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U.S. Environmental Protection Agency  
EPA Docket Center (EPA/DC)  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460

**Attention: Docket Number EPA-HQ-OAR-2010-0505**

**Re: ONE Future Comments on Proposed Rule for New Source Performance Standards, Oil and Natural Gas Sector: Emission Standards for New and Modified Sources 80 Fed. Reg. 56593.**

Dear Mr. Moore:

Our Nation's Energy Future Coalition, Inc. (ONE Future) appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA or the Agency) proposed standards of performance for emissions of methane and volatile organic compounds (VOCs) from new, modified and reconstructed sources in the oil and gas sector.<sup>1</sup>

ONE Future is a unique coalition of leading companies with operations in one or more of the following four principal segments of the natural gas industry: (1) oil and natural gas production and gathering; (2) natural gas processing; (3) natural gas transmission and storage; and (4) natural gas distribution. ONE Future is a non-profit 501(c)(6) trade group that is focused exclusively on improving the management of methane emissions from the wellhead to the burner tip. By bringing together companies from every segment of the natural gas value chain, we aim to deploy innovative solutions to operational and policy challenges that will deliver better results to our customers, increase value to our shareholders, and improve the environment.

ONE Future's flexible and performance-based approach to the management of methane emissions begins with the establishment of an ambitious goal: by the year 2025, our member companies aim to achieve an average annual methane emission intensity<sup>2</sup> rate across our collective operations that, if achieved by all operators across the natural gas value chain would be equivalent to one percent or less of gross U.S. natural gas production. (To put this into perspective, natural gas sector emissions totaled

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<sup>1</sup> Oil and Natural Gas Sector: Emission Standards for New and Modified Sources, 80 Fed. Reg. 56,593 (Sep. 18, 2015) ("Proposed OOOOa Rule" or "Proposed Rule").

<sup>2</sup> In these comments, the term "emission intensity" refers exclusively to the average methane (CH<sub>4</sub>) emission rate over total methane throughput (as reported to the U.S. Energy Information Administration) in a given system.

approximately 1.49 percent of production in 2012.<sup>3</sup>) ONE Future established the one percent emission intensity goal for several reasons: first, the one percent intensity goal is ambitious and would be consistent with an entire supply chain that is highly efficient and performing optimally. Second, although the goal is ambitious, we believe it is both technically and economically feasible using existing technology and practices. Third, recent peer-reviewed research has suggested that an average industry-wide emissions rate of one percent or less would ensure that using natural gas provides immediate greenhouse gas reduction benefits as compared to any other fossil fuel, in any other end-use application.<sup>4</sup>

Importantly, we believe that orienting our activities toward this specific and measurable outcome ensures a sustained focus on identifying the opportunities for emissions abatement that yield the greatest benefit for the least cost. It grants individual companies the flexibility to choose precisely how they can most cost-effectively and efficiently achieve their goal – whether that be by deploying an innovative technology, modifying a work practice, or in some cases, replacing a high-emitting asset with a low-emitting asset. The only essential aspect of our program is that companies transparently demonstrate progress toward their emission intensity goal. (To this end, ONE Future is developing a Methane Emission Intensity Estimation Protocol that will largely utilize existing EPA methodologies to calculate company emissions, which we expect to publish publicly as part of the proposed Methane Challenge program.)

ONE Future member companies believe strongly that the flexible, performance-based approach we have proposed will accomplish deeper emission reductions among participants more quickly, and at a lower cost, than a one-size-fits-all mandatory program. We strongly encourage EPA to ensure that the proactive leadership of ONE Future member companies is acknowledged and recognized as they devise current and future regulatory actions in this arena.

Below you will find our detailed comments on your proposal. We appreciate the opportunity to provide comments on behalf of the ONE Future Coalition.

Tom Michels  
Executive Director  
ONE Future Coalition

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<sup>3</sup> This figure is based on emissions data from the 2012 U.S. EPA inventory of GHG emissions (GHGI), accounting for co-allocation of emissions from associated gas originating at oil wells and lease condensates from gas wells, and 2012 natural gas gross withdrawals as reported by the U.S. Energy Information Administration (EIA).

<sup>4</sup> See for example: Alvarez et al. (2012) “*Greater focus needed on methane leakage from natural gas infrastructure.*” *Proceedings of the National Academy of Sciences*. (<http://www.pnas.org/content/early/2012/04/02/1202407109.abstract>) Note that while ONE Future may not accept every conclusion of this study, we believe its findings are sufficiently robust to serve as a guidepost for our aspirational target.

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## COMMENTS ON THE PROPOSED OOOOa RULE

### **RECOMMENDATION 1: THE EPA SHOULD EXCLUDE LOW-EMITTING FACILITIES FROM THE NSPS OOOOa FUGITIVE EMISSIONS STANDARDS AND REQUIREMENTS.**

ONE Future’s flexible, performance-based system focuses on identifying the most cost-efficient and cost-effective abatement opportunities first, in order to yield the greatest emission reductions, in the shortest amount of time, and at the lowest cost. A natural corollary to this is to eschew wasteful expenditures of capital and manpower whenever possible. It is for that reason that we urge EPA to exclude all low-emitting facilities from the proposed OOOOa standards and requirements related to Fugitive Emissions.

