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Docket Management System
U.S. Department of Transportation
1200 New Jersey Avenue, S.E., Room W12-140
Washington, D.C. 20590-0001

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Re: PHMSA Notice of Proposed Rulemaking – Pipeline Safety: Safety of Onshore Hazardous Liquid Pipelines, Docket No. PHMSA-2010-0229

Thank you for the opportunity to submit comments on PHMSA's Notice of Proposed Rulemaking (NPRM) amending your hazardous liquid pipeline regulations (49 CFR Part 195).

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the impacts of mineral and energy development while seeking sustainable solutions. For more than 25 years, we've worked to advance policy reforms, safeguard land and public health, and improve corporate practices. Our Oil & Gas Accountability Project works with local communities, partner organizations, public agencies, and elected officials to advance these goals nationwide.

Several years into the national shale boom, our work increasingly focuses on the expansion of infrastructure, including pipelines, to process, transport, and deliver oil and gas and related products. In this context, we believe that oil and gas operators that profit from the movement of their products must be held accountable for any accidents, pollution, and harm that occur as a result.

We express our support for the detailed comments submitted on this docket by Carl Weimer on behalf of the Pipeline Safety Trust (PST). We agree with PST that PHMSA has taken a step forward with the proposed rule. However, we also believe that as currently written, the proposed rule leaves far too many pipelines uninspected and gives the regulated industry far too much discretion to address problems they cause.

In light of the expansion of pipelines and increasing frequency of pipeline incidents, PHMSA should go much further in adopting binding regulations and ensuring enforcement. Given that the NPRM has been under development since 2010, it is high time that PHMSA adopt meaningful safety regulations to address the impacts of this burgeoning industry.

Expand the Scope of High Consequence Areas (HCA) and Associated Integrity Management (IM) Requirements

Earthworks believes that expanding the number of HCA-eligible places will best protect communities and the environment from the risk that pipelines everywhere pose to people, land, water, wildlife, and air. Distinguishing between HCAs and other areas that could be impacted

appears to be less about ensuring protection from harm and more about convenience for the regulated industry.

Hazardous liquid pipelines that could affect HCAs receive additional IM protections. According to PST¹, more than half of the nation's hazardous liquids pipelines are not subject to IM protocols because they fall outside of HCAs--meaning that their inspection and repair is conducted only at the discretion of operators. By allowing operators to choose when to conduct oversight and how (or even whether) to take action, PHMSA is gambling that problems will be resolved before failures occur. This is a bet not borne out by data showing rising pipeline failure rates. We request that **PHMSA make IM requirements applicable to all hazardous liquids pipelines under the agency's authority, without a distinction between those within and outside of HCAs.**

In addition, the current HCA criteria rely heavily on Census data, an approach that excludes many rural communities, farms, and neighborhoods. We appreciate that PHMSA considers environmental as well as population criteria in HCA designations. However, **PHMSA should create a petition process for the public to seek HCA designation.** Further, PHMSA should amend the HCA Definition at 49 CFR 195.450 according to the following:

1. Remove the population total and density thresholds from the HCA's "high populated areas" definition. In place of those thresholds, PHMSA should require a standard setback and extend IM requirements to pipelines that could affect occupied buildings. The setback should also apply to "other populated areas" and include all location classes under 49 CFR 192.5.
2. Current regulations characterize HCA waterways as those with a substantial likelihood of commercial navigation. In the NPRM, PHMSA acknowledges that, "Nothing in these provisions or the Pipeline Safety Act of 2011 prohibits PHMSA from using its general rulemaking authority to apply the hazardous liquid pipeline IM regulations to waterways that are not used for commercial navigation."² PHMSA should therefore replace this definition to be consistent with the Federal Water Pollution Control Act's (Clean Water Act) definition of "waters of the United States."
3. Expand Unusually Sensitive Areas (USAs), defined in 49 CFR 195.6, to better protect water resources and public lands, such as state and federal wildlife refuges and national parks, wetlands, monuments, endangered and threatened species, recreation areas, and national forests.

Extend Certain Reporting Requirements to All Gravity and Rural Hazardous Liquid Gathering Lines

Earthworks supports PHMSA's proposals to subject gravity lines and rural hazardous liquid gathering lines to annual safety and incident reporting requirements.

