49 U.S.C. § 5101.
[233] 49 U.S.C. §20101.
[234] 49 U.S.C. § 20101 (emphasis added).
[235] 49 C.F.R. § 172.802 (emphasis added).

## IV. PROPOSED RESPONSE RULES FAIL TO IMPROVE CURRENT WEAK RESPONSE PLANNING AND LAX OVERSIGHT FOR CRUDE-BY-RAIL TRANSPORT

As referenced above, contemporaneously with the proposed Operations Rules, PHMSA released an advanced notice of its proposed Response Rules. According to that notice, PHMSA is considering "revisions to its regulations that would expand the applicability of comprehensive oil spill response plans (OSRPs) to HHFTs."[236] Currently, railroads transporting crude oil are only required to develop a less formal form of response plan, a "basic response plan" unique to PHMSA's hazardous material rail transport regulations, – which, among other shortcomings, does not provide for collaboration with local response agencies nor a demonstration of proof of response capacity.

Although the amendment proposed by PHMSA would require more response planning for HHFTs, those plans are not sufficient to protect the public or prepare our communities. Furthermore, the Response Rules unacceptably fail to address spill response planning for *non-HHFT* crude oil transport. Thus, overall, the proposed rules fail to adequately protect the public or provide for the safe transport of hazardous materials, in violation of PHMSA's obligations under federal law.

Under the Oil Pollution Act (OPA) of 1990, Congress directed federal agencies to "issue regulations requiring owners and operators of certain vessels and onshore and offshore oil facilities to develop, submit, update and in some cases obtain approval of spill response plans."[237] Congress defined "facility" to specifically include "rolling stock" used in "storing, handling, transferring, processing, or transporting oil."[238] Crude-by-rail, as rolling stock used to transport oil (and, in many cases, store, handle, transfer, and even process oil), therefore, falls within the OPA definition of an onshore facility.[239]

OPA response plans, however, are only required for certain vessels, offshore facilities (e.g., oil drilling operations), and, for the purposes of PHMSA's proposed Response Rule, onshore facilities like crude oil railcars which, "because of [their] location, could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters, adjoining shorelines, or the exclusive economic zone."[240]

OPA mandates that the spill response plans it requires "shall:

(i) be consistent with the requirements of the National Contingency Plan and Area Contingency Plans;

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[236] 79 F.R. 45079.
[237] 79 F.R., at 45080, citing 33 U.S.C. § 1321(j)(5), 101.
[238] 33 U.S.C. § 2701(9).
[239] Onshore facilities are "any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States other than submerged land." 33 U.S.C. § 1321 (a)(10).
[240] 33 U.S.C. § 1321(j)(5)(C)(iv). If PHMSA decides that railcars, "because of their location," could reasonably be expected to cause substantial harm to the environment" – is met, OPA imposes more requirements on the facility, specifically, such a facility would then be required to submit an OSRP to the federal government for review, accept plan amendments from PHMSA or FRA, and accept periodic agency plan review. 33 U.S.C. § 1321(j)(5)(E).

(ii) identify the qualified individual having full authority to implement removal actions, and require immediate communications between that individual and the appropriate Federal official and the persons providing personnel and equipment pursuant to clause (iii);
(iii) identify, and ensure by contract or other means approved by the President the availability of, private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge (including a discharge resulting from fire or explosion), and to mitigate or prevent a substantial threat of such a discharge;
(iv) describe the training, equipment testing, periodic unannounced drills, and response actions of persons on the vessel or at the facility, to be carried out under the plan to ensure the safety of the vessel or facility and to mitigate or prevent the discharge, or the substantial threat of a discharge;
(v) be updated periodically; and
(vi) be resubmitted for approval of each significant change."[241]

Whether railcars carrying crude oil trigger OPA response plans under the "substantial harm" test must be decided by PHMSA. In 1996, PHMSA promulgated regulations finding that only the largest railcars "could be reasonably expected to cause substantial harm to the environment."[242] Based on this finding, PHMSA's current regulations require a "basic" OSRP if a railcar carries less than 1,000 barrels of crude oil.[243] Basic plans must be kept on file at the railcar owner's place of business and with the train dispatcher, and must:

- Describe the procedures to be followed during a response,
- Account for the maximum potential discharge from the tanker,
- Identify private personnel and equipment available for response, and
- Identify the people to be contacted in the event of a spill.[244]

If a railcar is carrying more than 1,000 barrels of oil, it must prepare a comprehensive OSRP.[245] These plans mirror those required under OPA, and are applicable to the railcars PHMSA found "could be reasonably expected to cause substantial harm to the environment."[246] Comprehensive spill response plans must have all of these "Basic" elements, but must also be submitted to FRA for approval and must:

- Reflect the requirements of the National Contingency Plan and Area Contingency Plans,
- Identify 'qualified individuals' and alternate qualified individuals, as well as all other personnel with a role in spill response,
- Describe the training, including drills, required for each of these persons, and
- Identify and ensure by contract the equipment and response personnel necessary for response to the maximum extent practicable in each of the identified scenarios.[247]

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[241] 33 U.S.C. § 1321(j)(5)(D).
[242] See, 59 F.R. 34099 (July 1, 1994).
[243] See, 49 C.F.R. Part 130.
[244] 79 F.R., at 45081.
[245] 79 F.R., at 45081.
[246] See, 59 F.R. 34099 (July 1, 1994).
[247] 79 F.R., at 45081.

A PHMSA-described "basic" response plan is not provided for in OPA; a "comprehensive" OSRP, however, is in the law. OPA's OSRP section mirrors, line for line, the requirements of PHMSA's comprehensive plans.

In developing these two tiers of response plans in its 1996 rulemaking, PHMSA directly addressed, as was required by OPA, the "substantial harm" test. However, commentors on that rulemaking could "not agree on what volume of oil reasonably could cause substantial harm to the marine environment."[248] Even without agreement, PHMSA relied on "a number of comments on the [rulemaking] docket" that supported a 42,000-gallon threshold for determining which railcars may cause "substantial harm."[249] "Consequently," according to PHMSA, the agency determined that use of that threshold "in a single packaging is appropriate and reasonable."[250]

Thus, even though the typical railcar used to transport crude oil, the DOT 111, has a maximum capacity of 30,000 gallons and "even though a unit train of 100 cars could carry about 3 million gallons of crude oil," OPA response plans are not required for crude oil shipped in packages (i.e., railcars) of less than 42,000 gallons.[251]

According to PHMSA, the purpose of a response planning "is to ensure that personnel are trained and available and equipment is in place to respond to an oil spill, and that procedures are established before a spill occurs, so that required notifications and appropriate response actions will follow quickly when there is a spill."[252]

Unfortunately, because of the "substantial harm" conclusion reached in 1994 (and made final in 1996), the number of railcars with comprehensive spill plans is, in the words of PHMSA, "**possibly non-existent**."[253] "Tank cars of this size are not used to transport oil;" therefore, "railroads do not file a comprehensive oil response plan."[254]

Without these comprehensive plans, PHMSA warns that it "does not have assurance that railroads have taken steps to plan for response needs and identified and coordinated with the appropriate responders."[255] Moreover, there is no required consistency with National or Area Contingency Plans, no obligation to show, by contract, that the railroad has sufficient response capacity, no training or drill requirements, and no oversight by federal agencies.[256]

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[248] 79 F.R., at 45082.
[249] 79 F.R., at 45082.
[250] 79 F.R., at 45082. For the U.S. Coast guard, any marine transfer facilities that "transfer oil to or from a vessel with a capacity of 250 barrels or more could reasonably be expected to cause at least substantial harm to the environment…" and therefore trigger OPA/Comprehensive OSRPs. See, 61 F.R. 7892.
[251] GAO Report, at 45.
[252] 79 F.R., at 45027.
[253] 79 F.R., at 45081 (emphasis added).
[254] 79 F.R., at 45027.
[255] GAO Report, at 45.
[256] 79 F.R., at 45028 (Table 9).

In its January 2014 safety recommendations, the NTSB went one step further, finding that the current regulations do not comply with the law:

> "The NTSB finds that as currently written, the regulation circumvents the need for railroads to comply with spill response planning mandates of the federal Clean Water Act … [moreover, the] regulation is rendered ineffective because of its lack of applicability to any real-world transportation scenario. By limiting the comprehensive planning threshold for a single tank size that is greater than any currently in use, spill-planning regulations do not take into account the potential of a derailment of large numbers of 30,000-gallon tank cars, such as in Lac-Mégantic where 60 tank cars together released about 1.6 million gallons of crude oil."[257]

These findings, coupled with the "recent massive growth in crude oil transportation," led the NTSB to conclude that the existing "regulations are no longer sufficient to mitigate the risks of petroleum product releases in accidents."[258]

PHMSA also notes that this "increasing reliance on HHFTs poses a risk that was not considered when [PHMSA's predecessor agency] made its determination on that threshold."[259] In the Response Rule, PHMSA is reopening the "substantial harm" analysis and proposes setting a new threshold at 1,000,000 gallons or more per train or at the Operations Rule-defined HHFT level (over 20 cars of Class 3 flammable crude oil).[260] The agency also asks for comments on whether the trigger should remain at 42,000 gallons (despite there still being "possibly non-existent" railcars that would meet that threshold), or some other yet-to-be defined number.[261]

In order to best protect the public, PHMSA must make three major adjustments to its proposed Response Rule.

First, the final rule should require comprehensive plans for any train carrying oil in railcars. Depending on location, infrastructure, speed, and a host of other considerations, any oil spill can have a devastating impact on the environment and on local communities. Whether one car, twenty cars, or one hundred and twenty cars in a train are carrying crude oil, crude-by-rail is *inherently dangerous*, and PHMSA should require the railroad industry to adequately prepare for any size spill. In sum, the new PHMSA Response Rule must set the comprehensive spill response planning threshold at one railcar.

Second, as noted above, under the law, comprehensive plans are required for any onshore facility which, because of its location, "could be reasonably expected to cause substantial harm to the environment *by discharging into or on the navigable waters, adjoining shorelines, or the*

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[257] National Transportation Safety Board Safety Recommendations R-14-4 – R-12-6, at 9. Available at http://www.ntsb.gov/doclib/recletters/2014/R-14-004-006.pdf.
[258] Id.
[259] 79 F.R., at 45082. PHMSA also notes that "[a]n incident involving the transportation of 1,000,000 gallons of crude oil could cause substantial harm, even if not in a single packaging." 79 F.R., at 45082.
[260] 79 F.R., at 45082.
[261] Id.

*exclusive economic zone.*"[262] As OPA does not differentiate type of spilled oil (e.g., Bakken crude or tar sands crude), or between the impacts a spill would have (e.g., explosions or sinking oil), all types of crude oil must be shipped under a comprehensive OSRP. Because tar sands crude oil sinks more readily than Bakken-sourced crude oil, the fact that one is more explosive than the other does not alter the reality that a spill of either into the waters of the United States is a disaster that Congress intended to mitigate by requiring comprehensive spill response plans.