The Proposed OOOOa Rule already excludes the following facilities from regulation on the grounds that the facilities have low emissions and therefore there is minimal benefit from subjecting them to additional NSPS requirements:

1. Low production wells<sup>5</sup>;
2. Wells with a gas-to-oil ratio (GOR) of less than 300 scf of gas per barrel of oil produced<sup>6</sup>; and
3. Well sites that only contains one or more wellheads (i.e., Christmas trees)<sup>7</sup>

The EPA is considering additional exclusions. The preamble to the Proposed Rule seeks “comment on whether there are well sites that have inherently low fugitive emissions, even when a new well is drilled or a well site is fractured or refractured.”<sup>8</sup>

The Court of Appeals for the District of Columbia Circuit (D.C. Circuit) has recognized that such *de minimis* exceptions allow agency flexibility in interpreting a statute to prevent “pointless expenditures of effort.”<sup>9</sup> These *de minimis* exceptions from the requirements of a regulation may be permissible “as an exercise of agency power, inherent in most statutory schemes, to overlook circumstances that in context may fairly be considered *de minimis*.”<sup>10</sup>

In the preamble to final OOOO rule, EPA explains that the *de minimis* doctrine can apply when the source has emission controls in place that are “equivalent to those required for a new source” because,

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<sup>5</sup> The Proposed Rule defines “low production well” as a well with an average daily production 15 barrels of oil equivalent or less. Proposed Rule at 56,633 fn. 90.

<sup>6</sup> Proposed Rule at 56,611.

<sup>7</sup> Proposed Rule at 56,611.

<sup>8</sup> Proposed Rule at 56,639.

<sup>9</sup> *Alabama Power Co. v. Costle*, 636 F.2d 323, 360 (D.C. Cir. 1979)

<sup>10</sup> *Id.*

in such a situation, imposing NSPS controls on the source would not yield additional regulatory or environmental benefits.<sup>11</sup>

Therefore, EPA has a firm legal basis for granting *de minimis* exceptions to inherently low-emitting facilities.

In this rule, we urge the EPA to extend the *de minimis* exception to any of the affected sites/facilities with a *potential to emit* less than the values listed below, which are principally derived from the potential uncontrolled rates from the Technical Support Document (TSD):<sup>12</sup>

**Table 1: Low Fugitive Methane Emissions Facility Threshold**

Segment	Low Fugitive Methane Emissions Facility Threshold (metric tons per year, CH <sub>4</sub> )	Comment
Natural Gas Well Site	4	Per well <sup>13</sup>
Oil Well Site	4 <sup>14</sup>	Per well
Gathering & Boosting	35	Per station
Transmission	62	Per Compressor Station
Storage	164	Per Storage facility

**A site’s Potential to Emit can be readily quantified and estimated.** In order to establish a given site’s potential to emit, a company can use either EPA’s GHGRP emission factors or factors generated by direct measurements of the leaks employing generally accepted techniques such as HI Flow samplers at company facilities to develop its potential-to-emit estimates. As long as the potential-to-emit from the fugitive emission source is below the thresholds in Table 1, the facility should qualify for the low-emitting facility exception. Should additional wells or compressors be added to the facility, the facility will review its status against the *de minimis* thresholds in Table 1. Any increase above the threshold will make the facility subject to the fugitive emissions standards.

<sup>11</sup> *Id.* citing *Environmental Defense Fund, Inc. v. EPA*, 82 F.3d 451, 466 (D.C. Cir. 1996).

<sup>12</sup> *Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution, Background Technical Support Document for the Proposed New Source Performance Standards, 40 CFR Part 60, subpart OOOOa* available in the docket at <http://www.regulations.gov/#!documentDetail:D=EPA-HQ-OAR-2010-0505-5021>.

<sup>13</sup> See Proposed Rule at 56,637. EPA estimates 700 components at a well site. Table 5-7 of the TSD estimates a “Model Well Site” with 2 well-heads and 548 components to have potential uncontrolled emissions of 4.54 tpy. Extending the ratio of these different components to 700 yields a total of 8 tpy for a 2 well-pad site or 4 tpy per well. ONE Future further contends that it makes no sense to have a different or lower threshold for oil well sites than for gas well sites

<sup>14</sup> Note that while the calculations from Table 5-7 would indicate a 1 tpy threshold for oil well sites, we believe it makes little sense to impose a different *de minimis* exclusion threshold on oil and gas sites.

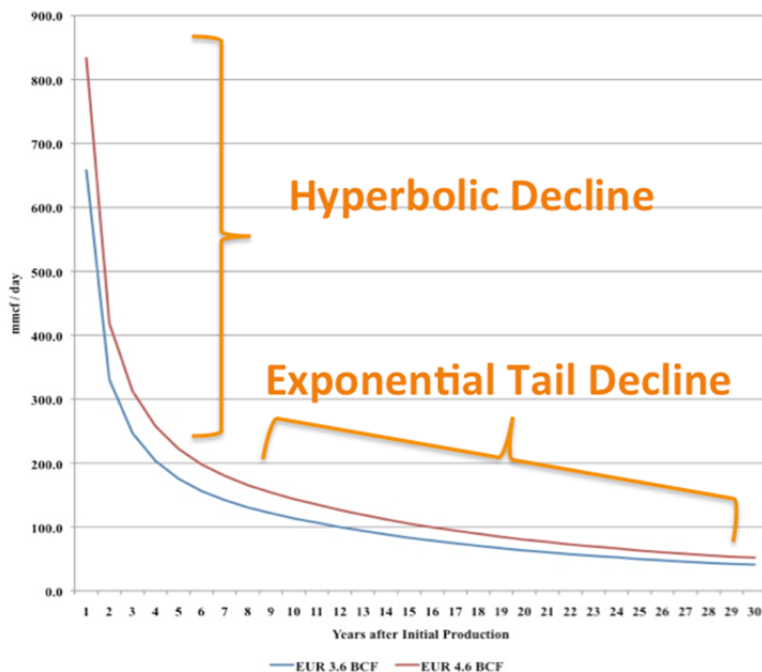
Notably, as part of the proposed Methane Challenge ONE Future commitment option, ONE Future companies will be estimating their emissions, even those not currently reported to the GHGRP due to being below threshold or simply not included. Additionally, ONE Future has also urged EPA to support and facilitate the usage of direct measurements as part of the Methane Challenge, which would facilitate this process.