Require Periodic Assessments of Pipelines That Are Not Already Covered Under the IM Program Requirements

Earthworks supports PHMSA's proposal to revise 49 CFR 195.416 to require pipeline segment assessments outside of HCAs. However, PHMSA should not allow waivers from the use of inline inspection tools (ILI) in favor of direct assessments. While operators may under limited circumstances employ other non-ILI technologies, direct assessments are only effective measures of pipeline integrity where the operator knows exactly where and what to assess. Further, since PHMSA proposes (see below) to gradually phase out pipelines incapable of accommodating ILI, PHMSA should maintain consistency within this proposed rule.

Increase the Use of Inline Inspection Tools

Earthworks supports PHMSA's proposal to require that all hazardous liquid pipelines in HCAs and areas where an accident could affect an HCA become capable of accommodating inline inspection tools (ILI). However, the phase-in period is too long. PHMSA proposes to allow 20 years for what the agency calls a "gradual elimination" of pipelines that are not capable of accommodating smart pigs.³

Congress provided the basic authorization to PHMSA for an ILI rule more than a quarter century ago.⁴ Under these circumstances, PHMSA's concept of "gradual" smacks of gross understatement. PHMSA should lower the phase-in period to 5 years without allowance for waivers and should mandate ILI.

Expand the Use of Leak Detection (LDAR) Systems for All Hazardous Liquid Pipelines

PHMSA has abdicated its responsibility to promote pipeline safety by proposing a rule lacking specific leak detection requirements. Section 8 of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (2011 Act)⁵ contains the clear directive for PHMSA to study additional leak detection system requirements and report on its findings to Congress. Because PHMSA has yet to complete the report, the agency claims it is therefore prohibited from issuing new leak detection rules until Congress has had the opportunity to review final recommendations.⁶ This conclusion is in error.

The 2011 Act only prohibits new leak detection rules before two years following enactment or one year following the report requested, whichever is earlier.⁷ Since more than two years have passed, the former condition has clearly been satisfied. Thus, despite the NPRM's contention to the contrary, the Secretary may release leak detection rules without waiting for PHMSA to complete a report now years overdue.

The proposed rule would require all hazardous liquids pipelines to be subject to a system for detecting leaks. However, PHMSA has neglected to define "system" or develop associated performance standards--yet again leaving it up to operators to decide whether and how to take action.

The 2012 report on leak detection conducted for PHMSA by Kiefner and Associates indicates that Pressure/Flow monitoring using remote technologies is the dominant form of leak detection for pipelines, but that this method "will catch, at best, large ruptures" and that only very large leaks would have any effect on pressure.⁸ In effect, this means that operators pay far less attention to detecting (and thus also in preventing and stopping) leaks and seeps.

According to the Kiefner report, nearly 75 percent of all the release incidents documented in 2010-2012 were leaks; less than 3 percent were ruptures.⁹ While ruptures must certainly be addressed, they are not the only source of pollution. Many smaller leaks and seeps, if left unaddressed or occurring across a wide area, can potentially result in significant damage to land, water, and air.

In addition, the report found that pipeline releases were detected more often by air patrols, ground crews, and contractors than through the control room.¹⁰ This finding underscores the need for significant change in the status quo of rupture and leak detection, including the greater use of field-based approaches.

PHMSA has indicated its intention to develop leak detection requirements at some future date, perhaps only applicable to ruptures. This approach would in effect be "too little too late" because spills and pollution persist for long periods of time before ever being detected. PHMSA should establish a standard for how quickly operators must repair leaks of a certain size. In turn, this

would encourage the adoption of more diverse technologies and management practices to ensure comprehensive, consistent leak detection and repair (LDAR).

Earthworks therefore requests that PHMSA promulgate a final rule establishing binding requirements (i.e., not voluntary, discretionary measures) for LDAR protocols and associated timelines that all hazardous liquids pipeline operators must follow. The rule should specify that PHMSA requires LDAR for both new and existing hazardous liquid pipelines, including those under construction on the rule's effective date.

LDAR rules would be consistent with the current Environmental Protection Agency (EPA)¹¹ and Bureau of Land Management (BLM)¹² efforts to reduce emissions of methane and volatile organic compounds from the oil and gas industry. Such systems could include a range of external technologies deployed in proximity to pipelines and operated by field crews, for example infrared cameras to detect emissions and handheld and stationary devices calibrated to detect certain pollutants. Repair of leaks and seeps and replacement of failing equipment (e.g., valves and shut-off devices) would have to occur within set timeframes.

Add Requirements for the Safety and Regulation of Produced Water Lines

Earthworks requests that PHMSA add produced water lines to the proposed rule. These pipelines (as is the case with most of the nation's gathering and distribution lines) are not currently regulated under federal law, and only in a limited way by some states.

