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Attention: Docket ID No. EPA-HQ-OAR-2010-0505

The Attorneys Generals of New York, Massachusetts, Oregon, Rhode Island, and Vermont (States) respectfully submit these comments on the Environmental Protection Agency’s (EPA) proposed rule “Oil and Natural Gas Sector: Emission Standards for New and Modified Sources,” published at 80 Fed. Reg. 56,593 (Sept. 18, 2015) (Proposed Rule). The Proposed Rule would amend the New Source Performance Standards (NSPS) for the oil and natural gas source category by setting standards for reducing methane and volatile organic compounds (VOC) for certain equipment, processes and activities used in three segments of the oil and gas industry (production, processing, and transmission). EPA’s publication of the Proposed Rule is a positive step in the direction of cutting methane emissions from this industry, a key element in the President’s Climate Action Plan. However, as most of these emissions are generated by existing equipment, the States urge EPA to proceed promptly with rulemaking on emission guidelines for existing sources under § 111(d) of the Clean Air Act (Act). In addition, EPA should proceed with rulemaking to address methane emissions from new and modified equipment in the natural gas distribution sector under § 111(b) of the Act.

**I. EPA’s Promulgation of NSPS for Methane Emissions from Oil and Gas Sources is Necessary and Required Under the Act.**

When the EPA administrator determines that a category of sources “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare,” the Administrator “shall” include that category on a list of stationary sources. 42 U.S.C. § 7411(b)(1)(A) (§ 111(b)). Pursuant to § 111(b), EPA previously listed crude oil and natural gas production as a source category that contributes significantly to air pollution that may reasonably be anticipated to endanger public health and welfare. *See Priority List and Additions to the List of Categories of Stationary Sources*, 44 Fed. Reg. 49,222 (Aug. 21, 1979).

Numerous scientific assessments establish that anthropogenic greenhouse gas emissions, including methane, may reasonably be anticipated to endanger public health or welfare. *See* 74 Fed. Reg. 66,496 (Dec. 15, 2009) (EPA endangerment determination); 80 Fed. Reg. 64,662, 64,682-86 (Oct. 23, 2015) (summarizing additional scientific evidence since 2009 endangerment determination). The oil and natural gas source category causes or contributes significantly to such greenhouse gas air pollution. Further, available technology can effectively and efficiently reduce methane emissions from the oil and natural gas industry. Therefore, the Act compels EPA’s proposal of NSPS under § 111(b) for methane emissions from new and modified oil and natural gas sources.

**A. Emissions of methane, a potent greenhouse gas, significantly endanger public health and welfare.**

Greenhouse gas pollution is warming our planet, with significant and wide-ranging adverse effects to human health and welfare. The U.S. Global Change Research Program’s Third National Climate Assessment recently concluded that the evidence of human-induced global warming continues to strengthen and that impacts are increasing across the country. Finding that “climate change, once considered an issue for a distant future, has moved firmly into the present,” the Assessment’s authors present compelling bases for the need to reduce greenhouse gas emissions from major sources, such as the oil and gas sector.<sup>1</sup> Given the strong body of science that demonstrates the impacts on human health and the environment, EPA must act expeditiously to ensure that major sources of greenhouse gases—such as the oil and gas industry—promptly and aggressively limit their emissions. Prompt and effective action in the power generating, industrial, and transportation sectors are required if the U.S. and the rest of the world are to have a reasonable chance of avoiding the most severe impacts of global warming.

EPA determined in its 2009 endangerment finding that methane is one of the six greenhouse gases that endanger public health and welfare. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,696, 66,497 (Dec. 15, 2009). Methane is a very potent greenhouse gas. Pound for pound, it warms the climate about thirty-four times more than carbon dioxide over a 100-year period, according to the Intergovernmental Panel on Climate Change, and on a twenty-year time frame, has about eighty-six times the global warming potential of carbon dioxide. As noted in