**EPA can have a reasonable assurance that a low-emitting facility cannot exceed its applicable potential emission threshold and therefore continue to qualify for the exception.** The general NSPS definitions under 40 C.F.R. §60.14(a)(b) focus on modifications and increases in emission rate “expressed in kg/hr of any pollutant discharged...”. The EPA has upheld this concept of design rate and emissions increases in numerous determinations found in the search of the Applicability Determination Index (ADI).<sup>15</sup>

A low-emitting well site’s potential to emit fugitive emissions will not exceed that of its initial period of oil and natural gas production. In order to illustrate why this is the case for well sites, Figure 1 depicts the typical production decline curve over the lifetime of a natural gas well. As the figure clearly shows, the *potential* for fugitive emissions is highest during the initial period of production, which is a fundamental characteristic of shale wells. Hence, such facilities, which by their physical or operating

conditions have a low potential to release fugitive methane emissions, should be excluded.

Figure 1: Illustrative Production Decline Curves for Shale Gas Wells (Source: Penn State University)



The application of stringent rules to wells with a low potential for fugitive emissions constitutes an inefficient expenditure of capital and resources that could be better utilized elsewhere to achieve greater environmental benefit. Regrettably, however, the Proposed Rule applies uniform costs and management effort across all new, modified, and reconstructed assets on a perpetual basis, regardless of their potential emissions over time.

In the recent past, EPA has acknowledged the fact that emissions

decline over time in conjunction with declining well production, and created alternative standards within the relevant NSPS to accommodate changes in how compliance is demonstrated. For example, in its 2013 updates to the Subpart OOOO Rule, EPA established an Alternative Emissions Limit for storage vessels. This provision allows operators to either reduce VOC emissions at a tank by 95 percent, as was required in the 2012 rule; or alternatively, to demonstrate that emissions from a tank have dropped to less than 4 tons per year of VOCs without emission controls.<sup>16</sup> If a storage vessel's uncontrolled VOC emission rates are demonstrated to be less than 4 tpy for at least 12 consecutive months, then the facility can remove the prescribed emission controls. As EPA wrote at the time, "This alternative limit reflects the decline in emissions that occurs at most tanks over time and allows owners/operators to shift control equipment to higher-emitting tanks."<sup>17</sup> Anti-backsliding provisions were included such that if emissions subsequently increase over 4 tpy, the source would need to comply with the NSPS standards.

**Anti-backsliding provisions are already accounted for in OOOOa.** EPA's proposed OOOOa requirements for Fugitive Emissions, already includes a benchmark for determining whether emissions have increased at an inherently low-emitting source and therefore backsliding has occurred. This benchmark is the "modification" definition. For purposes of the OOOOa Rule, EPA has proposed to define "modification" for well sites as follows, "For the purposes of these fugitive emissions standards, a modification would occur when a new well is added to a well site (regardless of whether the well is fractured) or an existing well on a well site is fractured or refractured."<sup>18</sup> EPA later justifies this decision by stating:

*"When a new well is added or a well is fractured or refractured, there is an increase in emissions to the fugitive emissions components because of the addition of piping and ancillary equipment to support the well, along with potentially greater pressures and increased production brought about by the new or fractured well. **Other than these events, we are not aware of any other physical change to a well site that would result in an increase in emissions from the collection of fugitive components at such well site.**"<sup>19</sup>*  
(Emphasis added.)

Similarly, EPA concludes there will be an increase in fugitive emissions at an existing compressor station only when an operator adds an additional compressor or compression capacity:

*"..[A] modification occurs only when a compressor is added to the compressor station or when physical change is made to an existing compressor at a compressor station that*

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<sup>16</sup> Oil and Natural Gas Sector: Reconsideration of Certain Provisions of New Source Performance Standards, 78 Fed. Reg. 58,416 (Sep. 23, 2013).

<sup>17</sup> "Final Updates to Requirements for Storage Tanks Used in Oil and Natural Gas Production and Transmission" EPA Fact Sheet accessed here: <http://www3.epa.gov/airquality/oilandgas/pdfs/20130805fs.pdf>

<sup>18</sup> Proposed Rule at 56,612.

<sup>19</sup> Proposed Rule at 56,614 (emphasis added).

*increases the compression capacity of the compressor station. Since fugitive emissions at compressor stations are from compressors and their associated piping, connections and other ancillary equipment, expansion of compression capacity at a compressor station, either through addition of a compressor or physical change to the an existing compressor, would result in an increase in emissions to the fugitive emissions components. **Other than these events, we are not aware of any other physical change to a compressor station that would result in an increase in emissions from the collection of fugitive components at such compressor station.**"<sup>20</sup>." (Emphasis added.)*

Therefore, EPA can have a reasonable assurance that unless there is a "modification" at these low-emitting sites, there will be no increases in fugitive emissions from the time the facility is placed in service.

Considering the above, we urge the EPA to exclude low-emitting facilities from NSPS OOOOa standards for fugitive methane emissions. In so doing, EPA will permit a more efficient allocation of capital and resources that will facilitate operators to address more cost-effective abatement opportunities elsewhere in their system.