Third, the commentors recommend that PHMSA require region-specific, non-generic comprehensive OSRPs for all major railroads. Currently, "[n]either the basic nor the comprehensive OSRP is required to address response on a vehicle- or location-specific basis." [263] Instead, a "nationwide, regional or other generic plan is acceptable, provided that it covers the range of spill scenarios that the owner or operator foreseeably could encounter."[264] This allows one railroad to develop one OSRP for its entire railroad, no matter what diversity there may be in local response capacity or conditions.

> "Because there is no mandate for railroads to develop comprehensive plans or ensure the availability of necessary response resources, carriers have effectively placed the burden of remediating the environmental consequences of an accident on local communities along their routes."[265]

Area-specific comprehensive plans should be required for each and every inland or coastal area with an EPA or Coast Guard Area Contingency Plan through which the rails run. This will ensure that contracted-for response capacity is in-region, and that the railroad has communicated and coordinated with the local spill response agencies, among other benefits of local preparation.

Overall, the NTSB has called for, and PHMSA has acknowledged the need for, OPA-required response plans in the case of crude-by-rail. PHMSA, by emergency regulation (or DOT by emergency order), must immediately require the development of region-specific, comprehensive, transparent, accessible, OSRPs for all trains carrying any amount of any type of crude oil.

## V. ESPECIALLY SENSITIVE AND SIGNIFICANT RESOURCES SUCH AS THE HUDSON RIVER MUST BE AFFORDED SPECIAL PROTECTION BY PHMSA

The Hudson River is an irreplaceable national treasure, a vital resource for residents and visitors, and a major driver of the Hudson Valley region's over $4 billion tourism and recreation industry that has been put at significant risk by the enormous increase in crude oil transport by rail and vessel through the length of the Hudson River Valley. The River also has nationally important historical, cultural, ecological and aesthetic values. Governor Cuomo's January 2014 Executive Order, which directed five state agencies to strengthen the state's oversight of crude oil shipments in New York, specifically highlighted the risks posed by those shipments to the

[262] 33 U.S.C. § 1321(j)(5)(B) (emphasis added).
[263] 79 F.R., at 45080.
[264] 79 F.R., at 45080.
[265] 79 F.R., at 45082.

State's iconic waterbodies including the Hudson River as a major reason why immediate action was required:

> **"WHEREAS**, New York's waterways, including the Hudson River, Mohawk River, and Lake Champlain, on or along which rail cars, ships, and barges travel, are unique ecological, cultural, economic, natural, and recreational resources upon which millions of New Yorkers rely, which makes these waterways especially vulnerable to spills of crude oil and other petroleum products;"[266]

The estuarine portion of the river – that is, the portion of the River that is subject to tidal influence and upriver flow of salty ocean water – stretches for 153 miles from north of Albany to New York Harbor and is one of the most productive and biologically diverse ecosystems in the nation. The Hudson River estuary is home to more than 200 species of fish, including key commercial and recreational species including striped bass, bluefish, and blue crab. The River also serves as a nursery habitat for fish species that migrate along other estuaries, bays and offshore areas of the Atlantic Ocean, and so performs a vitally important ecosystem function well beyond the borders of New York State. There are over 13,000 acres of tidal wetlands and vegetated shallow waters in the estuary – the largest and most productive assemblage of freshwater tidal habitats of any river system along the United States' east coast. Tidal wetlands found in the Hudson are critically important habitats, providing nursery grounds for valuable fish species, filtration of pollutants, flood control, and opportunities for education and recreation.

The New York State Department of State, working with the State Department of Environmental Conservation, has delineated 40 Significant Coastal Fish and Wildlife Habitats in the Hudson River estuary, comprising 42,825 acres of vitally important aquatic habitat. These SCFWHs have been so designated because "they:

- are essential to the survival of a large portion of a particular fish and wildlife population (e.g., feeding grounds, nursery areas);
- support populations of species which are endangered, threatened or of special concern;
- support fish and wildlife populations having significant commercial recreational or educational value;
- are of a type which is not commonly found in the State or in a coastal region; or
- are to varying degrees difficult or even impossible to replace in kind."[267]

Additionally, the waters of the Hudson are home to two federally listed endangered species, the Atlantic and shortnose sturgeon. The Hudson is a seasonal home for the largest remaining population of the Atlantic sturgeon.

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[266] NYS Governor Cuomo, January 2014 Executive Order, available at www.governor.ny.gov/press/01292014-crude-oil-rail-safety.

267 New York State Coastal Management Plan at II-6, pp 20-25.

It is not only the River that is at risk from a crude oil spill. Eighty-four waterfront communities are situated along the River's shorelines, many of which rely on a clean river for drinking water, and all of which rely on a clean river for recreation. As one of only 49 National Heritage Areas in the country, the communities along the Hudson River have been designated by the U.S. Congress as a landscape with nationally unique natural, cultural, historic, and/or scenic resources. In 2000, the National Trust for Historic Preservation named the Hudson Valley one of America's "Eleven Most Endangered Historic Places." When announcing its selection, the National Trust characterized the region as "a mix of scenery and history that is unmatched anywhere else in the country."[268] The shores of the Hudson River are also home to six Scenic Areas of Statewide Significance,[269] and at least five landmarks of national significance (Stony Point State Park,[270] Iona Island,[271] Fort Montgomery,[272] The U.S. Military Academy at West Point,[273] and the Walkway Over the Hudson State Historic Park[274]), each of these resources are directly endangered by crude-by-rail along the banks of the Hudson.

Not surprisingly, given its historical and ecological legacy, the river and its communities are the focus of several federal programs that work towards its protection. The Hudson River Valley was designated as a National Heritage Area by Congress in 1996 to recognize the national importance of the Hudson Valley's history and resources. The Hudson River is one of only fourteen American Heritage Rivers in the entire nation, and the Hudson River National Estuarine Research Reserve protects four exemplary wetland sites on the estuary. The U.S. Army Corps of Engineers is working with local communities and not-for-profit organizations to create a comprehensive, federally-recognized Hudson River Restoration Plan, aiming to improve ecosystem function and health and also to enhance regional economic potential.

The Hudson Valley's natural resource economy is thriving, making significant contributions to the region's quality of life and its ability to attract outside investment and create jobs. Tourism remains a primary beneficiary of our healthy environment with the region contributing $4.75 billion in economic activity in the Hudson Valley region annually,[275] including $184 million alone from recreational boating in the Hudson River.[276] Clean water,

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268 In re Application of St. Lawrence Cement Co. LLC, DEC Application # 4-1040-0001/00001, Issues Conference Transcript (June 21, 2001), available at http://hudson.typepad.com/stp/files/hearing2001raw.html .

269 See N. Y. State Department of State, Scenic Areas of Statewide Significance Designations, July 1993, at 282, available at http://www.dos.ny.gov/opd/programs/HudsonSASS/Hudson%20River%20Valley%20SASS.pdf.

270 This park is the site of one of the last Revolutionary War battles in the northeastern colonies. Among the many unique features of the park is the also the first and oldest lighthouse on the Hudson River.

271 The Island and its surrounding marsh is a designated National Natural Landmark. It is very well-known as a winter nesting place for bald eagles and is also a very popular destination for train and bird watchers.

272 The Fort is the location of one of the most important battlefields of the Revolutionary War where British, Loyalist and Hessian forces battled the Americans for control of the Hudson River.

273 West Point is the oldest continuous operating Army post in the country and the entire central campus is a National Landmark. It is an irreplaceable home to of historic sites, buildings, and monuments. CSX trains travel through a train tunnel from the south end of the Academy under historic Thayer Hall.

274 Immediately adjacent to the tracks in Ulster County is one of the valley's premier tourist attractions. The average amount of people visiting Walkway over the Hudson State Historic Park is nearly 500,000 annually.

275 Hudson Valley Tourism, 2013.

276 Cornell University Department of Natural Resources.

scenic views, natural habitat, public waterfronts and a healthy environment are the foundation of regional economic development.

Despite – or perhaps because of – its natural and cultural treasures and proximity to the largest metropolis in the United States, the Hudson has endured an unfortunate legacy of industrial pollution. Industrial development in the region changed the river basin's ecology and physical function, and compromised the economic, recreational and cultural activities associated with it.

Throughout much of the twentieth century, the Hudson endured enormous sewage discharges, the filling of wetlands and secondary channels, erosion of scenic vistas, fish kills in industrial cooling water intakes, and toxic chemicals that disrupted the food chain. During the 1960s, bacteria consumed so much oxygen that fish suffocated in the water. The most infamous toxic legacy in the Hudson River is polychlorinated biphenyls (PCBs), primarily from General Electric plants located on the Upper Hudson River. These toxic PCBs enter food webs in the River, leading the state to close most once robust commercial fisheries and the state Department of Health to issue fish consumption advisories aimed at recreational anglers.

The impacts of degraded habitats, hardened shorelines, reduced floodplains and the decline of a once thriving fishery earned the Hudson a reputation as a dirty, industrial river. The public stayed away, and the historical, cultural and scenic treasures of the Hudson Valley were all but forgotten. Since the 1970s, however, through efforts of federal and state agencies, scientists, and citizens and vast investment of public and private funds,[277] water quality in the Hudson River has improved significantly. Many fish species are on their way to recovery, and commercially important species such as striped bass have increased more than tenfold since the 1980s. Since 2009, General Electric has been conducting a cleanup of PCB hotspots in the Upper Hudson River.

The Hudson flows cleaner today than it has in many decades. It is unthinkable that, as the Hudson is finally rebounding from its legacy of pollution, it has now come under threat from a crude oil spill that could erase the efforts of so many who fought to bring the River back to health.

## A. Rapid Increase in Rail Transport of Crude Oil Along the Hudson River, Across Its Tributaries and Through Its Communities Exposes the Hudson River Valley to Significant Risk of Spill or Explosion

The dramatic expansion of U.S. shale oil production has resulted in the Hudson River quickly becoming a "virtual pipeline" that is endangering the length of the River. Roughly one fifth of all Bakken crude oil, hundreds of thousands of barrels per day, are transported by rail

277 A sampling of public money invested in restoring the Hudson River and its shorelines through the Hudson River Estuary Program since the 1990s includes: more than $72 million in water quality improvement projects; $83 million in waterfront planning and development; $12 million for conservation and river access; $110 million for water quality and aquatic restoration projects; $15 million for cleanup of contaminated sites on the riverfront; and $11 million for planning and trail projects. See Hudson River Estuary Program Report (2010).

down the Hudson River Valley.[278] Crude oil trains now regularly travel next to drinking water supplies, over vital tributaries and down the length of the Hudson, threatening critical habitats, spawning areas, parks, public access points, densely populated commercial and residential areas, and historical and cultural resources, putting at risk human health and the ecological stability of the entire river system. Between 15 and 30 trains, each carrying up to 3 million gallons of Bakken crude oil, pass through the Hudson Valley each week, according to information provided to New York State by CSX Transportation.[279] The "River Subdivision" line owned by CSX Transportation travels directly along the Hudson River shoreline for at least 47.7 miles from Selkirk, New York, outside of Albany, to the New Jersey border. It travels mere feet from dozens of SCFWHs, and transects Iona Island, a National Natural Landmark. Some areas of the rail line on the lower Hudson are located on narrow berms with water on both sides. The location of the CSX River Subdivision rail line could not be worse for the sensitive, nationally recognized environmental and cultural resources the Hudson affords, making it extremely vulnerable to a the magnitude of impacts in the case of a crude oil spill.