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<sup>1</sup> U.S. Nat’l Climate Assessment: U.S. Global Change Research Program, *Climate Change Impacts in the United States: The Third National Climate Assessment* 1 (Jerry M. Melillo, Terese (T.C.) Richmond, and Gary W. Yohe, eds. 2014), available at: [http://s3.amazonaws.com/nca2014/high/NCA3\\_Climate\\_Change\\_Impacts\\_in\\_the\\_United%20States\\_HighRes.pdf?download=1](http://s3.amazonaws.com/nca2014/high/NCA3_Climate_Change_Impacts_in_the_United%20States_HighRes.pdf?download=1)

the White House's Strategy to Reduce Methane Emissions (March 2014), methane accounts for about nine percent of greenhouse gas emissions in the country, and that percentage will rise by 2030 unless measures are put in place to cut those emissions. The White House, *Climate Action Plan: Strategy to Reduce Methane Emissions* 1 (2014) [hereinafter *Methane Strategy*].<sup>2</sup> Not surprisingly, therefore, the President's Climate Action Plan issued in June 2013 states that curbing emissions of methane is "critical" to our effort to address global climate change. Executive Office of the President, *The President's Climate Action Plan* 10 (2013) [hereinafter *Climate Action Plan*].<sup>3</sup>

**B. The oil and natural gas source category is a significant contributor to climate change pollution.**

As EPA states in the Proposed Rule, natural gas and petroleum systems are the largest emitters of methane in the United States, emitting twenty-nine percent of anthropogenic methane. 80 Fed. Reg. at 56,606. These methane emissions contribute substantially to nationwide greenhouse gas emissions, making oil and gas operations the second largest emitter of greenhouse gases in the United States, second only to fossil-fueled electricity generation. *Id.* at 56,598.

In evaluating methane emissions, there are four major segments from production to delivery that must be considered during which methane either leaks or is intentionally vented to the atmosphere. Each of these segments represents a significant percentage of methane emissions:

- Production. The production segment includes extraction of oil and gas from a well and use of gathering pipes or lines to move the fuel to a processing facility.
- Processing. Some processing can occur at the wellhead, otherwise compressors move natural gas from the well to a facility that removes various hydrocarbons and liquids to create "pipeline quality" gas that it is ready to be shipped via pipeline in the transmission phase.
- Transmission. The transmission segment includes the use of pipelines and compressors to ship natural gas from processing facilities to distributors.
- Distribution. The distribution segment includes the use of city gates to receive the natural gas from transmission pipelines and then distribute the gas through smaller, lower pressure lines to commercial and residential customers.

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<sup>2</sup> Available at: [https://www.whitehouse.gov/sites/default/files/strategy\\_to\\_reduce\\_methane\\_emissions\\_2014-03-28\\_final.pdf](https://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf)

<sup>3</sup> Available at: <https://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>

According to 2012 emissions data from the oil and gas sector, the production segment accounts for approximately thirty-two percent of methane emissions, the processing segment fourteen percent, the transmission segment thirty-three percent, and the distribution segment twenty percent. U.S. Env'tl. Prot. Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013*, Table 3-44 (2014) [hereinafter *Inventory of U.S. Greenhouse Gas Emissions and Sinks*].<sup>4</sup> The Proposed Rule addresses methane emissions in production, processing, and transmission, but does not include the distribution sector. Because each of these segments represents a significant percentage of emissions, a successful strategy to reduce methane must address all four segments. EPA has previously acknowledged that its authority under the Act would extend to address emissions from all of these segments. See *Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews*, 76 Fed. Reg. 52,738, 52,745 (Aug. 23, 2011).

The critical need to limit methane emissions was further underscored by EPA's recently-finalized Clean Power Plan targeting greenhouse gas emissions from existing power plants. One of the underpinnings of that rule is encouraging States to switch from electricity generation using coal to generation using natural gas and other lower carbon-intensive fuels. Because of the readily-available supply of natural gas in this country, and the fact that natural gas is mostly methane, we must act to ensure that the global warming benefits of switching from coal to natural gas are not diminished because of the release of methane throughout the natural gas system—from production to delivery to the end user. According to a recent World Resources Institute report, reducing methane leakage rates from the entire natural gas system to less than one percent of total production would ensure that the climate impacts of natural gas are lower than coal or diesel fuel. James Bradbury et al., *Clearing the Air: Reducing Upstream Greenhouse Gas Emissions from U.S. Natural Gas Systems 2* (2013) [hereinafter *WRI Clearing the Air Report*].<sup>5</sup>