**RECOMMENDATION 2: EPA SHOULD CREATE AN "OFF-RAMP" FOR LOW-EMITTING FACILITIES.**

ONE Future urges EPA to provide an "off-ramp" out of the proposed OOOOa Fugitive Emissions requirements for those well sites and compressor stations that may transition into "Low-Emitting Facility" status, once their potential emit diminishes to a level equal to or less than the applicable thresholds we have identified in Table 1.

Establishing an off-ramp would acknowledge the natural decline curves associated with certain sites, and the attendant reductions in a sites potential to emit. Such facilities would be freed of some of the stringent and prescriptive fugitive emission requirements proposed in OOOOa, and could instead be managed under a more data-driven and risk-based inspection schedule that is more appropriate to the facility's profile. Without such a provision, companies would realize progressively diminishing returns (as measured in abated emissions) on the significant capital expenditures required by the Proposed Rule.

While the "once in, always in" concept is a construct of hazardous air pollutants under Section 112 of the Clean Air Act, it has not traditionally been applied in the context of Section 111 NSPS regulations. The policy was enacted in the context of Section 112 to prevent anti-backsliding at sources

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<sup>20</sup> Proposed Rule at 56,614.



that successfully installed emissions controls that reduced hazardous air pollutants below certain thresholds.

EPA's proposed fugitive emissions monitoring program does not raise the same anti-backsliding concerns as Section 112 MACT standards, especially at oil and gas well sites, mainly due to the fact that after the first few years, the production declines and the fact that new natural gas sites are subject to stringent controls and standards under NSPS OOOO anyway. The potential reductions that can be achieved by continuing to implement LDAR at these sites will be small and instead the capital and resources can be more efficiently deployed for reductions under the EPA Methane Challenge (ONE Future) program. These facilities could employ a lower frequency monitoring coupled with desk-top estimation. Should these surveys and desk-top analysis show emissions above the threshold, these facilities would require the sources to re-initiate fugitive emissions monitoring and become affected facilities.

**RECOMMENDATION 3: EPA SHOULD PERMIT AND ENCOURAGE THE USE OF ALTERNATIVE METHODS OF COMPLIANCE WITH THE PROPOSED OOOOa REQUIREMENTS TO ADDRESS FUGITIVES EMISSIONS.**

In the case of fugitive methane emission components at well sites and compressor stations, EPA is acting under its authority under Section 111(h) of the Clean Air Act.<sup>21</sup> Section 111(h) provides authority to the EPA to promulgate a particular work practice standard only if that standard reflects "the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." EPA has proposed a particular leak detection and repair (LDAR) regime as the work practice standard to address fugitive methane emissions at well sites and compressor stations.

EPA's proposed requirements for addressing Fugitive Emissions at Well Sites and Compressor Stations constitute the most significant concern for ONE Future's members in the Proposed Rule, as we view the likely costs associated with these provisions as high, while the emissions reduction benefit is relatively low. We urge the EPA to provide additional flexibility to ONE Future member companies who utilize comparable or superior programs to address fugitive emissions across their assets.

**EPA has the authority to allow for alternative means of emission limitation.** Section 111(h) of the CAA authorizes EPA to permit the use of an "alternative means of emission limitation" if EPA finds that it will

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<sup>21</sup> CAA § 111(h) provides that, if in the judgment of the Administrator, it is not feasible to prescribe or enforce a standard of performance for a source category, he may instead promulgate a "design, equipment, work practice, or operational standard, or combination thereof" that meets the "best technological system of continuous emission reduction" test. For purposes of these comments, references to "work practice standard" also encompass design, equipment, or operational standards, or a combination thereof.

achieve a reduction in emissions “at least equivalent to the reduction” achieved by the designated work practice.<sup>22</sup> To this end, we welcome that EPA has solicited comment “on criteria we can use to determine whether and under what conditions well sites and other emission sources operating under alternative fugitive monitoring plans can be deemed to be meeting the equivalent of the NSPS standards for well site about fugitive emissions such that we can define those regimes as constituting alternative methods of compliance or otherwise provide appropriate regulatory streamlining.”<sup>23</sup>

There are also strong policy rationales for this approach. EPA already has recognized, under its proposed Methane Challenge framework, the ambition of the ONE Future emissions intensity commitments and as noted earlier the Administration will need rely on voluntary programs to meet its 2025 reduction goals. Therefore, it is reasonable for EPA to support programs that are consistent with the comprehensive ONE Future commitment to optimal performance, including LDAR and DI&M programs being implemented as part of ONE Future/Methane Challenge.

Indeed, the use of existing alternative fugitive monitoring programs through approved EPA Methane Challenge programs such as ONE Future would provide strong incentives for operators to seek deeper reduction opportunities than they otherwise would pursue, including through innovative methods not necessarily covered by the prescriptive fugitive emissions standards specified in the Proposed Rule. Furthermore, by greatly reducing some of the paperwork burdens associated with OOOOa compliance, the EPA would allow operators to deploy additional capital toward R&D in emissions abatement. In this way, this approach would be consistent with Congressional intent that Section 111 would promote innovation in abatement technologies and practices.<sup>24</sup>

As explained below, there are a number of currently-existing Alternative Programs that can and should qualify as “alternative methods of compliance” to the LDAR work practice standard. We believe that these alternative approaches will yield greater reductions in emissions at a lower cost.