Additionally, between five and nine trains carrying at least 1 million gallons of Bakken crude oil travel the Canadian Pacific railway in New York, which runs alongside the Hudson River and its tributary the Hoosic River in Albany, Saratoga, and Washington Counties.[280] Other trains travel to and from oil transloading terminals in Albany, NY, on the banks of the Mohawk and Upper Hudson Rivers.

In reaction to the recent influx in crude-by-rail transportation, New York State officials and agencies have investigated rail safety in New York and highlighted the risks of increased crude oil transport to New York's communities and waterways.

Governor Cuomo issued Executive Order 125, recognizing "the increase in frequency and numbers of rail cars, ships, and barges carrying crude oil and other petroleum products through hundreds of New York communities increases the public's vulnerability to a serious accident," and calling on state agencies to investigate "the State's existing capacity to prevent and respond to accidents involving the transportation of crude oil and other petroleum products by rail, ship, and barge." [281]

278 Global Partners LP, 2012 Form 10K 55 (Mar. 15, 2013); Jad Mouawad, Bakken Crude, Rolling Through Albany, N.Y. Times, Feb. 27, 2014, available at http://www.nytimes.com/2014/02/28/business/energy-environment/bakkan-crude-rolling-through-albany.html?_r=0.

279 "CSX: 15-30 Oil Trains Move Weekly on Hudson River Line", Poughkeepsie Journal, July 16, 2014. Available at: http://www.poughkeepsiejournal.com/story/news/local/new-york/2014/07/16/csx-releases-oiltrain-data/12740573/.

280 Letter from Darlene Nagy, HazMat Program Manager, Canadian Pacific Railway Co., to Mr. William R. Davis Jr., Chairman, N.Y. State Emergency Response Comm'n, at 2 (June 3, 2014).

281 Gov. Andrew Cuomo, Executive Order #125, Directing The Department of Environmental Conservation, The Department of Transportation, The Division of Homeland Security and Emergency Services, The Department of Health, and The New York State Energy Research and Development Authority to Take Action to Strengthen the State's Oversight of Shipments of Petroleum Products (Jan. 28, 2013), available at http://www.governor.ny.gov/executiveorder/125.

In response to Governor Cuomo's Executive Order, the New York State Department of Environmental Conservation and four other state agencies co-authored a report titled "Transporting Crude Oil in New York State," which recognizes, "[c]ommunities in 22 counties, including Buffalo, Syracuse, Utica, Albany, and Plattsburgh and nearly all of the state's major waterways are subject to [the oil-by-rail] network," and notes, "[t]he transportation of Bakken and Canadian tar sands crude each present unique risks."[282]

The New York State Department of Transportation and Federal Railroad Administration initiated a rail safety "inspection blitz" across New York State, during which the agencies have "uncovered 658 defects, and issued 9 hazardous materials violations."[283]

A rail accident in New York, potentially impacting the Hudson River, is not mere speculation. New York has seen five rail accidents over 10 months, though, fortunately, none have resulted in a catastrophic spill or explosion:

- **December 6, 2013 – *West Nyack***: a tractor-trailer was hit by a train in which the oil cars were empty at the time of the accident.
- **December 10, 2013 – *Cheektowaga***: five trains cars carrying crude oil derailed but did not puncture or spill.
- **February 25, 2014 – *Ulster***: a train carrying 97 empty oil cars derailed.
- **February 28, 2014 – *Selkirk***: 13 rail cars carrying crude oil derailed but remained upright and did not puncture or spill.

Unless changes are made to rail safety, it is not a question of *if* a disastrous spill will occur on or near the Hudson; it is a question of *when*.

## B. Bakken and Tar Sands Crude Each Present Unique Dangers and Should Be Prohibited From Transport along the Hudson

Bakken crude oil is described in the U.S. Coast Guard's New York and New Jersey Area Contingency Plan ("ACP") as a "particularly explosive and toxic oil produced by hydraulic fracturing" that is being transported in "rapidly increasing amounts."[284] As PHMSA acknowledges in the NPRM, "transporting crude oil can be dangerous if the crude oil is released into the environment because of its flammability. This risk of ignition is compounded in the context of rail transportation of crude oil. It is commonly shipped in [unit trains] that may consist of over 100 loaded tank cars, and there appear to be uniquely hazardous characteristics of

282 N.Y. State Div. of Homeland Sec. and Emergency Servs. et al., Transporting Crude Oil in New York State; Review of Incident Prevention and Response Capacity 14 (2014) ii, iv.
283 Press Release, N.Y. State Governor Andrew Cuomo, Governor Cuomo Announces Results from Latest Round of Crude Oil Rail Inspections; NYSDOT, FRA Inspectors Examine Rail Cars and Facilities, Including CSX Track between Buffalo and Syracuse (Sept. 26, 2014), available at http://www.governor.ny.gov/press/09262014Crude-Oil-Rail-Inspections.
284 2011 NY/NJ ACP, at 1630, available at http://goo.gl/sJ1Q7e.

crude oil."[285] These risks of allowing continued transport Bakken in DOT-111 railcars have borne out over the past year in a nationwide spate of rail accidents. For instance, the December 2013 oil train derailment and explosion that occurred in Casselton, North Dakota, resulted in a five-mile evacuation zone radius. If such an accident were to occur within the heavily populated, fragile Hudson Valley, the results would be disastrous. Yet Bakken crude is not the only crude oil that poses a significant risk to the Hudson River. PHMSA expects that DOT-111 rail cars are phased out of use for HHFTs, these deficient cars will be transferred to use in transporting heavy tar sands crude from Alberta, Canada:

> "As a result of this rule, PHMSA expects all DOT Specification 111 Jacketed and CPC 1232 Jacketed crude oil and ethanol cars (about 15,000 cars) to be transferred to Alberta, Canada tar sands services. It does, however, expect the majority of DOT 111 Un-Jacketed and CPC 1232 Unjacketed cars (about 66,000 cars) to be retrofitted; some DOT Unjacketed and CPC 1232 Unjacketed cars (about 8,000 cars) will be transferred to Alberta, Canada tar sands services. No existing tank cars will be forced into early retirement."[286]

Far from ensuring the safe transport of crude oil, allowing heavy crude oil to be transported in rail cars that can "almost always" be expected to breach in a collision[287] is patently unreasonable.

## C. Effective Recovery of a Spill in the Hudson River Would Be Impossible

The characteristics of the Hudson – heavy tidal exchange flowing both ways, shifting shoals, narrow navigational channels and unique habitat diversity – would make any spill response challenging. Due to the tidal nature of the estuary, oil could be quickly transported both up and downriver. Top speeds of the tidal flow of the Hudson River during ebb flow are approximately 2.4 knots (2.8 miles per hour). At that tidal velocity spilled oil could cross the entire width of the river within just a couple of hours. Wave action, like that seen in the Hudson, can cause emulsification, or a mixture of small droplets of oil and water, which hampers weathering and cleanup process. These water-in-oil emulsions may linger in the environment for months or even years.[288] Because of the tidal nature of the estuary, surface and subsurface oil recovery becomes extremely difficult, if not impossible, resulting in very low recovery rates.

Additionally, sections of the Hudson River often freeze completely during the winter. Due to snow and ice on the water, winter spills can be harder to detect and much more difficult to clean up. According to the U.S. Department of State, an oil spill during freeze up or ice breakup periods can result in ice being transported several miles under the ice or in broken ice before it can be contained. It can also be more difficult to detect oil under the ice and implement

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285 79 F.R., at 45041.
286 79 F.R. at 45060.
287 79 F.R. at 45026, citing National Transportation Safety Board, Railroad Accident Report—Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire (emphasis added), http://www.ntsb.gov/doclib/reports/2012/RAR1201.pdf (February 2012).
288288 Global Marine Oil Pollution Gateway, Facts: What Happens to Oil in Water? http://oils.gpa.unep.org/facts/fate.htm.

measures to recover spilled oil.[289] In any scenario, recovering crude oil in the Hudson would be much more difficult than responding to similar spills on the surface of a stagnant water body.

Recovery of tar sands oils can be more difficult, costly and time consuming than typical oil recovery. Once spilled, finding pockets of crude oil can be impossible, as "[e]xisting methods of tracking spills are not effective for tracking nonfloating oils."[290] Even if found, NOAA warns that containment can also be problematic. Once oil is suspended in the water column, little can be done to clean up.

The difficulties associated with recovering heavy crude oil were recently borne out in Michigan where, nearly four years after the spill of heavy crude oil into the Kalamazoo River, the river's bottom sediment remains contaminated and stretches of the river remain closed to the public.[291] Such a closure would be devastating to not only the invaluable ecosystem of the Hudson River, but also to the region's tourism-based economy. A rule that would allow the transport of heavy crude by deficient DOT-111 rail cars would decrease our ability to protect our natural resources from the devastating impacts of a spill.

## D. A Hudson Oil Spill Would Decimate the River Ecosystem and Local Communities

A spill of crude oil into the Hudson River ecosystem would cause long-lasting, if not permanent, damage to the estuary's populations of aquatic species and the entire ecosystem. Oil causes harm to fish and wildlife through physical contact, ingestion, inhalation and absorption. Fish can be impacted directly through uptake by the gills, ingestion, or through the skin, and effects on eggs and larval survival are significantly affected by changes in the ecosystem such as the presence of oil. The egg and larval stages of organisms are impacted more quickly, and spills can wipe out entire age classes, causing population dips and cascading food chain impacts that have a lasting impact. It wasn't until four years after the 1989 Exxon Valdez oil disaster that the herring population collapsed; 25 years later, it still has not recovered.[292]

Adult fish may experience reduced growth, enlarged livers, changes in heart health and respiration rates, fin erosion and reproductive impairment, as well as significant reproductive impacts. Floating light oil such as Bakken crude can contaminate plankton, including fish eggs and larvae, and then fish feeding on these organisms can subsequently become contaminated through ingestion of contaminated prey or by direct toxic effects of oil. Crude oil has been detected in sediment more than thirty years after a spill.

A spill of heavy tar sands crude would be especially devastating to the aquatic resources of the Hudson River. According to the U.S. Coast Guard, "oils with densities higher than the

289 Final EIS for Proposed Keystone XL Project, Section 3, Environmental Analysis 3.13-52.
290 National Research Council Committee on Marine Transportation of Heavy Oils, Marine Board Commission on Engineering and Technical Systems, Spills of Nonfloating Oils, Risks and Response 53 (1999).

292 Exxon Valdez Oil Spill Trustee Council Pacific Herring Fact Sheet, available at: http://www.evostc.state.ak.us/index.cfm?FA=status.herring

receiving water (above the line) will sink."[293] This characteristic, coupled with evidence that its chemical makeup may be even more toxic than lighter types of crude, presents a significant and distinct risk to water quality, environmental function, and aquatic habitat.