### **C. States have taken action on reducing methane emissions from the oil and gas sector.**

Not only is reducing methane emissions a necessary component of addressing global warming, but it is also required under the Act. In December 2012, the States sent a notice of intent to sue EPA based on the agency's failure to set emission standards for methane in its 2012 NSPS rule for the oil and gas sector, *Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews*, 77 Fed. Reg. 49,490 (Aug. 16,

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<sup>4</sup> Available at: <http://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Main-Text.pdf>

<sup>5</sup> Available at [http://www.wri.org/sites/default/files/clearing\\_the\\_air\\_full\\_version.pdf](http://www.wri.org/sites/default/files/clearing_the_air_full_version.pdf)

2012). As explained in our notice letter, EPA had determined that emissions of this potent greenhouse gas endanger public health and welfare, and that processes and equipment in the oil and gas sector emit vast quantities of methane. We further explained that EPA had compelling data, including from eighteen years of experience administering the Natural Gas Star Program, demonstrating that many measures to avoid (or reduce) methane emissions from new and existing oil and gas operations are available and cost-effective. In light of these findings, EPA's failure to determine in its 2012 rulemaking whether standards limiting methane emissions from oil and gas operations under § 111 of the Act were appropriate was a violation of a nondiscretionary duty of the Administrator or constituted an unreasonable delay in taking agency action.

Although the 60-day and 180-day notice periods to bring a nondiscretionary duty and unreasonable delay claim, respectively, expired, the States chose not to file a lawsuit in light of the President's subsequent commitment that EPA and other federal agencies would examine how to reduce methane emissions from the oil and gas sector. *See Climate Action Plan* at 10. This commitment was fleshed out in the Administration's Strategy to Reduce Methane Emissions, which was issued on March 28, 2014. As set forth in the methane strategy document, EPA's issuance of technical white papers in April 2014 was the first step in considering direct regulation of methane in the oil and gas sector through rulemaking. *Methane Strategy* at 2. Building on this strategy, the Administration in January 2015, announced a new goal to cut methane emissions from the oil and gas sector by forty to forty-five percent from 2012 levels by 2025.

In the meantime, a number of states—including Colorado, Pennsylvania, Ohio, and Wyoming—proceeded with regulations to prevent leaks from the oil and gas sector. Colorado's rules, passed in February 2014, govern both new and existing wells and require leak inspections either monthly, quarterly, or annually, depending on the size of the emissions. These regulations, which target methane emissions directly rather than as a co-benefit of reducing other pollution, are expected to reduce methane emissions by approximately 65,000 tons per year.

**D. EPA must act promptly to issue guidelines for methane emissions from existing sources.**

EPA's proposal of standards of performance for new sources triggers its duty to propose § 111(d) guidelines for states to develop plans to limit methane emissions from existing sources. 42 U.S.C. § 7411(d); 40 C.F.R. § 60.21(a). The § 111(b) requirement that EPA review, and as necessary, revise, the performance standards for new and modified sources every eight years indicates that Congress intended that EPA would move forward with § 111(d) emission guidelines for applicable pollutants without delay. Because the process for submitting and approving state plans to adopt and implement the emission guidelines usually takes several years,

delayed action by EPA could quickly result in an overlap with its next mandatory eight-year review. Thus, the statutory structure evidences congressional intent for EPA to proceed promptly with proposed emission guidelines concurrently or shortly after finalizing a rule under section 111(b). Indeed, EPA has routinely taken that approach, most recently by simultaneously promulgating emission standards for carbon dioxide from new and modified power plants and emission guidelines for existing plants. *See* 80 Fed. Reg. 64,510 (Oct. 23, 2015) (standards for new and modified power plants) & 80 Fed. Reg. 64,661 (Oct. 23, 2015) (emission guidelines for existing power plants). Here, EPA has not even acknowledged its § 111(d) legal obligation to act, much less take action or disclose its schedule for rulemaking. Therefore, in the preamble to the final rule, EPA should set forth its schedule for proceeding with a rulemaking to promptly establish §111(d) emission guidelines.