**The proposed OOOOa requirements to address fugitive emissions have numerous deficiencies.** The Proposed Rule does not provide an endpoint or off-ramp from mandatory monitoring, nor does it incorporate any existing alternative LDAR programs. At a given site, *any* LDAR program will become less cost-effective over time, as leaks are repaired and production declines. The costs associated with the OOOOa-prescribed LDAR, however, are ongoing, creating unnecessary, ineffective spending that would reduce the ability to apply scarce funds to more meaningful emission detection and reduction projects – which is central to ONE Future’s performance-based design.

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<sup>22</sup> CAA § 111(h)(3).

<sup>23</sup> Proposed Rule at 56,596. The preamble also explicitly solicits comments on corporate programs applicable to compressor stations. Proposed Rule at 56,643.

<sup>24</sup> *Sierra Club v. Costle*, 657 F.2d 326, 348 (D.C. Cir. 1981).

The Proposed Rule sets forth a prescriptive LDAR program, including initial instrument survey, semi-annual surveys, leaking component/equipment repair deadlines (irrespective of the significance of the leak), and significant recordkeeping and reporting elements. Although this proposal establishes a baseline road map for those implementing a LDAR program for the first time, it penalizes those operators that have been implementing alternative measures for addressing fugitives on a voluntary basis. In addition, the prescriptive nature of the proposed work practice standards do not allow companies to identify or pursue improvements to the rule that may be known now or may become clear over time, such as a different frequency of surveys, alternative instrumentation used in the surveys, or application of future continuous emissions detection system. (Moving to a more data-drive, risk-based approach over time is at the heart of the Directed and Inspection Maintenance Program concept.) Delineating such a prescriptive LDAR program prevents companies from implementing efficiency measures that lower the actual cost of the fugitive emissions control measures – and may often prevent capital expenditure on measures that would prevent future leaks.

Depending on a company's assets and geographic footprint, the inspection and repair schedule that would be imposed by the Proposed Rule on new and modified sources may be draconian, and will divert resources away from more effective efforts to find and fix fugitive emissions elsewhere in their existing assets. Many companies achieve greater cost-efficiency by coordinating Fugitive Emission surveys based on well site and compressor station locations, which significantly reduces travel time and costs, while yielding superior systemic results and awareness. However, as proposed, many companies are confronting the very real prospect that the resources which they would otherwise have dedicated to area-wide fugitive emission reductions will be principally consumed by OOOOa compliance.

**The proposed Fugitive Emissions standards will undermine the Administration's Strategy to Reduce Methane Emissions by detracting from more effective reduction efforts being undertaken by ONE Future in conjunction with the Methane Challenge.** The industry has already shown significant interest in voluntary programs, as evidence by the strength of ONE Future's membership. Yet as a general rule, most companies will necessarily first obligate their resources and budgets to regulatory compliance (i.e. NSPS OOOOa and OOOO) as opposed to voluntary programs. This means that some companies that would have participated in programs such as ONE Future and Methane Challenge may be deterred. Those who go forward will be challenged to achieve meaningful reductions at the small subset of facilities that are subject to the OOOOa Rule (which should already be performing optimally due to new components and investment), at the expense of deeper reductions that could be achieved through *nationwide* fugitives monitoring and repair programs. As a result, we believe the proposed NSPS fugitive emissions program will have the unintended consequence of undermining the Administration's ambitious methane reduction goals.

In January 2015, the Obama Administration specified an overarching goal of reducing methane emissions from the oil and gas sector by 40 to 45 percent below 2012 levels by the year 2025.<sup>25</sup> Based on our analysis and public statements, we conclude that a reduction goal of 40-45% equates to emission reductions of between 77 and 86 million metric ton of carbon dioxide by 2025<sup>26</sup> – even as the EIA projects that natural gas production will likely grow some 27 percent over that same period.<sup>27</sup> In addition to EPA’s Methane Challenge, major components of the Administration’s Strategy to Reduce Methane Emissions include the following regulatory actions:

- The OOOOa Rule, which EPA estimates will result in emission reductions equivalent to between 7.7 and 9 million metric tons of carbon dioxide<sup>28</sup>;
- EPA’s draft Control Techniques Guidelines (CTGs) for reducing VOC emissions from existing equipment and processes in the oil and natural gas industry, which EPA estimates will result in emission reductions equivalent to 5.5 million metric tons of carbon dioxide<sup>29</sup>;
- BLM’s Venting and Flaring rule, for which no estimates are currently available; and
- PHMSA’s future rule for addressing the sector, for which no estimates are currently available.

From these projections, we conclude that a majority of the methane emission reductions associated with meeting the Administration’s 40-45% goal are expected to be achieved via voluntary programs such as Methane Challenge. ONE Future has made a commitment to achieve a specific, measurable and ambitious performance target that, if adopted across the industry, would obviate the need for future regulation, while simultaneously improving the reliability of emissions data.

EPA’s estimated the potential reductions from application of annual and semi-annual LDAR (as noted in Table 2) and eventually concluded that semi-annual LDAR using Optical Gas Imaging (OGI) technology was the “Best System of Emission Reduction” (BSER) for fugitive emissions at oil and gas facilities. Even with semi-annual LDAR, at best, EPA estimates a reduction of about 5.4 mm tons of methane as CO<sub>2</sub>e or roughly 6-7% of the total Administration goal of 77-86 mm tons. In other words, the LDAR element included as part of this Proposed Rule is expected to achieve only a very small portion of the overall of the White House Methane Strategy objective.