The methods used to respond to oils spills can also have negative impacts on aquatic ecosystems. The dispersants, surfactants, biological additives, bioremediation, in situ burning and dredging that are used during response can have adverse effects on aquatic organisms.[294]

A spill of crude not only threatens the estuary's wildlife and water quality, but also public safety and onshore resources. A crude oil spill has the potential to cause consumers served by drinking water intakes in the Hudson River to lose access to potable water. Those Hudson River intakes supply Rhinebeck, Hyde Park, Staatsburg, Highland, Port Ewen, Lake DeForest and the City and Town of Poughkeepsie. In addition, the Hudson River shoreline is a heavily populated area, and all along the waterfront, restaurants, boat launches, and parks draw people to the shoreline just feet away from the CSX River line. Both the CSX and Canadian Pacific railways route trains directly through densely populated towns and cities that line the riverbanks in the Hudson River Valley.

In the event of a spill, nearby residents could experience the same adverse effects that were reported after recent spills in Michigan and Arkansas. "After the Kalamazoo River spill, 331 people reported adverse [health] effects, including nausea, respiratory distress, and headaches—although none required hospitalization."[295] Similarly, following heavy crude spill in Mayflower, Arkansas, air monitoring data showed significantly increased levels of benzene in the ambient air, and residents living close to the spill reported increased headaches, nausea, and respiratory effects.[296]

Finally, eighty-four waterfront communities depend on the Hudson River as the driver of the region's $4 billion dollar tourism and recreation industry. Many of these communities have invested significantly in re-vitalizing their waterfronts. Continued crude-by-rail transport the Hudson River jeopardizes the past 40 years of progress in cleaning up the Hudson, and endanger the tourism economies and investments of these Hudson River communities.

The unique ecological, scenic, historic, cultural and economic value of the Hudson River to one of the most densely populated areas in the country remains at risk if PHMSA's proposed rule-making is adopted. There is too much at stake on the Hudson to risk an environmental disaster that could dwarf General Electric's infamous discharge of PCBs.

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293 U.S. Coast Guard, NY and NJ ACP; Annex w Contingency Planning Annex For Group V Oil (non-floating) 2 (2011)
294 Ramachandran, Shahunthala D., "Oil dispersant increases PAH uptake by fish exposed to crude oil", Ecotoxicology and Environmental Safety, November 2004.
295 NOAA, Technical Memorandum NOS OR&R 44; Transporting Alberta Oil Sands Products: Defining the Issues and Assessing the Risks 6 (2013)
296 Id.

## E. PHMSA's Routing Regulations Must Be Amended to Protect Vital Natural and Cultural Resources, Including the Hudson River

Given the unacceptable risk of significant impacts to (and ultimate potential devastation of) vital water resources like those of the Hudson River that are presented by the transport of crude oil on rail lines along the shores of these waters, a methodology must be adopted to identify and protect these areas by choosing routes that avoid them or by implementing stringent safety measures, including heightened operational and tank car standards, if they cannot be avoided. Commenters urge PHMSA to amend its proposed rule-making with respect to routing to modify 49 CFR § 172.820 to ensure that the unique nature of especially sensitive and significant natural and cultural resources and the potential for oil spills to cause harmful impacts to those resources, as well as to public health, are emphasized when conducting the routing analysis for the transport of these materials.

The rule should provide for designation of highly important natural and cultural resources near rail lines across the country. These designated areas in turn must be avoided by carriers when planning routes for the transport of both light and heavy crude oil. In the event they cannot be avoided, any train carrying any type of crude oil must be subject to heightened standards for operational methods and tank car design, including the most stringent option proposed for the DOT Specification 117 standard, braking requirements, and speed restrictions.

Application of these restrictions is especially warranted for rail lines such as the CSX River Subdivision line on the western shore of the Hudson, which is a one-track option corridor. The Hudson River and its residents and natural resources are too exposed, and the risks are too great, to allow for transport of either explosive, Bakken crude or heavy, sinking crude along its shores and through its communities. Therefore, the Hudson should be designated and protected, as should other similarly situated waterbodies, to ensure the preservation of vital environmental, cultural and economic resources that those waterbodies provide, as well as the health and safety of the communities that rely on them.

## VI. PHMSA CANNOT MOVE FORWARD WITH ITS RULEMAKING WITHOUT COMPLETING AN ENVIRONMENTAL IMPACT STATEMENT UNDER NEPA

When describing the fundamental objective of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321-47, the Supreme Court proclaimed, "NEPA promotes its sweeping commitment to prevent or eliminate damage to the environment and biosphere by focusing Government and public attention on the environmental effects of proposed agency action" so that the "agency will not act on incomplete information only to regret its decision after it is too late to correct."[297] To fulfill its purpose, NEPA requires federal agencies "to the fullest extent possible" to prepare an environmental impact statement (EIS) for "every . . . major Federal actio[n] significantly affecting the quality of the human environment."[298]

[297] *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989).
[298] 42 U.S.C. § 4332(2)(C).

When a federal agency is unsure whether an action will cause a significant environmental impacts, the Council on Environmental Quality (CEQ) regulations implementing NEPA require the agency to develop an environmental assessment (EA) that includes (1) the need for the proposed action, (2) alternatives to the proposed action as required by 42 U.S.C. § 4332(2)(E), (3) the environmental impacts of the proposed action and alternatives, and (4) a list of the agencies and persons consulted.[299]

Where substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor, an EIS must be completed.[300] The CEQ regulations require the agency with primary responsibility for preparing the EIS to consider ten factors measuring the significance of environmental impacts.[301] Among other factors, the agency must consider the beneficial and adverse impacts of the project, the effect on the public health and safety, unique characteristics of the geographic area, the degree to which possible effects are highly controversial, uncertain or involve unique or unknown risks, cumulatively significant impacts, and whether the proposed action will violate any laws or standards of environmental protection. The lead agency must also "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from study, briefly discuss the reasons for their having been eliminated."[302] The alternatives analysis "is the heart" of the Environmental Impact Statement.[303]

PHMSA's EA for its rulemaking on the Safe Transportation of Crude Oil and Flammable Materials is deficient because it did not consider reasonably foreseeable significant environmental impacts and unjustifiably eliminated feasible alternatives from consideration. The potential environmental impacts that would result from increased transport of tar sands oil in unsafe railcars, as well as feasible alternatives to that result, must be considered in the EA and, moreover, warrant a full review in an EIS.

As discussed above, PHMSA estimates that as a result of the proposed rulemaking, "23,237 existing [DOT-111 and CPC-1232] cars would be transferred to tar sands service."[304] The expanded tar sands transport operations and corresponding increased spill risk would impose a unique and significant impact on communities, the environment, and the economy. Due to the nature of tar sands oils, they tend to submerge and persist when spilled in marine environments.[305]

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[299] 40 C.F.R. § 1508.9(b).
[300] *Cal. Wilderness Coalition v. Dep't of Energy*, 631, F.3d 1072, 1997 (9th Cir. 2011).
[301] 40 C.F.R. § 1508.27.
[302] Id.
[303] 40 C.F.R. § 1502.14.
[304] RIA, at 81; 79 F.R. at 45060.
[305] *See, e.g.*, Jeffrey W. Short Ph.D, SUSCEPTIBILITY OF DILUTED BITUMEN PRODUCTS FROM THE ALBERTA TAR SANDS TO SINKING IN WATER, 13 (2013); U.S. COAST GUARD, NEW YORK AND NEW JERSEY AREA CONTINGENCY PLAN; ANNEX W CONTINGENCY PLANNING ANNEX FOR GROUP V OIL (NON-FLOATING) 2 (2011).

This characteristic, coupled with evidence that its chemical makeup may be more toxic than other types of crude,[306] makes these oils extremely dangerous. Once spilled, tar sands oils are also nearly impossible to locate and recover.[307] One of the most disastrous oil spills in recent years occurred when a pipeline ruptured, spilling tar sands oils into the Kalamazoo River. The cost of recovery for that single spill has been estimated at more than $1 billion.[308] PHMSA has already acknowledged this grave risk posed by heavy tar sands oils: "[t]he bitumen-laden heavy crude from the tar sands is not as volatile as light crude **but it may be particularly damaging to the environment.**"[309] These "particularly damaging" properties of tar sands must be evaluated before PHMSA implements a rulemaking which will increase tar sands transport and corresponding potential for spills.

PHMSA must also consider a number of alternative rulemakings, including those which would (1) immediately prohibit crude oil transport in DOT-111s; (2) extend the rulemaking to prohibit transport of crude oil or bitumen derived from tar sands; and/or (3) define HHFTs as trains carrying ***one*** or more tank carloads of flammable liquids (including crude oil and ethanol). PHMSA has not provided justification for rejecting any of these three alternatives.

First, an immediate prohibition on crude oil shipment in DOT-111 cars is a feasible, prudent alternative to the proposed rulemaking. Given NTSB's conclusion that "using DOT-111 tank cars to ship flammable liquids creates an unacceptable public risk," [310] PHMSA's proposal to allow continued use of DOT-111s for HHFTs until 2020 unnecessarily endangers public health. An immediate ban would reduce the risk of explosion or spill, just as it has in Canada, where the use of some DOT-111 tank cars to ship crude oil has already been banned and a surcharge has been imposed on other DOT-111 crude oil shipments.[311] PHMSA should follow Canada's lead.

Second, due to the potentially significant impacts that tar sands oils could cause when spilled, PHMSA should expand the rulemaking to apply to tar sands oils. As discussed above, tar sands oils present their own unique set of potential impacts, which could be "particularly damaging" for the environment,[312] and the rulemaking as proposed would increase potential for

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[306] ALLIANCE FOR THE GREAT LAKES, OIL AND WATER: TAR SANDS CRUDE SHIPPING MEETS THE GREAT LAKES?, at 8 (2013) (citing U.S. Geological Survey (USGS), Heavy Oil and Natural Bitumen Resources in Geological Basins of the World (2007), *available at* http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf).
[307] NATIONAL RESEARCH COUNCIL COMMITTEE ON MARINE TRANSPORTATION OF HEAVY OILS, MARINE BOARD COMMISSION ON ENGINEERING AND TECHNICAL SYSTEMS, SPILLS OF NONFLOATING OILS; RISKS AND RESPONSE 53 (1999) (internal citations omitted); ALLIANCE FOR THE GREAT LAKES, OIL AND WATER: TAR SANDS CRUDE SHIPPING MEETS THE GREAT LAKES?, at ii (2013).
[308] EPA, Dredging Begins on Kalamazoo River (Aug. 2013), http://www.epa.gov/region05/enbridgespill/pdfs/enbridge_fs_201308.pdf (last visited Sept. 9, 2014; Max Paris, *Enbridge's Kalamazoo cleanup dredges up 3-year-old oil spill*, CBC NEWS (Sept. 6, 2013), available at http://www.cbc.ca/news/politics/enbridge-s-kalamazoo-cleanup-dredges-up-3-year-old-oil-spill-1.1327268
[309] RIA, at 81, n. 66 (emphasis added).
[310] NTSB Comments on PHSMA 2013-0082 at 1-3 (Dec. 5, 2013).
[311] Press Release, Gov't of Canada, Addressing the Safety of DOT-111 Tank Cars Carrying Dangerous Goods (Apr. 4, 2014), available at http://news.gc.ca/web/article-en.do?nid=841119 [hereinafter Canadian Press Release].
[312] RIA, at 81, n. 66

tar sands spills. PHMSA must consider the potential benefits of prohibiting the use of DOT-111s for tar sands transport.