EPA must act promptly because most of the emissions from this sector in the near future are projected to come from already existent equipment. Sources in existence prior to 2012 are projected to be responsible for up to ninety percent of the sector's methane emissions in 2018. ICF Int'l, *Economic Analysis of Methane Emission Reduction Opportunities in the U.S. Onshore Oil and Natural Gas Industries 1* (2014).<sup>6</sup> Therefore, to have any chance of reaching the Administration's goal of reducing the sector's methane emissions by up to forty-five percent from 2012 levels by 2025, EPA should commence rulemaking to issue § 111(d) guidelines.

## **II. The Evidence Supports the Proposed Rule and Strengthening Aspects of It.**

### **A. EPA's Decision to Directly Regulate Methane Emissions is Rational and Consistent with the Act.**

In light of the significant contribution of the oil and natural gas source category's methane emissions to nationwide greenhouse gas emissions, which EPA has determined endanger public health and welfare, and the President's commitment to cut methane emissions, the Proposed Rule properly determines that methane emissions should be addressed directly rather than as an incidental benefit to VOC reduction. 80 Fed. Reg. at 56,599. Indeed, as stated above, direct regulation of methane is required under the CAA.

In the 2012 NSPS rulemaking, EPA identified compressors (reciprocating and centrifugal) and pneumatic devices (controllers and pumps) in the natural gas transmission segment as equipment that emits large quantities of methane. But at the time, EPA declined to establish standards to limit these emissions based on its approach of focusing on reducing VOCs, which are largely removed prior to the natural gas reaching compressors and pneumatic devices in the transmission segment. *See* 77 Fed. Reg. at 49,522-23 (declining to regulate transmission

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<sup>6</sup> Available at [https://www.edf.org/sites/default/files/methane\\_cost\\_curve\\_report.pdf](https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf)

compressors and pneumatics because of “the relatively low level of VOC emitted from these sources”). According to EPA, compressors emitted more than two million tons of methane in 2012, with more than fifty percent of that amount coming from the transmission segment. U.S. EPA Office of Air Quality Planning and Standards (OAQPS), *Oil and Natural Gas Sector Compressors* 43 (2014) [hereinafter *Compressors White Paper*].<sup>7</sup> Similarly, EPA estimates that pneumatic controllers are responsible for about thirteen percent of methane emissions from the oil and gas sector, while pneumatic pumps account for about sixteen percent of methane emissions from the production and processing segments. EPA OAQPS, *Oil and Natural Gas Sector Pneumatic Devices* 56-57 [hereinafter *Pneumatic Devices White Paper*].<sup>8</sup>

Direct regulation of methane, rather than as a co-benefit to VOC reduction, enables EPA to regulate additional equipment, such as compressors and pneumatic devices, that are sources of significant amounts of methane emissions, but relatively low levels of VOCs. Direct regulation of such methane emissions is appropriate given the significant contribution that these emissions make to national greenhouse gas emissions and, as discussed below, the availability of proven, cost-effective emission reduction technologies.

**B. EPA Reasonably Interprets the Oil and Gas Source Category Listing as Including Equipment Used in the Production, Processing, Transmission, and Storage of Oil and Gas.**

In the Proposed Rule, EPA interprets the source category listing of “crude oil and natural gas production,” which was included in a 1979 rulemaking listing several industries EPA defined as source categories, 44 Fed. Reg. 49,222, as covering the oil and natural gas industry, including production, processing, transmission and storage. 80 Fed. Reg. at 56,660. When issuing the first sets of standards of performance for this source category, EPA stated the source category “encompass[es] the operations of exploring for crude oil and natural gas products, drilling for these products, removing them from beneath the earth’s surface, and processing these products from oil and gas fields for distribution to petroleum refineries and gas pipelines.” Standards of Performance for New Stationary Sources; Onshore Natural Gas Processing Plants in the Natural Gas Production Industry; Equipment Leaks of VOC, 49 Fed. Reg. 2,636, 2,637 (Jan. 20, 1984).