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<sup>25</sup> The White House, “FACT SHEET: Administration Takes Steps Forward on Climate Action Plan by Announcing Actions to Cut Methane Emissions” January 15, 2015. Accessed on November 2, 2015 at: <https://www.whitehouse.gov/the-press-office/2015/01/14/fact-sheet-administration-takes-steps-forward-climate-action-plan-anno-1>

<sup>26</sup> Source: <https://www.whitehouse.gov/energy/climate-change> (“[A]chieving this goal would save up to 180 billion cubic feet of wasted natural gas in 2025. “ Accessed on November 2, 2015. Our calculations indicate that 180 bcf of natural gas is equivalent to approximately 86 million metric tons of CO<sub>2</sub>. (Utilizing a Global Warming Potential of 25 and assuming a factor of 19.2 g methane/scf of natural gas.”)

<sup>27</sup> U.S. Energy Information Administration, “Annual Energy Outlook 2015”, *Table: Natural Gas Supply, Disposition, and Prices*. Accessed on November 2, 2015 at: <http://www.eia.gov/beta/aeo/#/?id=13-AEO2015&cases=ref2015>

<sup>28</sup> EPA, “Proposed Climate, Air Quality and Permitting Rules for the Oil and Natural Gas Industry: Fact Sheet,” August 18, 2015. Accessed on November 2, 2015 at: [http://www3.epa.gov/airquality/oilandgas/pdfs/og\\_fs\\_081815.pdf](http://www3.epa.gov/airquality/oilandgas/pdfs/og_fs_081815.pdf).

<sup>29</sup> *Id.*

**Table 2: Emission Reduction Potential by Implementation of EPA LDAR Program<sup>30</sup>**

Site Type	2025 Methane Emission Reductions in Tons Per Year (tpy)	
	Annual	Semi-annual
Natural Gas Well Sites	69,710	106,036
Oil Well Sites	43,577	65,365
Gathering & Boosting Stations	21,845	32,767
Transmission Stations	898	1,347
Storage Stations	5,919	8,879
<b>Potential Reduction</b>	<b>141,949</b>	<b>214,394</b>

**Create a framework to employ alternative methods of compliance with EPA’s Fugitive Emissions standards.** Many leading companies, including ONE Future members, have already undertaken significant measures to reduce their methane emissions by via alternative LDAR and DI&M programs. These programs are typically applied across operators US assets and applied to both new and existing facilities. ONE Future companies recognize the importance of commercial performance and efficient deployment of capital and resources to achieve the greatest reductions. Typically, existing facilities have higher emissions than new facilities. New facilities in the natural gas sector are already designed with the newest and most advanced technology.

We urge the EPA to permit and encourage companies to adopt alternative methods of compliance with the OOOOa Fugitive Emissions requirements, as provided for under CAA § 111(h)(3), provided the programs meet the following criteria:

1. The Alternative Fugitive Emissions Monitoring Program (“Alternative Program”) is employed under the EPA Methane Challenge’s Best Management Practice (BMP) or ONE Future programs thereby ensuring that the program provides ample performance data.
2. The Alternative Program includes a process for conducting leak surveys, identifying leaking components/equipment, and repairing leaking components/equipment.
3. The Alternative Program either takes the form of a Directed Inspection & Maintenance Program (DI&M), or includes recordkeeping and reporting requirements that may be used to assist the firm to develop such a program. A DI&M allows each operator to determine where inspections should take place based on their unique, intimate knowledge of their operating assets. DI&M is a well-established, EPA-recognized tool for detecting, prioritizing and repairing fugitive emissions in a cost-effective manner. It provides operators with the flexibility to utilize the knowledge of their operations to identify the major leaks, which historically have been found to emanate from a small number of sources.

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<sup>30</sup>See Table 5-13 in *Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution, Background Technical Support Document for the Proposed New Source Performance Standards, 40 CFR Part 60, subpart OOOOa* available in the docket at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2010-0505-5021>.

4. The Alternative Program includes Audible, Visual, Olfactory leak survey during regular well pad and compressor station facility visits as part of routine operations (i.e., standard operating practices).
5. The Alternative Program includes the use of an optical gas imaging or infrared camera and/similar devices to conduct “instrument” leak detection surveys at well pads and compressor stations.
6. The Alternative Program requires an instrument leak detection survey of new wells and new compressor stations within 180 days of commencing operation. The subsequent survey frequency should not be arbitrarily fixed at a semi-annual basis as noted below.
7. The Alternative Program specifies timelines for when repairs need to be completed and if needed a re-survey.
8. The Alternative Program should specify training requirements and qualifications for employees and contractors as it relates proper operations of the instruments, understanding of the program and process and field training with the use of instruments.

The final rule should establish provisions for companies to submit Alternative Programs that meet the above criteria. The NSPS rules should allow for such “alternative or custom plans.” As an example, NSPS Subpart GG requires fuel gas sulfur content monitoring for certain turbines. However, companies may submit a custom plan and request revisions to the frequency of the monitoring and revisions to the monitoring locations. Over time, EPA has approved many custom monitoring plans that removed the monitoring from each turbine location to key locations along the pipeline.

Alternative LDAR or DI&M programs undertaken as part of the EPA Methane Challenge (BMP or ONE Future) are deemed equivalent to the EPA NSPS OOOOa standards and can be employed at any new or modified affected fugitive emissions facility immediately on finalization of the rule. This ensures a streamlined and predictive process for current participants in the ONE Future program. We highly recommend that EPA “jump starts” the process through the Methane Challenge program and that EPA develops a “White Paper” or other provisions to develop template Alternative Programs (e.g. see SWN SMART LDAR Best Practice submitted to ECOS) to incorporate these approval of Alternative Programs currently undertaken by ONE Future members.

Enforcement of the Alternative Program should be limited to affected facilities under the OOOOa Rule. Existing sources that the company monitors employing the Alternative Program should not be subject to any enforcement actions.