Third, given that a spill of a single DOT-111 tank car could result in the explosion or release of 35,000 gallons of oil, an event which PHMSA has deemed a "considerable oil spill,"[313] PHMSA should consider an alternative that unqualifiedly prohibits the use of DOT-111 cars for transporting flammable liquids. To do so, PHMSA could define HHFTs as trains carrying one or more tank carloads of flammable liquids.

PHMSA cannot move forward with its proposed rulemaking until it corrects deficiencies in the EA and completes a full EIS that details the potential impacts of transferring DOT-111 cars from Bakken crude to tar sands service and evaluates reasonable potential alternatives to its slow phase-out of the use of DOT-111s for flammable liquid transport.

## VII. CONCLUSIONS

In examining the warnings and concerns discussed in numerous DOT, FRA, PHMSA, NTSB, and CRS reports, orders, and recommendations, it is clear that DOT-111 rail cars and the regulations in place governing their use are insufficient to protect public health and welfare. Robust changes are needed in all aspects of rail car regulation – from safety and spill response to design and financial assurance. Moreover, these changes are needed now. The DOT has the authority to make these changes effective immediately, and it has a duty to protect the public and the environment from the hazards of crude-by-rail in the present, not just in the future. The proposed regulations do not go far enough, fast enough, in requiring better financial protections for communities, better spill response plans for each tank car, better tank cars, or better oversight.

Consequently, because crude-by-rail is an increasingly dangerous threat – not only because of its inherent risks, but also because the volume shipped by rail across the nation is growing at an exponential rate – the Commenters call on DOT to issue an Emergency Order to immediately address the imminent danger posed by rail transport of crude oil in defective cars over failing rail infrastructure with inadequate response capacity, financial assurance and governmental oversight in place.

The regulations as currently proposed are insufficient to protect public health and welfare. Robust changes are needed in all aspects of rail car regulation, including tank car standards, spill response plans, financial assurance, and governmental oversight of hazardous material shipped in all sizes of unit trains. As PHMSA constantly reiterates throughout its proposed rulemaking, crude-by-rail dangers stems from three factors – the inherent danger of the material being shipped, the known and quantifiable flaws in the railcar design, and the fact that crude oil is most often shipped in large unit trains. By failing to address any of these three main issues, or even propose addressing problems like infrastructure or oversight, these proposed regulations are fatally flawed and should be withdrawn.

[313] 79 F.R. at 45061, Table 22.

Immediate action is needed to address these concerns:

- Railroads should be required to develop comprehensive response plans for rail lines transporting any quantity of any kind of crude oil that are keyed to coastal and inland response plans developed by USCG and EPA. In other words, for every area contingency plan, inland or coastal, every railroad transporting crude oil should be required to have a region-specific comprehensive response plan. This requirement should take effect immediately; the current advanced notice of proposed rulemaking promises a long-term review process that leaves communities unprotected in the interim.

- We recommend the immediate prohibition of DOT-111s use for transporting hazardous materials, including crude oil. The proposed phase-out would take too long (up to five years, if the regulations are approved on schedule) and would continue to expose the public to a significant risk of disaster. Moreover, the PHMSA proposal has too many loopholes; it fails to regulate crude-by-rail in any form if there are fewer than 20 railcars of crude oil (of any kind) or if a unit train of any length carries tar sands/heavy oils. Indeed, PHMSA "anticipates no existing tank cars will be forced into early retirement," meaning that over 23,000 railcars will be switched to hauling tar sands, heavy crude,[314] despite knowing that such cars can "almost always be expected to breach in the event of an accident."[315]

- All hazardous materials being transported through communities, along sensitive habitats, and over aging infrastructure should be reported, either in real-time or in regular and frequent updates, to state and local governments. This information should be publicly available. PHMSA, without explanation or cause, proposes making emergency response information confidential. As any amount of crude can cause a disaster, and disaster can strike in any community, the people have a right to know how their safety is being impacted, and is changing as the amount of crude-by-rail trains continue to increase year after year.

If PHMSA proceeds with its proposed rulemaking, we urge the agency to fulfill its duty to protect the public by revising its proposed rules as recommended in these comments so that the strongest regulations possible can be implemented, after completing a full EIS that examines potential alternatives that may be more protective, as required by NEPA. We urge PHMSA to promulgate regulations that are much more protective of public welfare and the environment than what has been proposed and that specifically address the following issues, along with others identified in our comments:

- Allowing the railroads to continue to self-report, self-certify, and self-audit when it comes to infrastructure, routing, safety, and security invites another crude-by-rail disaster; human error and infrastructure problems are identified as some of the biggest causes of derailments (significantly so), yet are unaddressed by this rule. PHMSA should incorporate other rulemakings (such as FRA's securement proposal) into the final rule, and, with DOT, issue an emergency order that mandates thorough recordkeeping, addresses the financial

[314] 79 F.R., at 45060.
[315] 79 F.R., at 45025.

responsibility shortcomings of the crude-by-rail industry, and increases the required track inspection, repair and reporting minimums.

- We propose that PHMSA also use this rulemaking to increase penalties for non-compliance and fix what even PHMSA admits is a broken federal agency database of spills, response, and impacts. In the rulemaking notice, the agency points to a lack of coherent data management practices, noting that "neither PHMSA nor FRA databases capture all derailments of all trains carrying crude" and that even when their databases do capture a disaster, the inputted information rarely matches reality. PHMSA and FRA should rebuild their database program to put the oversight of crude-by-rail disaster reporting in the hands of one agency, in one database, where the public has readily available access to thorough, frequently updated and vetted information on the nature, cause, type, and status of hazardous material derailments and releases.

- We conclude that PHMSA's proposal to limit speed only in municipalities with high populations is not defensible. PHMSA appears to concede that train derailments are caused in part by speed. However, by proposing to allow high speeds to continue in less densely populated areas and sensitive ecosystems, PHMSA is knowingly continuing to put all of the citizens of the nation who live in such areas at direct risk. This rulemaking should protect all members of the public with agency-conducted routing analyses, speed limits, and other operational protections that apply track-wide, not only in some areas. Moreover, this rulemaking does not address the enforceability of speed limits for crude-by-rail, nor provide enhanced penalties for noncompliance, failures that must be addressed for any operational changes to have real world benefits.

In sum, given the gravity of the threat of crude-by-rail, we call on the DOT, FRA, and PHMSA to issue an Emergency Order to immediately put in place rules and regulations incorporating our comments herein to protect the nation, its communities, and its environment from the impacts of crude-by-rail transport. In addition, we strongly recommend that any subsequent proposed rulemaking be developed to fully address all of the elements of risk of crude oil transport by rail that PHMSA, FRA, DOT, NTSB and others have detailed over the past year.

Sincerely,

Paul Gallay
President and Hudson Riverkeeper
**Riverkeeper, Inc.**

Ned Sullivan
President
**Scenic Hudson**

cc: U.S. Congress
Department of Transportation
Federal Railroad Administration
Environmental Protection Agency
Coast Guard

# Appendix A
# Detailed Background

## I. Introduction

Over the past year, federal agencies have taken a handful of actions in attempting to manage and mitigation the risks associated with the transportation of crude-by-rail. These took the form of Emergency Orders, immediately-in-force directives from the DOT which can be issued to mitigate or prevent an imminent hazard, and safety advisories from PHMSA and FRA. At the same time, the National Transportation Safety Board (NTSB) made recommendations for improvements in crude-by-rail regulation and oversight, and the industry made voluntary changes to internal rail protocols.

As mentioned above, some of these Emergency Orders are forming the basis for elements of PHMSA's proposed rule (e.g., classification and notification orders). Other elements of the proposed regulations are based on industry actions taken to-date (either building upon or codifying those protocols) and NTSB recommendations. As such, a more elaborate discussion of these background actions is presented here.

## II. Past Agency Actions

Beginning in August, 2013, in the wake of the Lac-Mégantic rail disaster where 47 lives were lost, the DOT and its subagencies repeatedly and thoroughly catalogued the dangers posed by this new transportation mode. Yet, in no instance did any action lead to real protections for the people, environment, and economies of the nation. Communities from California to the Gulf, Virginia to the Hudson River Valley, and the Pacific Northeast through the Great Plains continue to exist under the daily, on-going threat of the next crude-by-rail disaster. Most concerning for the proposed regulations at issue here is that PHMSA is seeking to codify many of these actions – in some cases as weaker standards, in none as stronger.

Under federal law, the DOT is authorized to "issue or impose emergency restrictions, prohibitions, recalls, or out-of-service orders, without notice or an opportunity for a hearing" in order to abate an imminent hazard.[1] In issuing an Emergency Order, which has been done three times in the past year, the DOT must include in writing a description of the causes of the imminent hazard, the planned changes ordered, and how entities like railroads can come into compliance.[2] As described in the most recent Order,

> "An imminent hazard, as defined by 49 U.S.C. 5102(5), constitutes the existence of a condition relating to hazardous materials that presents a substantial likelihood that death, serious illness, severe personal injury, or a substantial endangerment to health, property,

[1] 49 U.S.C.S § 5121(d)(1).
[2] 49 U.S.C.S § 5121(d)(2).

> or the environment may occur before the reasonably foreseeable completion date of a formal proceeding begun to lessen the risk that death, illness, injury or endangerment."[3]

In short, if is a disaster is reasonably likely to occur before potentially preventative regulations can be issued, the DOT can take immediate action to protect people, property, and the environment. Significantly, PHMSA assumes there will "be between 0 and 10 higher consequence events over 20 years, in addition to the 5 to 15 annual mainline lower consequence [events] predicted based on extrapolation of the existing U.S. safety history."[4] Given that damages "from high-consequence events could reach $14 billion over 20 years in the absence of the rule,"[5] crude-by-rail seems to fit clearly within the definition of an imminent hazard.

Unlike Emergency Orders, which are binding, immediately effective, and established by law, the DOT and its subagencies also issue "safety advisories" that have no enforceability and are not binding on any entities. Many such notices, most often taking the form of suggested changes to industry practices to address demonstrable hazards and significant risks, have also been issued for the crude-by-rail industry in the past year.

Between three emergency orders and four safety advisories, the DOT and its subagencies have clearly been busy trying to manage the hazards posed by crude-by-rail. Unfortunately, none of these actions go far enough to protect the public or the environment.

***Safety Advisory: Lac-Mégantic Railroad Accident Discussion, DOT Safety Recommendations (FRA, PHMSA; August, 2013).***[6]

On August 7, 2013, PHMSA and FRA jointly issued a safety advisory in the wake of the disaster at Lac-Mégantic and the DOT's recognition of the dangers of leaving hazardous material trains unattended and unsecured. In framing the recommendations, the FRA and PHMSA highlighted a series of binding, emergency order changes that Canada had implemented to address securement concerns after Lac-Mégantic. Specifically, Canada took action to require that unattended trains be locked (controls, brakes, and the locomotive itself), and that trains with dangerous goods be always attended, and always operated with two or more crew.