In subsequent agency rulemakings, EPA has consistently interpreted the 1979 final rule broadly as creating a source category for the entire oil and gas

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<sup>7</sup> Available at <http://www3.epa.gov/airquality/oilandgas/2014papers/20140415compressors.pdf>

<sup>8</sup> Available at <http://www3.epa.gov/airquality/oilandgas/2014papers/20140415pneumatic.pdf>

industry. See 77 Fed. Reg. at 49,514; 76 Fed. Reg. 52,738. EPA continued use of this broad definition of the oil and natural gas source category in the Proposed Rule is therefore consistent with longstanding agency practice.

**C. The Proposed Standards for Compressors and Pneumatic Devices are Technically Achievable and Cost Effective.**

The Proposed Rule demonstrates that methane can be significantly and cost-effectively reduced by establishing emission standards for methane from compressors and pneumatic devices. Centrifugal compressor emissions may be cost-effectively controlled by installation of a capture and combustion device on wet seal compressors, while reciprocating compressor emissions may be controlled by the periodic replacement of rod packing systems. 80 Fed. Reg. at 56,619-21. Pneumatic controller emissions can be significantly reduced by replacing high-bleed controllers with either low-bleed or zero-bleed controllers. Methane emissions from pneumatic pumps can be cut in many instances by replacing the pumps at natural gas processing plants with instrument air pumps, and by routing emissions from pumps in the production, transmission, and storage segments to an existing control device or a process. *Id.* at 56,623-27. These findings are consistent with previous EPA determinations concerning this equipment and in other studies. See, e.g., *Compressors White Paper* at 43; *Pneumatic Devices White Paper* at 56-57; U.S. *Env'tl. Prot. Agency, Reducing Methane Emissions from Compressor Rod Packing Systems* 1 (2006) (indicating payback periods from one to three months for compressor maintenance activities that reduce methane emissions);<sup>9</sup> *WRI Clearing the Air Report* at 6 (replacing existing high-bleed pneumatic devices with low-bleed equivalents throughout natural gas system identified as one of three strategies that could cost-effectively cut methane emissions by thirty percent); Natural Res. Def. Council, *Leaking Profits: The Oil and Gas Industry Can Reduce Pollution, Conserve Resources, and Make Money by Preventing Methane Waste* 1 (2012) [hereinafter *NRDC Leaking Profits Report*] (identifying improved maintenance of reciprocating compressors and replacement of high-bleed pneumatic controllers with low-bleed or zero-bleed controllers as two of ten cost-effective strategies that could reduce methane emissions from the oil and gas sector by eighty percent).<sup>10</sup>

**D. The Proposed Standards for Hydraulically-Fractured Oil Well Completions are Technically Achievable and Cost Effective.**

In its 2012 NSPS, EPA did not include “oil wells” in the definition of affected facilities, so those wells are currently exempt from rule’s reduced emission completion, *i.e.*, “green completion,” requirements that apply to hydraulically-

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<sup>9</sup> Available at [http://www3.epa.gov/gasstar/documents/ll\\_rodpack.pdf](http://www3.epa.gov/gasstar/documents/ll_rodpack.pdf)

<sup>10</sup> Available at <http://www.nrdc.org/energy/files/Leaking-Profits-FS.pdf>



fractured wells. *See* 77 Fed. Reg. at 49,492. The 2012 NSPS rule required flaring of gas wells until January 1, 2015, at which time producers were required to use green completion equipment to separate out the gas from the water and send the gas into pipelines, where it subsequently can be sold.

EPA reasonably concluded in the Proposed Rule that hydraulically-fractured oil wells—either the completion of a newly-fractured well or re-stimulation of a previously fractured well and ongoing production—also are significant sources of both methane and VOC emissions. 80 Fed. Reg. at 56,628. EPA estimates the potential emissions from hydraulically fractured oil well completions to be 9.72 tons methane and 8.14 tons VOC per three-day completion event. *Id.* Although EPA’s assumption of a three-day flow back duration is on the lower end of the ranges contained in several studies cited in EPA’s white paper entitled “Oil and Natural Gas Sector Hydraulically Fractured Oil Well Completions and Associated Gas during Ongoing Production,” EPA appropriately determined that these emissions are significant. *See* EPA OAQPS, *Oil and Natural Gas Sector Hydraulically Fractured Oil Well Completions and Associated Gas during Ongoing Production* (2014).<sup>11</sup> Furthermore, the emission figures for methane may underestimate the amount of those emissions given that aerial, or “top down” surveys of oil fields in Colorado, Utah, and elsewhere have detected much higher levels of methane than found in the “bottom up” studies in the white paper.