**EPA should not mandate semi-annual Surveys as BSER for fugitive emissions.** The EPA has proposed OGI technology with semiannual survey monitoring as part of the BSER for detecting fugitive methane emissions from new and modified well sites and compressor stations. EPA asserts that “the costs

between annual and semi-annual monitoring are comparable. Because semi-annual monitoring achieves greater emissions reduction, we focus our analysis on the cost based on semiannual monitoring.”<sup>31</sup> However, when reviewing the frequencies of LDAR in making its BSER determinations, EPA relied on the quantity of methane emissions reductions (as depicted above in Table 2) and not necessarily the cost-effectiveness (\$/ton) as noted below in Table 3 (cost of controls presented below are without incorporating the revenues from gas captured).

**Table 3: Cost Effectiveness of Fugitive Emission Reduction Programs in \$/ton CH<sub>4</sub> abated**

	Single Pollutant		Multi-pollutant		Source <sup>32</sup>
	Annual	Semi Annual	Annual	Semi Annual	
<b>Well Site Weighted Average</b>	\$2,475	\$2,768	\$1,237	\$1,384	Table 5-14, 5-15
<b>Compressor Station Weighted Average</b>	\$686	\$718	\$343	\$359	Table 5-17, 5-18

The EPA proposed analysis clearly shows that annual LDAR is more cost-effective than semi-annual LDAR. A cost-effectiveness analysis provides a means of evaluating whether one technology or work practice yields reductions relative to resources spent. As noted earlier, one can realize significant cost reductions when adopting a nationwide LDAR program in lieu of EPA mandatory programs, mainly due to economies of scale and avoiding efficiencies by having a single program for operators to adhere to.

Once the initial survey is completed, unless the operator has specific knowledge to indicate otherwise, it should be assumed that the facility is not likely to develop significant fugitive emissions leaks for the next several years and recurrent surveys should not be required, especially since these new facilities will be subject to current NSPS OOOO and OOOOa standards anyway.

The following provides a summary of annual LDAR surveys and measurements of the fugitive component leaks using the HI Flow at 53 midstream compressor stations for 2014 and 2015.

**Table 4: LDAR and Hi Flow Measurements at 53 Compressor Stations**

	2014	2015
<b>Average (cubic feet per minute (cfm))</b>	1.85	1.14
<b>Median (cfm)</b>	1.16	0.64

<sup>31</sup> Proposed Rule at 56,636.

<sup>32</sup> See Tables 5-14, 5-15, 5-17, and 5-18 in Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution, Background Technical Support Document for the Proposed New Source Performance Standards, 40 CFR Part 60, subpart OOOOa available in the docket at <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2010-0505-5021>.

This company implements an alternative LDAR program and also takes an additional step to measure the leaks using HiFlow instruments. Leaks that are identified are fixed according to the company's LDAR protocol. The measurements above are on "as found" basis on the leaking components. Comparing the data for 2014 and 2015, this company found a 38% average reduction in total leaks from these 53 compressor stations. This data indicates that once leaks are identified and fixed by a LDAR survey, the leakage rates remain fairly low and it clearly indicates that any frequency more stringent than annual basis is unwarranted.

Rather than mandating a specific frequency, ONE Future believes that operators employing an Alternative Program should be given the freedom to select the sites that should be surveyed based upon their knowledge of the operations and the propensity for particular components to develop significant fugitive emissions leaks. The operator would then re-survey approximately 20% of its affected facilities each year so that each affected facility is re-surveyed once every 5 years, or upon "modification" of the facility. Based upon industry experience with DI&M programs within the midstream, transmission and distribution sectors, we anticipate that associated costs will be significantly lower than the LDAR program surveys and reporting required under the Proposed Rule.

**RECOMMENDATION 4: PERMIT ONE FUTURE RECORDKEEPING AND REPORTING AS AN ALTERNATIVE TO THE RECORDKEEPING AND REPORTING REQUIREMENTS IN THE PROPOSED RULE.**

The Proposed Rule includes extensive recordkeeping and reporting requirements. EPA has extensive discretion to determine what recordkeeping and reporting requirements are necessary for implementation and enforcement of this type of rule. ONE Future urges EPA to authorize that ONE Future member companies that achieve specified interim targets for their methane emission intensity should have relief many of the paperwork burdens associated with demonstrating their compliance with both the OOOOa standards as well as any future Existing Source Performance Standard for the oil and gas sector.

EPA's own cost/labor estimates associated with the proposed NSPS requirements for industry record keeping and reporting (activities such as writing and submitting the notifications and reports, developing systems for the purpose of processing and maintaining information, and training personnel to be able to respond to the collection of information) indicate an estimated average annual burden of 92,658 labor hours with an annual average cost of \$3,163,699.<sup>33</sup> Although some of the data and records are basic, many provisions are purely related to demonstrating compliance. (For example, EPA requires digital photographs of operators physically performing monitoring surveys with embedded latitude and longitude positions). Stated differently, these reporting provisions exist to prove you committed no

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<sup>33</sup> See "Oil and Natural Gas Sector: Emission Standards for New and Modified Sources" 80 Fed. Reg. 56,593 (Sep. 18, 2015).



crime. We believe that this burden should be waived or mitigated for proactive operators who have good track records for compliance and safe operations and who by enrollment in ONE Future have demonstrated their interest in continuous improvement.