For trains in the United States, FRA and PHMSA echoed Canada's *concerns* over unattended, unsecure, hazardous material-carrying trains, but did not go as far with U.S. *requirements*. To address some of these problems, the DOT issued an Emergency Order (discussed next).

For the remaining problems the agencies simply made non-binding recommendations calling for railroads to update many elements of their operating procedures, including:

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[3] Emergency Restriction/Prohibition Order, May 7, 2014, DOT Docket No. DOT-OST-2014-0067, available at http://www.dot.gov/briefing-room/emergency-order (last accessed, August 11, 2014).
[4] RIA, at 192-193. Docket #PHMSA-2012-0082-0179.
[5] RIA, at 193.
[6] 78 F.R. 48224 (August 7, 2013).

- Calling on oil offerors to evaluate their classification and packaging procedures and their train security procedures for crude oil, amending only where railroads see a need;
- Suggesting railroad companies perform a self-audit of operational test compliance, and determine if they're monitoring their own practices often enough;
- Asking railroads and oil offerors to begin to study the flash point, corrosivity, and specific gravity of crude oils loaded onto rails; and
- Asking railroads to consider reviewing an increase in train crews (from one to more than one) for trains with more than 20 railcars of Class 3 crude oil.

In sum, FRA and PHMSA advised railroads to internally review whether updates are needed in many aspects of rail operation.[7]

***Emergency Order: Establishing Additional Requirements for Attendance and Securement of Certain Freight Trains and Vehicles on Mainline Track or Mainline Siding Outside of a Yard or Terminal (DOT, FRA; August, 2013).***[8]

On August 7, 2013, at the same time as the above safety advisory, the DOT issued an Emergency Order establishing securement requirements for unattended trains, including crude-by-rail trains. Unlike the safety advisory, this Emergency Order focuses more on securement than internal railroad program reviews, and is binding. As a basis for the Order the DOT notes that between January 2010 and August 2013 there were nearly 4,950 instances of noncompliance with *existing* securement regulations at unattended trains.

"Moreover," continued the DOT, "FRA has seen a number of serious accidents during rail transportation of flammable liquids since 2009, and there has been significant growth in these types of rail shipments since 2011."[9] Clearly, the DOT is concerned that this history of noncompliance, coupled with increasingly dangerous cargoes and rail traffic, will lead to more disasters in the future. "With increased shipments of hazardous materials," noted the DOT, "securement non-compliance, particularly on mainline track and mainline sidings outside of a yard or terminal, has become a serious, immediate safety concern."[10]

Even given this clear concern, the DOT failed to take broad look at the changes needed in crude-by-rail regulations. According data provided in the Emergency Order, between 2009 and 2013, 35.7% of all accidents were the result of human-factor causes; of those, for calendar year 2011 through April 2013, about 8.5% were the result of improper securement.[11] Inexplicably, then, for its first Emergency Order (and therefore first binding action) on crude-by-rail, the DOT chose to limit its actions to addressing the cause of only around 3% of all train accidents.

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[7] Contrast these suggestions to the actions taken by Canada. There, the regulators did not simply suggest that railroads consider putting more than one crewmember on a train with more than 20 cars of dangerous cargo, the nation's transportation agency mandated, in a binding, immediately-effective emergency order, that trains with more than one car of dangerous cargo have at a minimum two crew onboard.
[8] 78 F.R. 48218 (August 7, 2013).
[9] 78 F.R. 48218.
[10] Id., at 48222.
[11] Id., at 48221.

To address this 3% of accidents, and "to eliminate an immediate hazard of death, personal injury, or significant harm to the environment,"[12] the DOT mandated the following in its Emergency Order:

- A prohibition on leaving trains unattended on mainline tracks or sidings, only until such time as the railroads "develops, adopts, complies with and makes available to FRA upon request, a plan that identifies specific locations and circumstances when such trains or vehicles may be left unattended."[13] FRA would be able to require railroads to give "adequate justification" for leaving trains unattended.
- A requirement that, if a train is left unattended, the controlling locomotive cab is locked (or some of the controls removed) and the employees responsible for that train notify their railroad dispatcher as to the details of their train's load and location, and the conditions (of the train, track, and weather) the train was left in.
- A requirement that all railroads inform all affected employees of these new requirements.

While these new requirements carry with them a penalty for noncompliance of up to $105,000, the DOT notes in the Emergency Order that with "limited resources, FRA can inspect only a small percentage of trains and vehicles for regulatory compliance."[14]

Overall, the U.S. response to the Lac-Mégantic disaster was to issue a new set of emergency directives prohibiting unattended trains. This requirement carried with it a loophole; if the railroad believes there's a reason to leave a train unattended, it may, so long as it informs its own dispatcher where the trains are left unattended and confirms (internally) that the train is safely secured as per the railroad's own internal securement regulations. An easily-avoided requirement that at best was only going to address 3% of accidents is grossly inadequate and by no means addresses the safety risks posed by the "significant growth" in crude-by-rail or the lessons learned after Lac-Mégantic.

***Safety Advisory: Safety and Security Plans for Class 3 Hazardous Materials Transported by Rail (PHMSA, FRA; November, 2013).***[15]

On November 20, 2013, three months after issuing the first Emergency Order and Safety Advisories on crude-by-rail, PHMSA and FRA issued another Advisory. This notice, unlike the August 2013 advisory, did not recommend that the industry take any action. Instead, PHMSA and FRA chose to "once again *reinforc[e]* the importance of proper characterization, classification, and selection of a hazardous materials packing group … [and] *emphasiz[e]* that

[12] Id., at 48218.
[13] See 78 F.R. 48223. Note that, for this Order and many DOT, F.R.A, and PHMSA actions later – including the proposed rulemaking at issue today – these new requirements are only required for trains carrying "(1) Five or more tank car loads of any one or any combination of materials poisonous by inhalation as defined in 49 C.F.R. 171.8, and including anhydrous ammonia (UN 1005) and ammonia solutions (UN 3318); or (2) 20 rail car loads or intermodal portable tank loads of any one or any combination of materials listed in (1) above, or, any Division 2.1 flammable gas, Class 3 flammable liquid or combustible liquid, Class 1.1 or 1.2explosive, or hazardous substance listed in 49 C.F.R. 173.31(f)(2)." 78 F.R. 48218, Appendix A.
[14] Id.
[15] 78 F.R. 69745 (November 20, 2013).

offerors of hazardous materials by rail and rail carriers should have reviewed and revised, as appropriate, their safety and security plans."[16] In effect, the agencies simply referred back to suggestions made three months prior and announced that they would be checking up on the industry's progress in a more deliberate fashion.

Unfortunately, this Safety Alert (reemphasizing that rails should internally review their procedures) was not issued in time to affect the outcome of yet another oil disaster on rails. On November 8, 2013, a train "hauling 90 cars of crude oil from North Dakota to a refinery near Mobile, Alabama," travelling "under the speed limit" and "on a shortline railroad's track that had been inspected a few days earlier," derailed.[17] At this spill, in Aliceville, Alabama, 30 cars derailed and around a dozen burned.

***Safety Alert: Preliminary Guidance from Operation Classification (PHMSA; January, 2014).[18]***

After Lac-Mégantic, Aliceville, two advisories and an Emergency Order, the nationwide incidence of train accidents continued unabated. On December 30, 2013, in Casselton, North Dakota, a 106-car unit train carrying Bakken crude oil struck an oncoming train (on a parallel track) and derailed.[19] Almost a fifth of the cars carrying crude exploded and burned for a full 24 hours, necessitating the evacuation of 1,400 residents.[20] "Based upon preliminary inspections conducted after recent rail derailments in North Dakota, Alabama and Lac-Mégantic, Quebec involving Bakken crude oil," PHMSA issued another alert in January, 2014.[21] In the alert, as it had in its previous action, PHMSA chose to reinforce the importance of "the requirement to properly test, characterize, classify, and where appropriate sufficiently degasify hazardous materials prior to and during transportation."[22]

Upon reinforcing, this third time, the need to properly handle crude oil rail shipments, PHMSA released one new finding and one new warning. First, the new finding was a preliminary report from Operation Classification where PHMSA concluded that the agency "needs to expand the scope of … testing to measure other factors."[23] In other words, even in the wake of disaster after disaster, and months of investigations, PHMSA had no substantive conclusions upon which to recommend any changes to classification processes. Second, the new warning took the form of a broad statement to the public and emergency responders wherein PHMSA warned that "the type of crude oil being transported from the Bakken region may be

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[16] 78 F.R. 69745 (emphasis added). A new announcement was also included in the advisory, notifying the industry that PHMSA had recently launched an enforcement operation called "Operation Classification" and that F.R.A would be conducting more safety and security plan field audits.
[17] CRS Report, at 12.
[18] Safety Alert 3, available at http://www.phmsa.dot.gov/pv_obj_cache/pv_obj_id_111F295A99DD05D9B698AE8968F7C1742DC70000/filename/1_2_14%20Rail_Safety_Alert.pdf (last accessed August 11, 2014).
[19] CRS Report, at 12.
[20] CRS Report, at 12.
[21] Safety Alert 3, *supra*.
[22] Id..
[23] Id..

more flammable than traditional heavy crude oil."[24] No action was taken by PHMSA to suggest ways to mitigate this extra flammability, or to develop programs for the public and first responders to learn about their vulnerability to this extraordinary risk.

Therefore, after three major oil spills, several smaller spills, and months of review, PHMSA chose to reiterate that the industry should follow the law, announce that the public might be in more danger than originally assumed, and defer making any changes to the way crude-by-rail was regulated, oil spills avoided, or disasters mitigated.

***Emergency Order: Requiring Stricter Standards to Transport Crude Oil by Rail (DOT; As Amended, March, 2014).[25]***

In March 2014, the DOT announced a new Emergency Order, again claiming that the Order represented a new era of stricter standards for the transport of crude oil by rail.[26] Over and above the previous Orders noting the dangers of crude-by-rail, this Order recognizes the "*continued* dangers" of crude-by-rail that pose "an imminent hazard to public health and safety and the environment."[27] As noted above, and again by the DOT here, emergency orders are allowed by law only where the normal rulemaking process cannot remedy a dangerous condition in time to prevent likely impacts.