The Proposed Rule further shows that the same control options required for gas well completions—green completions in combination with a completion combustion device for subcategory one wells and completion combustion devices for subcategory two wells—are available and cost-effective to limit methane and VOC emissions from oil wells. 80 Fed. Reg. at 56,629-33. Although the cost effectiveness of these measures appears to vary depending upon different factors, such as the existence of nearby gas pipelines, EPA has addressed those considerations in the Proposed Rule.

**E. EPA Reasonably Determined that Fugitive Methane Emissions from Well Sites and Compressor Stations and Equipment Leaks at Natural Gas Processing Plants can be Cost-Effectively Reduced.**

EPA has reasonably proposed to require leak detection surveys at well sites and compressor stations to address fugitive methane emissions. EPA’s “Oil and Natural Gas Sector Leaks” white paper acknowledges that as the oil and natural gas exploration and production industry in the U.S. grows rapidly, so does the potential for greater methane emissions from leaks. As EPA notes, “leak emissions occur through many types of connection points (e.g., flanges, seals, threaded

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<sup>11</sup> Available at <http://www3.epa.gov/airquality/oilandgas/2014papers/20140415completions.pdf>

fittings) or through moving parts of valves, pumps, compressors, and other types of process equipment.” EPA OAQPS, *Oil and Natural Gas Sector Leaks 3* (2014) [hereinafter *Oil and Natural Gas Sector Leaks White Paper*].<sup>12</sup> The white paper identifies a number of different leak detection technologies, including portable analyzers and optical gas imaging (OGI) technology using infrared cameras, which are readily available and inexpensive. As discussed in the report by Carbon Limits, *Quantifying Cost-effectiveness of Systematic Leak Detection and Repair Programs Using Infrared Cameras 6* (2014), infrared cameras can be used relatively inexpensively to scan an entire facility for leaks.<sup>13</sup> Furthermore, EPA has determined that “once a leak is found it is almost always economical to repair the leak” and that directed inspection and maintenance programs “can effectively decrease leak emissions.” *Oil and Natural Gas Sector Leaks White Paper* at 55. In light of these findings that fugitive emission surveys using OGI and leak detection and repair programs can effectively reduce methane emissions from leaks at a reasonable cost, EPA has reasonably proposed to follow the lead of states such as Colorado that have made these programs mandatory.

#### **F. EPA Should Promptly Propose Standards to Address Methane Emissions from Liquids Unloading.**

Liquids unloading is an operation, typically referred to as a “well blowdown,” in which companies periodically open mature natural gas wells to the atmosphere to unload well bore liquids, such as water and condensate, which accumulate in the bottom of the well. The well blowdown process can result in the release of large quantities of methane and VOCs. Although emission figures vary, EPA estimates that methane emissions from liquids unloading comprised about fourteen percent of emissions from the natural gas production segment in 2012. *Inventory of U.S. Greenhouse Gas Emissions and Sinks*.

Rather than using well blowdown methods to unload liquids and allow the flow of gas from the well to resume, there are available technologies that perform this same function while significantly reducing emissions. As the white paper notes, plunger lifts are the most common of the technologies. Of these, the use of optimized plunger lift systems (e.g., those that use smart well automation) offer the dual benefits of decreasing the amount of emissions by more than ninety percent while reducing the need for venting due to overloading. U.S. EPA Office of Air Quality Planning and Standards (OAQPS), *Oil and Natural Gas Sector Liquids Unloading Processes 16* (2014) [hereinafter *Oil and Natural Gas Sector Liquids Unloading*

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<sup>12</sup> Available at <http://www3.epa.gov/airquality/oilandgas/2014papers/20140415leaks.pdf>

<sup>13</sup> Available at [http://www.carbonlimits.no/PDF/Carbon\\_Limits\\_LDAR.pdf](http://www.carbonlimits.no/PDF/Carbon_Limits_LDAR.pdf)