**RECOMMENDATION 5: RECOGNIZE THAT IMPLEMENTATION OF METHANE CHALLENGE COMMITMENTS COULD OBVIATE THE NEED FOR FUTURE SECTION 111(D) METHANE REGULATION OF EXISTING SOURCES.**

According to some observers, EPA’s promulgation of Section 111(b) methane standards will trigger an obligation under Section 111(d) to promulgate methane standards for existing sources in the same source category. However, Section 111(d) does not specify a deadline for such a subsequent regulation.

To this end, it is important to recognize that case law makes clear that “an agency has broad discretion to choose how best to marshal its limited resources and personnel to carry out its delegated responsibilities.”<sup>34</sup> In the recent case of *WildEarth Guardians v. EPA*, the Court of Appeals for the District of Columbia Circuit (“D.C. Circuit”) affirmed EPA’s decision not to issue section 111 rules—including both new source rules under section 111(b) and existing source rules under section 111(d)—for methane emissions from coal mines.<sup>35</sup> The D.C. Circuit reasoned that EPA’s justification— that EPA was “taking a common-sense, step-by-step approach intended to obtain the most significant greenhouse-gas-emissions reductions through using the most cost-effective measures first”—was a sufficient basis for the court to hold that EPA had not violated its obligations under the Clean Air Act by forgoing regulation.<sup>36</sup>

The commitment being undertaken by ONE Future and other Methane Challenge participants constitutes just such a common-sense approach to achieving significant GHG reductions via the most cost-effective mechanism possible. Therefore, ONE Future urges EPA to recognize publicly that substantial participation of oil and gas companies in the Methane Challenge could result in methane emission reductions in an amount that would obviate the need for additional regulation of methane emissions from the sector. Such recognition would provide current and potential prospective industry partners with assurances that if their proactive investments in emissions abatement measures achieve specified targets, it would obviate the need for future regulation under Section 111(d) of the Clean Air Act.

Accordingly, we urge EPA to explicitly and publically recognize that, consistent with the *WildEarth Guardians* holding, sufficient industry participation and successful implementation of the Methane Challenge will reduce methane emissions from existing sources in the oil and gas sector to such a degree

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<sup>34</sup> *Massachusetts v. EPA*, 549 US 497, 527 (2007).

<sup>35</sup> *WildEarth Guardians v. EPA*, No. 13-1212, 2014 WL 1887372 (D.C. Cir. May 13, 2014).

<sup>36</sup> *WildEarth Guardians* at 6.

that agency resources would be better marshalled by regulating other sources of greenhouse gases. In which case, the agency will exercise its discretion to forgo regulation of existing sources of methane under section 111(d).

ONE Future acknowledges that the Agency may wish to maintain maximum flexibility with respect to a future rulemaking. Therefore, we urge EPA to make a Statement of Policy to this effect.

**RECOMMENDATION 6: PERMIT METHANE CHALLENGE COMMITMENTS AS ANY ALTERNATIVE METHOD OF COMPLIANCE WITH ANY FUTURE SECTION 111(D) REGULATION.**

Individual companies adopting ambitious commitments under the Methane Challenge should have assurances that their efforts will earn regulatory recognition under any future Section 111(d) methane regulation in the event that the total efforts are not sufficient to avoid such regulation. Absent such assurances, companies evaluating participation in the Methane Challenge will consider the risk that they effectively would be penalized for early action, i.e., by making an investment in voluntary action that their competitors have not made *and* then being required to make further investments under a future regulatory program. If not addressed, this risk could dissuade many companies from participating in the Methane Challenge.<sup>37</sup> In other words, if EPA does not provide such assurances, there is a strong risk that EPA will not achieve its objectives for the Methane Challenge.

EPA could provide assurances of regulatory relief to companies participating in the Methane Challenge in a number of ways. For ONE Future, the preferred way would be for EPA to provide assurances that it will propose in any future Section 111(d) methane regulation for the sector that a company's comprehensive implementation of its Methane Challenge commitment will constitute compliance with the requirements under the regulation. Again, we recognize that EPA is unlikely to provide binding assurances that will govern or constrain agency actions in future regulatory programs. However, we nevertheless urge the agency to issue a Statement of Policy outlining these elements, and to make clear that it will include them in any proposal for new regulation of existing sources. EPA could also integrate them into a Memorandum of Understanding with each participating company.

**RECOMMENDATION 7: PROVIDE ASSURANCES OF BASELINE PROTECTION FOR METHANE CHALLENGE PARTICIPANTS.**

The EPA should ensure that Methane Challenge participants will be recognized – not penalized – for their early voluntary actions. Such recognition could be achieved by providing “baseline protection.”

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<sup>37</sup> To be sure, companies have a modest incentive to participate in the Methane Challenge if they have reason to believe that widespread participation in the Methane Challenge will forestall regulation of existing sources. However, this incentive is diminished by a collective action problem: an individual company can only control its own participation, not the participation of other companies. That is why it is important provide benefits of participation that a can company can secure through its own actions alone.

For example, the baseline year for any future regulatory program for existing sources of methane emissions in the oil and gas sector should be 2012, the benchmark year against which the Obama Administration is measuring the reductions it expects to achieve from its methane program. In any event, the baseline year should be no later than the launch date for the Methane Challenge program. If, for some reason, EPA is compelled to establish a later baseline year, the Agency at least should adjust upward the historic baseline emission levels for companies participating in the Methane Challenge. Such baseline protection is vital to ensure a level playing field between companies participating in the Methane Challenge and companies that do not. Otherwise, Methane Challenge participants will be penalized for their voluntary investments in methane abatement.

Again, such assurances could be provided by means of a Statement of Policy or as part of the Memorandum of Understanding in the Methane Challenge Framework.

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This concludes our comments. Should you have any questions, please contact:

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