Yet produced water lines are already in widespread use nationwide as part of oil and gas operations, and are projected to continue to expand as a consequence of the growing volumes of waste. Integrating produced water lines into PHMSA's safety rules would establish some measure of oversight for the transport of a substance clearly hazardous to the environment whenever it is improperly treated, handled, or spilled--including as a result of pipeline leaks and ruptures.

Produced water, particularly from deep shale formations, can be many times saltier than seawater and has the potential to scar land, kill vegetation, and sterilize soil. As produced water flows to the surface during oil and gas operations, it mixes with the toxic fluids and chemicals used in drilling and hydraulic fracturing. These substances can harm water supplies, vegetation, fish, and wildlife.

Among the most well-publicized cases of produced water spills due to pipeline failures are three in North Dakota that caused widespread water pollution and are still being cleaned up: 3 million gallons into Blacktail Creek in 2015; one million gallons into a bay on the Fort Berthold Indian Reservation in 2014; 700,000 gallons into Big Gumbo Creek; and one million gallons in Charbonneau Creek in 2006.

Even states that allow the road-spreading of produced water (often called "brine" in that context) as a de-icer or dust suppressant have restrictions on volume and chemical content due to the environmental risks posed by the salts, heavy metals, hydrocarbons, and volatile organic compounds produced water contains. Currently, states do not allow produced water from unconventional shale formations to be used for road-spreading out of concern for the higher chemical concentrations and potentially radioactive content.¹³

The US Geological Survey has documented how produced water precipitates into radioactive scale, which can attach to pipes, tanks, and other oil and gas field equipment--a problem that first became evident decades ago.¹⁴ In addition, EPA is considering the development of a new testing method specifically for produced water from oil and gas operations.¹⁵

According to a 2011 review of sampling data by the US Geological Survey, the median total radium activity for produced water from the Marcellus Shale was 2,460 picocuries per liter (pCi/L); for comparison, the federal total radium limit for industrial effluent is 60 picocuries per liter (pCi/L). A 2015 study by the Pennsylvania Department of Environmental Protection found that samples of produced water had Ra-226 concentrations 8-5,300 times as high as the EPA drinking water standard for combined radium (40-26,600 pCi/L); Ra-228 concentrations were 5-380 times as high (26-1,900 pCi/L).

These examples illustrate why PHMSA should add produced water pipelines to the proposed rule.

In closing, Earthworks reiterates its support for the steps that PHMSA has taken to strengthen pipeline safety rules. However, we believe that the agency must go much further to ensure that the proposed rule actually offers protection for communities and the environment wherever any type of hazardous liquids pipeline exists.

Thank you for your time and attention.

Sincerely,

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¹ See Pipelines Safety Trust, [Briefing Paper #10 Integrity Management](#), Last updated September 2015

² NPRM at 61623.

³ NPRM at 61615. Smart pigs are instruments that travel through the interior of a pipeline recording conditions of the pipe wall that indicate potential problems with structural integrity.

⁴ Public Law 100-561 (1988).

⁵ Public Law 112-90

⁶ NPRM at 61614.

⁷ See Section 8(b) of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 which reads in relevant part:

(b) RULEMAKING REQUIREMENTS.— (1) REVIEW PERIOD DEFINED.—In this subsection, the term “review period” means the period beginning on the date of enactment of this Act and ending on the earlier of— (A) the date that is 1 year after the date of completion of the report under subsection (a); or (B) the date that is 2 years after the date of enactment of this Act.

⁸ Kiefner and Associates 2012, *Leak Detection Study – DTPH56-11-D- 000001* (prepared for US PHMSA) at 2-4 and 4-13.

⁹ *Ibid.* at Table 2.1.

¹⁰ *Ibid.* at 2-11.

¹¹ See [EPA-HQ-OAR-2010-0505-4776](#) Oil and Gas Sector: Emission Standards for New and Modified Sources

¹² See [BLM RIN: 1004-AE14](#) Venting and Flaring: Waste Prevention and Use of Produced Oil and Gas for Beneficial Purposes

¹³ Earthworks 2015. *Wasting Away: Four states' failure to manage oil and gas field waste from the Marcellus and Utica Shale.*

¹⁴ US Geological Survey 1999. “Naturally Occurring Radioactive Materials (NORM) in Produced Water and Oil-Field Equipment— An Issue for the Energy Industry.”

¹⁵ EPA National Analytical Radiation Environmental Laboratory and Environmental Sciences Division, National Exposure Research Center (ESD NERL). *Validation of rapid radiochemical method for gross alpha and gross beta activity concentration in flowback and produced waters from hydraulic fracturing operations.* 2014.