*Processes White Paper*];<sup>14</sup> see also *NRDC Leaking Profits Report* at 24-25 (summarizing emission reductions attributable to use of plunger lift systems). Previous studies have also demonstrated that plunger lift systems are cost-effective. See *Oil and Natural Gas Sector Liquids Unloading Processes White Paper* at 11-12; *WRI Clearing the Air Report* at 6 (identifying use of plunger lift systems at new and existing wells during liquids unloading as one of three technologies that could cut methane emissions in the oil and gas sector by thirty percent). Other available technologies—such as artificial lifts, velocity tubing, and foaming agents—can achieve even greater emission reductions, eliminating emissions entirely from liquids unloading. *Oil and Natural Gas Sector Liquids Unloading Processes White Paper* at 17-18.

Given the significant emissions of methane from liquids unloading and the existence of available, cost-effective technologies to reduce such emissions, EPA should promptly propose standards to address methane emissions from liquids unloading.

**G. EPA Should Promptly Propose Standards to Address Methane Emissions from the Distribution Sector.**

The Proposed Rule leaves out a significant source of methane leaks by excluding methane emissions from the distribution sector, *i.e.*, only considering leaks that are “upstream of the city gate.” *Cf. Oil and Natural Gas Sector Leaks White Paper* at 3. As EPA has previously found, methane leaks in distribution are from city gates and associated above-ground facilities and from underground pipes (especially very old steel and cast iron pipes) that have deteriorated over time. As explained above, about one-fifth of methane emissions from the natural gas sector are leaks from the distribution segment, so leaving this segment unaddressed would make much more difficult the President’s goal of significantly cutting methane to address global warming.

Distribution sector methane leaks present significant environmental, economic, and safety concerns for states. In Massachusetts alone, leaking pipelines are estimated to release between eight and twelve billion cubic feet of methane a year, at a cost of about \$38 million per year to customers. Shanna Cleveland, *Into Thin Air: How Leaking Natural Gas Infrastructure is Harming Our Environment and Wasting a Valuable Resource* 7, 12 (2012).<sup>15</sup> A number of recent studies have found an extensive amount of leaks from thousands of miles of underground piping in cities such as Boston, New York, and Washington, D.C. See, *e.g.*, Nathan G.

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<sup>14</sup> Available at <http://www3.epa.gov/airquality/oilandgas/pdfs/20140415liquids.pdf>

<sup>15</sup> Available at [http://www.clf.org/static/natural-gas-leaks/WhitePaper\\_Final\\_lowres.pdf](http://www.clf.org/static/natural-gas-leaks/WhitePaper_Final_lowres.pdf)

Phillips, et al., *Mapping Urban Pipeline Leaks: Methane Leaks Across Boston*, 173 *Envtl. Pollution* 1, 1-4 (2013). For example, a team using infrared imaging discovered 3,356 leaks with fifteen times the global background level for methane in Boston alone. Gas distribution companies in 2011 reported releasing 69 billion cubic feet of natural gas to the atmosphere, almost enough to meet the state of Maine's gas needs for a year and equal to the annual carbon dioxide emissions of about six million automobiles. See Staff Report Prepared for Senator Edward J. Markey, *America Pays for Gas Leaks: Natural Gas Pipeline Leaks Cost Consumers Billions* 2,7, Table 3 (2013).<sup>16</sup> As a result, nationally consumers paid at least \$20 billion from 2000-2011 for gas that was unaccounted for and never used. *Id.* at 1.

Since 2009, Massachusetts has promoted replacement of leaking distribution pipeline through the use of Targeted Infrastructure Replacement Funds that provide for expedited reimbursements to utilities that replace aging steel and cast iron infrastructure, as opposed to the use of traditional rate recovery. Additionally, in 2014, the Massachusetts Legislature passed legislation, "An Act Relative to Natural Gas Leaks," which obligates gas utilities to classify and report the location of all distribution system gas leaks, and to repair on specific schedules those that pose a safety threat or probable future safety threat.<sup>17</sup> Similarly, the New York State Public Service Commission recently required Consolidated Edison to increase its rate of replacement of old distribution system pipes in New York City to reduce methane emissions. The utility is also conducting a study to improve detection of distribution system leaks and quantification of associated leak rates. Although these are important efforts, federal action is needed to drive a more concerted, immediate effort to eliminate leaks and reduce methane emissions from the distribution sector.