As a basis for this particular Order, DOT noted that "[m]isclassification is one of the most dangerous mistakes to be made when dealing with hazardous materials … [and] may indicate larger problems with company management, oversight, and quality control."[28] Generally, the DOT again called to the public's attention the fact that "the flammability of petroleum crude oil being shipped by bulk rail poses a significant risk of substantial endangerment to health, property, or the environment when an explosion occurs."[29]

Upon information derived from the most recent railroad accidents and subsequent investigations and testing, the DOT found as it did six months earlier, in August 2013, "unsafe practices related to the classification and packaging of petroleum crude oil, are causing or otherwise constitute an imminent hazard."[30] With the "dramatic growth" in crude-by-rail, the "inherently dangerous" nature of such transport, and the bulk-flammability of unit trains, the DOT again confirmed that "the risk of rail incidents" is increasing.[31] These risks were by then known realities, as evidenced by DOT's inclusion of summaries of the Lac-Mégantic, Aliceville,

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[24] Id.
[25] Amended Emergency Order, March 6, 2014, DOT Docket #DOT-OST-2014-0025 ("March Amended Order"), available at http://www.dot.gov/sites/dot.gov/files/docs/Amended%20Emergency%20Order%20030614.pdf (last accessed August 11, 2014).
[26] Order originally issued in February, 2014, but amended in March, 2014, just over a week later.
[27] March Amended Order, at 4 (emphasis added).
[28] March Amended Order, at 4.
[29] March Amended Order, at 4.
[30] March Amended Order, at 2.
[31] March Amended Order, at 5.

and Casselton crude oil disasters in its emergency order.[32] Notwithstanding the actions already taken (the safety alerts and sole Emergency Order discussed above), the DOT conceded that further action was needed; specifically:

- A new requirement that offerors ensure crude is properly tested, and that they treat Class 3 petroleum crude oil as a Packing Group (PG) I or PG II hazardous material;[33]
- A prohibition against offerors or railroads reclassifying "such crude oil with the intent to circumvent the requirements of this Amended Order."[34]

The DOT includes with this Order a summary of investigations conducted by other agencies into the risks posed by crude-by-rail, noting that the United States Department of State, Transport Canada, the Transportation Safety Board of Canada, Congressional Research Service, and the National Transportation Safety Board (NTSB) have all issued findings on the subject, and generally all of those findings point to misclassification of crude as a major source of concern. For one, the NTSB report on the classification practices of the Lac-Mégantic offerors,[35] concludes that there is "clear evidence of an ongoing problem with classification of petroleum crude oil that is being shipped by rail."[36]

The full reports issued by these agencies also point to the use of DOT-111 railcars, the routing of these trains through sensitive human and ecological communities, and the inability of PHMSA and FRA to sufficiently enforce these rules and regulations as reasons why crude-by-rail represents such an imminent threat. Despite this information and, even after recognizing the ongoing and ever-increasing use of rail for the transport of dangerous, explosive, crude oil, and after noting that disasters keep on occurring, DOT's failed to address any of the very tank car design, routing, enforcement and oversight problems highlighted in the Order.

Treating crude-by-rail as a very dangerous commodity and preventing handlers from misrepresenting its danger – even when included with the actions taken above (demanding more records as to why and where unattended trains will be left, and recommending that rail companies revisit their safety and security plans), is still, many disasters later, not enough to protect the public.

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[32] The DOT summary, however, neglected to include three other major incidents; Plaster Rock, New Brunswick (January 7, 2014, where five tank cars carrying crude oil caught fire and exploded), Philadelphia, Pennsylvania (January 20, 2014, where 7 cars of a 101-car CSX train, including 6 carrying crude oil, derailed on a bridge over the Schuylkill River, thankfully without rupturing), and Vandergrift, Pennsylvania (February 13, 2014, where 21 tank cars of a 120-car train derailed outside Pittsburgh, four of which released crude oil).
[33] March Amended Order, at 2.
[34] March Amended Order, at 3.
[35] See NTSB recommendations to PHMSA and F.R.A, available at http://www.ntsb.gov/doclib/recletters/2014/R-14-001-003.pdf and http://www.ntsb.gov/doclib/recletters/2014/R-14-004-006.pdf.
[36] March Amended Order, at 14.

***Emergency Order: Providing for Local Notification of High-Volume Rail Transport of Bakken Crude Oil (DOT; May, 2014).***[37]

Just two months after conceding that the "dramatic growth" in crude-by-rail is increasingly risky and "inherently dangerous"[38] such that proper classification of crude oil was needed, spills and derailments kept occurring.[39] In the third Emergency Order issued, in May, 2014, the DOT's tone noticeably shifted: "the number and type of petroleum crude oil railroad accidents … that have occurred during the last year is **startling**, and the quantity of petroleum crude oil spilled as a result of those accidents is **voluminous** in comparison to past precedents."[40]

For the third Order in a row and the sixth safety action taken, the DOT again recognized that there are "continued risks associated with petroleum crude oil shipments by rail," and that "further actions … are necessary to eliminate unsafe conditions and practices that create an imminent hazard to public health and safety and the environment."[41] Similarly, the DOT also repeated its conclusion that "[s]hipping hazardous materials is *inherently dangerous*."[42] Despite these admissions, the DOT yet again only called attention to the problems associated with crude-by-rail and took one small step forward – one with significant shortcomings.[43]

This third Order required each railroad "operating trains containing more than 1,000,000 gallons of Bakken crude oil (approximately 35 tank cars) … to provide the State Emergency Response Commission notification regarding the expected movement of such trains through the counties in that state."[44] Specifically, these disclosures had to "provide a reasonable estimate of the number of trains [per crude-by-rail route] implicated by this Order that are expected to travel, per week, through each county within the state."[45]

This Emergency Order is concerning to the commenters for two reasons (beyond the fact that it again fails to address train operation, human error, oversight, railcar design, or infrastructure).

First, the DOT is leaving updates to these disclosures in the hands of the railroads. According to the Order, railroads will only be required to initially "make a reasonable estimate as to the number of [million gallons of Bakken-carrying] trains expected to travel through a county per week" Then, thereafter, railroads are only required to "update the notification

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[37] 79 F.R. 27363 (May 13, 2014).
[38] March Amended Order, at 5.
[39] Between the February and May, 2014 Emergency Orders, at least three accidents of crude-by-rail and ethanol trains occurred – LaSalle, CO, Lynchburg, VA, and Vandergrift, PA. See RIA, at 19 (Table 1),
[40] See 79 F.R. 27363 (emphasis added).
[41] Id.
[42] Id. (emphasis added).
[43] In most of these actions, DOT or PHMSA/F.R.A usually includes a statement along the lines of "notwithstanding previous actions" – thereby showing that they have indeed taken action – without including a discussion or analysis as to whether (or to what extent) those previous actions mitigated, remedied, or prevented crude-by-rail hazards. Not sure that this footnote adds much. Would recommend leaving out.
[44] Id.
[45] Id.

whenever a significant increase or decrease in that estimated number occurs."[46] No oversight of these updates is necessarily promised (other than an initial audit of disclosures by FRA), nor are there any required timeframes within which railroads must reassess their train schedules. As the point of this requirement is to inform first responders, the DOT should require, at a minimum, immediate notification to states whenever there is *any* deviation from submitted schedules.

Second, we are concerned that the threshold that triggers this notification requirement is arbitrary and not sufficiently protective. The DOT claims that its 1 million gallon threshold for reporting "ensures DOT is assisting local emergency responders to be prepared for the type of accidents that have been occurring regularly, and represent the greatest risks to public safety and the environment with regard to the transportation of Bakken crude oil."[47] The agency notes that this minimum shows that it is "not unnecessarily imposing safety-related burdens on lesser risks that have not, to date, proven to represent the same safety and environmental concerns."[48] Clearly, given the record of crude-by-rail disasters highlighted by the DOT itself, this is an unsubstantiated assumption. For instance, in Lynchburg, Virginia, fewer than 35 railcars derailed, and fewer still were punctured. Further, any type of oil carried by rail (Bakken, heavy, or processed product) could lead to "safety and environmental concerns" – whether it's one railcar exploding along a small town's Main Street, impacting its drinking water supply, or seventy cars rolling, unattended, downgrade toward disaster.

Overall, this Order requires that railroads provide vague train estimates at broad county-by-county scales without any real oversight on whether the information is accurate or timely updated. In practice, emergency response personnel will have a slightly more precise picture of just how at risk their communities are on a weekly basis. Because the Order provides no more resources, fails to address the known causes of disasters, requires no consultation between the railroads and the responders, mandates no real-time collaboration with responders, and does not even require that the FRA be given the disclosures, the DOT contention that this Emergency Order helps responders prepare for crude-by-rail disasters is questionable.[49] The Order does not help prepare these personnel.

***Safety Advisory: Recommendations for Tank Cars Used for the Transportation of Petroleum Crude Oil by Rail (PHMSA, FRA; May, 2014).[50]***

At the same time as the above "notification" Order, PHMSA and FRA released a safety advisory outlining the agencies' recommendations for crude oil tank car design. According to the advisory, anyone involved with crude oil that originates in or is sourced from the Bakken formation in the Williston Basin (collectively referred to in the aggregate as "Bakken" crude oil)

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[46] Id., "For purposes of complying with the requirements of this Order, DOT considers any increase or decrease of twenty-five percent or more in the number of implicated trains per week to be a material change."
[47] Id.
[48] Id.
[49] Perhaps recognizing this failure, the DOT included this advice in the Emergency Order: "Nothing in this Order precludes railroad carriers from taking any additional steps to communicate with state and local emergency responders regarding the transportation of hazardous commodities within a state or local jurisdiction." Id.
[50] 79 F.R. 27370 (May 13, 2014).

is encouraged "to take additional precautionary measures to enhance the safe shipment" by rail "in light of recent accidents."[51] Principally, the agencies were concerned that:

> "the number and type of railroad accidents involving Bakken crude oil that have occurred during the last year has increased, and the quantity of petroleum crude oil released as a result of those accidents is higher than past precedents," yet "[o]lder 'legacy' tank cars, … without more modern construction and design enhancements, continue to be used to transport hazardous materials, including Bakken crude oil."[52]

Despite these concerns, PHMSA's safety advisory does not carry the weight of regulation and, therefore, did not result in the industry setting aside the oldest, least-well-equipped railcars for crude-by-rail transport.

## III. Industry Actions Inadequate To-Date

In addition to the Orders and Alerts issued by federal agencies, railroads have made several changes to purportedly reduce the risks associated with crude-by-rail. In February, 2014, DOT Secretary Anthony Foxx sent a letter to the Association of American Railroads (AAR) asking the industry to take voluntary action to address the risks presented by crude-by-rail, based on the industry's commitments for improving safety and security.[53] As with the actions taken over the past year by the DOT (and its subagencies), Secretary Foxx begins this letter by recognizing the "significant growth in the quantity of petroleum crude oil being shipped by rail in recent years."[54]

### *DOT Call for Action*

This "rapid increase," according to the Secretary, "requires additional vigilance for the continued safe movement of this commodity by all stakeholders involved, including both the rail industry and the Federal Government."[55] Given this need, the Secretary highlights the "additional measures that AAR and its member railroads can take to further enhance the safe transportation of crude oil by train."[56] Those include:

- "increasing track and mechanical inspection frequency beyond that required by current regulations;
- conducting routing analyses [using existing federal regulatory regimes];
- establishing speed restrictions;
- utilizing braking systems which reduce the kinetic energy (or pile up effect) of trains in the event of derailments; …

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[51] Id.
[52] Id.
[53] Letter to the Association of American Railroads, DOT Secretary Foxx, February 21, 2014. Available at http://www.dot.gov/briefing-room/letter-association-american-railroads (last accessed, August 19, 2014).
[54] Id.
[55] Id.
[56] Id.

- [b]y no later than July 1, 2014, … adhere to a speed restriction of 40 mph [if the unit train includes] at least one 'DOT Specification 111' tank car loaded with crude oil or one non-DOT specification tank car loaded with crude oil while that train travels within the limits of any high-threat urban area; and
- [railroads should develop] an inventory of emergency response resources along routes … for responding to the release of large amounts of petroleum crude oil in the event of an incident."[57]

These suggested actions, unfortunately, have five important flaws.