The recent EPA Inspector General's report entitled *Improvements Needed in EPA Efforts to Address Methane Emissions from Natural Gas Distribution Pipelines* 1 (2014) [hereinafter *IG Report*]<sup>18</sup> further underscores the need for EPA to include regulation of methane emissions from the distribution sector as part of the Administration's methane reduction strategy and bolsters the States' position regarding the importance of addressing these emissions. The Inspector General found that leaks of methane from distribution pipelines, which account for about half of methane leaks from the distribution sector, cost consumers approximately

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<sup>16</sup> Available at [http://www.markey.senate.gov/documents/markey\\_lost\\_gas\\_report.pdf](http://www.markey.senate.gov/documents/markey_lost_gas_report.pdf)

<sup>17</sup> Mass. Gen. Laws Ch. 164, s. 144 (2014), available at <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter164/Section144>

<sup>18</sup> Available at [http://www2.epa.gov/sites/production/files/2015-09/documents/20140725-14-p-0324\\_glance.pdf](http://www2.epa.gov/sites/production/files/2015-09/documents/20140725-14-p-0324_glance.pdf)

\$192 million in 2011. *Id.* The Inspector General also found that Massachusetts and New York are particularly impacted due to the many miles of distribution lines we have that are especially prone to leak. For example, New York and Massachusetts rank second and third, respectively, in the country in miles of cast and wrought iron distribution lines. *IG Report* at 3, Table 1. The Inspector General concludes that the industry's voluntary efforts have failed to result in any meaningful methane emission reductions and that consistent with the Administration's methane strategy, EPA should develop a strategy to address these emissions. The Inspector General cited the financial disincentive for local distribution companies to fix methane leaks, other than for safety reasons, as an important reason why EPA action in this area is necessary.

In light of the significant emissions from the distribution sector, at a minimum EPA should broaden its scope of potential regulatory action to encompass emissions from city gates, which the agency has previously identified as the largest source of methane emissions in the distribution sector. *See* EPA, Technical Support Document: Petroleum and Natural Gas Systems for the 2010 Final Rule – Mandatory Reporting of Greenhouse Gases from Petroleum and Natural Gas Systems – Subpart W, at 76.<sup>19</sup> City gates are metering and pressure regulating facilities located at the custody transfer points where natural gas is delivered from transmission pipelines into the lower pressure lines of local distribution companies. Distribution providers that are participants in EPA's Natural Gas STAR program have reported significant savings and methane emission reductions by implementing inspection and maintenance programs of city gates, which are easier to fix than underground piping. Based on data provided by these companies, implementing these programs at gate stations and associated above-ground facilities can result in gas savings worth up to \$1,800 per year, at a cost of between \$20 and \$1,200. U.S. Env'tl. Prot. Agency, *Lessons Learned: Directed Inspection and Maintenance at Gate Stations and Surface Facilities*, 1 (2003), available at [http://www3.epa.gov/gasstar/documents/ll\\_dimgatestat.pdf](http://www3.epa.gov/gasstar/documents/ll_dimgatestat.pdf). A similar program for fugitive leaks EPA has proposed for well sites and compressor stations should likewise be considered for city gates.

Therefore, the States request that EPA promptly proceed with rulemaking to issue methane emission standards and guidelines for the sources covering leaks from the distribution of natural gas under §§ 111(b) and 111(d) of the CAA.

### III. Conclusion

EPA's Proposed Rule represents a positive step in implementing the President's directive to significantly cut methane emissions from this industry. The States urge EPA to finalize the rule, propose § 111(d) emission guidelines for

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<sup>19</sup> Available at [http://www.epa.gov/ghgreporting/documents/pdf/2010/Subpart-W\\_TSD.pdf](http://www.epa.gov/ghgreporting/documents/pdf/2010/Subpart-W_TSD.pdf)

methane emissions from existing oil and gas sources, and proceed with a rulemaking to address methane emissions from the distribution sector. In light of the potency of methane as a short-term accelerator of global warming, the States urge EPA to act in expedited fashion by proposing emission guidelines as soon as possible.

Sincerely,

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