First, as a harbinger of the DOT's proposed regulations (under discussion in these comments), Secretary Foxx suggests that the actions only apply when a unit train is transporting "20 or more loaded railroad tank cars containing petroleum crude oil."[58] Accidents have happened, and will continue to happen, with fewer than 20 railcars, and there is no substantive, real-world basis given by the DOT as to why it chose 20 railcars as a baseline (especially compared to the use of 35 railcars as the baseline in its May, 2014 Emergency Order).

Second, the proposed increase in track inspection ("beyond that required by current regulations") is only "at least one additional internal rail inspection." As we saw in the Lynchburg, Virginia disaster from April, 2014, two months after this letter was written, derailments can and do happen on tracks inspected (and deemed safe) just the day before.

Third, all of these suggestions are non-binding; a fact highlighted by New York State in an April 30, 2014 report prepared and issued collaboratively by four State Departments and the New York State Energy Research and Development Administration. In that report, the State notes that the voluntary measures developed by AAR and the federal DOT "are purely voluntary and cannot be enforced by federal and state regulators."[59] As the report notes, "these measures are a first step, but alone are fundamentally flawed due to their voluntary nature … [t]hey must be formally incorporated into mandatory federal regulations on an expedited basis."[60] To what extent these voluntary measures may have been adopted or implemented is generally undiscoverable; again owing to their voluntary nature.[61]

Fourth, these DOT-proposed railroad commitments such as speed reductions in high-density urban areas only apply where DOT-111 specification cars are used, and specifically exclude CPC-1232 specification railcars. Again from Lynchburg, Virginia, we learned that even

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[57] Id. Note, according to the DOT's letter requesting these changes, for the "purposes of these commitments, 'DOT Specification 111' tank cars are those cars that meet DOT Specification 111 standards but do not meet the requirements of AAR Circular CPC-1232."
[58] Id.
[59] Transporting Crude Oil in New York State: A Review of Incident Prevention and Response Capacity ("NYS Report"), April 30, 2014, at xiv. Available at http://www.eli.org/sites/default/files/docs/nyscrudeoilreport.pdf.
[60] Id., at xv.
[61] The rulemaking at issue today proposes codifying some of these changes, but only so far as they require the industry to perform internal reviews on issues such as routing and rail safety; it fails to create an enforceable oversight program, address infrastructure, or require immediate implementation of safety programs. These failings are discussed below.

CPC-1232 railcars can derail, fail, and explode. Also, as was noted in the New York State Report, basing requirements on the density of a city or town unacceptably endangers citizens across vast swaths of the nation. In New York State, the only city that meets this threshold that has rail routes through it is Buffalo. Thus, in New York, only trains with more than 20 railcars carrying crude oil in at least one DOT-111 car through the city limits of Buffalo will be subject to these safety improvements. Citizens and the environment in any other city, from Buffalo's neighbor Cheektowaga to Rockland County, remain subject to historic levels of risk. In every state in the nation, a similar dichotomy exists – a handful of urban areas are protected while scores of other communities, often the ones with fewer first-response resources, face unmitigated danger.

Fifth and finally, as highlighted by New York State, "the voluntary measures fail to account for human factors as causes of incidents."[62] DOT used data on human error as a basis for its first Emergency Order, citing to the fact that between 2009 and 2013, 35.7% of all accidents were human-factor caused.[63] The New York State Report cites other FRA data as showing that "almost half of all train accidents in New York State were caused by human factors, not equipment or track failures."[64]

***Safety Culture and Oversight***

This facet of crude-by-rail risk – a culture of safety, human error, and lax oversight – has been highlighted beyond the State of New York. In an August, 2014 summary of the Lac-Mégantic derailment, Canada's Transportation Safety Board (TSB-Canada) specifically noted how a weak safety culture of "care" on the part of certain railroads, coupled with lax oversight by railroad regulators, contributed to the Lac-Mégantic disaster.

In Quebec in August, 2013, this was the case at the now-bankrupt Montreal, Maine & Atlantic (MMA) Railway and with Canadian rail oversight of that line:

> "An organization with a strong safety culture is generally proactive when it comes to addressing safety issues. MMA was generally reactive. There were also significant gaps between the company's operating instructions and how work was done day to day. This and other signs in MMA's operations were **indicative of a weak safety culture—one that contributed to the continuation of unsafe conditions and unsafe practices, and significantly compromised the company's ability to manage risk**. [MMA's] employee training, testing, and supervision were not sufficient, particularly when it came to the operation of hand brakes and the securement of trains. Although MMA had some safety processes in place and had developed a safety management system in 2002, the company did not begin to implement this safety management system until 2010—and by 2013, it was still not functioning effectively."[65]

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[62] NYS Report, at xv..
[63] 78 F.R. 48218, at 48221.
[64] NYS Report, at xv.
[65] Lac-Mégantic Runaway Train and Derailment Investigation – Summary, Transportation Safety Board of Canada (2014), at 7. Available at http://www.tsb.gc.ca/eng/rapports-reports/rail/2013/r13d0054/r13d0054-r-es.pdf.

Each of the recent safety advisories and alerts rely in whole or in part on the follow-through and the cooperation of the rail industry – in other words on the existence of a "strong safety culture," as TSB-Canada put it. The securement Emergency Order (August, 2013), for example, prohibits unattended trains *unless* the railroad can show it has a good reason and a process in place to make sure unattended trains are safe and secure. These internally-developed plans (subject to no increased oversight or review by federal agencies) are exactly what were left unimplemented by MMA in the Lac-Mégantic disaster, owing to, as TSB-Canada noted, the "weak safety culture" of the company and its inability to manage risk effectively. In short, even if a railroad takes the safest precautions, weak oversight or lax safety program adherence (e.g., human error), can result in disaster.

Moreover, no level of safety or security planning by the industry can be considered sufficient without thorough oversight by entities like the FRA and PHMSA. As part of the TSB-Canada review of the Lac-Mégantic disaster, fault was first and foremost placed at the feet of the railroad, but reviewers also highlighted the lack of oversight from Transport Canada, the Canadian equivalent of the DOT. According to TSB-Canada's 2014 review of government oversight culture that existed at the time of the derailment, "although MMA had developed a safety management system in 2002, Transport Canada's regional office in Quebec *did not audit it until 2010—even though this is Transport Canada's responsibility, and despite clear indications (via inspections) that the company's safety management system was not effective*."[66] Indeed, the vital connection between the industry's own actions and government oversight was the impetus behind TSB-Canada's August, 2014 review update; the agency was announcing a new recommendation, R14-05, demanding that Transport Canada "take a more hands on role when it comes to railways' safety management systems—making sure not just that they exist, but that they are working and that they are effective."[67]

Industry actions largely developed internally, coupled with lax or nonexistent federal oversight, can be a sure path to crude-by-rail disaster. As DOT has often noted over the past year, including in the notice for the proposed regulations, with their "limited resources, FRA can inspect only a small percentage of trains and vehicles for regulatory compliance."[68] Where there are records, those records have shown that "the classification of crude oil being transported by rail was often based solely on a generic [data, and] it is possible no validation of the crude oil properties took place."[69]

Overall, we are concerned that industry actions taken to-date do not go far enough in preventing the next crude-by-rail disaster. PHMSA's proposed rules, discussed in the comments above, often defer to these industry protocols for the terms of several aspects of the proposal (e.g., speed limits, the definition of HHFTs, and classification programs), as well as for the resolution of many of the most pressing risks of crude-by-rail (e.g., track defect mitigation through internal industry routing analyses). The commenters are concerned that if PHMSA

[66] Id. (emphasis added).
[67] Id., at 9.
[68] 78 F.R. 48218.
[69] 79 F.R., at 45023-45024.

codifies many of these industry actions, it will have missed the opportunity to truly improve upon the safety of crude-by-rail.

## IV. National Transportation Safety Board Recommended Regulatory Changes

Directly responding to these accidents, emergency orders, agency concerns, and the dramatically increasing quantities of crude-by-rail, the NTSB sent PHMSA and FRA a series of safety recommendations calling for major changes to rail safety.[70] In January 2014, four months after the first DOT Emergency Order, the NTSB noted that "significant changes to the regulatory landscape" have occurred since 2008 – the last year in which safety updates were mandated for the FRA and PHSMA. From major growth in crude oil transportation volume and changing types of crude oil to response efficacy and declining federal budgets, NTSB made it clear that there are many new risks that need to be addressed. The NTSB then recommended that PHMSA and FRA implement a series of changes to their regulations:

- **Reroute trains**, where technically feasible, to avoid routing through populated and other sensitive areas. (Recommendations #R-14-1, R-14-4)
- **Audit response plans** for rail carriers and ensure that adequate provisions are in place to respond to and remove a worst-case discharge and mitigate or prevent a substantial threat of a worst-case discharge. (R-14-2)
- **Require better testing and documentation** of the crude offered for shipment, while also developing new transportation safety and security plans that better provide for safety and security. (R-14-3 and R-14-6).
- **Require comprehensive response plans** to effectively provide for the carriers' ability to respond to worst-case discharges resulting from accidents involving unit trains or blocks of tank cars transporting oil and petroleum products. (R-14-5)

Many of these recommendations are the basis for and supposedly incorporated into the proposed new regulations that PHMSA has published for public comment. However, as discussed herein, in contrast to the NSTB recommendations which call on the *agencies* to reroute trains around sensitive areas, on the *agencies* to audit response plans, and on the *agencies* to require new documentation and response plans, PHMSA relies too much on industry for these goals.

Furthermore, PHMSA's proposed rules do not go far enough in implementing the recommendations of the NTSB or the meeting the needs of the community, are not implemented quickly enough to address the continuously increasing risk that has been called "shocking" by the DOT, and give too much flexibility to the railroads.

## V. Conclusions

Of the three Emergency Orders issued in the past year, the commenters are concerned that none truly addressed the real causes of crude-by-rail disasters. While proper securement of

[70] Safety Recommendation R-14-1 through -3 dated January 23, 2014 and Safety Recommendation R-14-4 through -6 dated January 21, 2014 (hereafter "NTSB Recommendations").

trains left unmanned, proper classification of crude oil products, and notification of weekly estimated train traffic are all important measures for crude-by-rail safety, they fail to address problems in agency oversight, recordkeeping, response planning, infrastructure repair, human error, or the length and unwieldiness of unit trains. PHMSA's regulations, as currently proposed, fail to meet the agency's legal mandate to "consider the assignment and maintenance of safety as the highest priority" when it "prescribe[s] regulations for the safe transportation, including security, of hazardous material[s];[71] therefore, the proposals violate the law. To comply with its legal obligations, PHMSA's rulemaking, discussed in the comments above, must go beyond the minor fixes voluntarily being made by the industry, must be more expansive than the Orders and Alerts thus far issued by the government, and must address the concerns NTSB has been raising for the past three decades.

[71] 49 U.S.C. § 108(b), and 49 U.S.C. § 5103(b)(1).