

**BEFORE THE COLORADO AIR QUALITY CONTROL COMMISSION  
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**

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IN THE MATTER OF PROPOSED REVISIONS TO COLORADO AIR QUALITY CONTROL  
COMMISSION REGULATIONS NUMBER 3, PARTS A, B, AND C; REGULATION  
NUMBER 6, PART A; AND REGULATION NUMBER 7  
OIL AND GAS RULEMAKING

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**ENVIRONMENTAL DEFENSE FUND'S  
REBUTTAL STATEMENT**

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**I. Executive Summary**

Environmental Defense Fund (“EDF”) respectfully submits this Rebuttal Statement in the above-referenced matter. As explained below, the data presented in the Prehearing Statements and Exhibits submitted by other parties, including even those opposed to the proposed rule, provides strong support for the draft regulations to control hydrocarbon emissions from oil and gas operations in Colorado as proposed by the Air Pollution Control Division (“The Division”). For example, modeling information presented by the Davis Graham and Stubbs (“DGS”) Group shows that reducing volatile organic compounds (“VOCs”) emissions from oil and gas production sources will reduce ozone pollution. In addition, information regarding leak detection and repair programs (“LDAR”) submitted by DGS and others demonstrates that the LDAR program proposed by the Division will be cost effective.

This Rebuttal Statement generally addresses the following:

1. The proposed rule is necessary to reduce emissions of VOCs and methane (“CH<sub>4</sub>”) from oil and gas facilities;
2. The proposed rule is effective and cost effective;
3. The proposed rule contains appropriate controls;
4. The proposed rule should apply statewide, as proposed by the Division;
5. Rollbacks to reporting and permitting thresholds for sources outside the nonattainment area are unsupportable;
6. The Division has satisfied applicable provisions in the Colorado Administrative Procedure Act (“APA”);
7. The Air Quality Control Commission (“AQCC”) has clear authority to regulate hydrocarbons as proposed in the rules.

EDF includes with this brief expert reports by Tammy Thompson, Ph.D., regarding air chemistry issues and an expert report by WZI, Inc., regarding pollution controls and cost

effectiveness. EDF also submits the written expert testimony of Gernot Wagner, Ph.D. regarding the benefits of anticipated methane reductions from the proposed rule, to rebut the contention that the methane reductions are not effective or cost effective. Dr. Wagner's testimony demonstrates that the methane reductions will generate benefits in the range of \$100 million to more than \$300 million per year.

As the Commission is aware, some parties (governmental and private) seek to make the proposed rule stronger. Other parties (governmental and private) seek to weaken the proposed rule. These divergent positions show that the proposed rule strikes the right balance. Indeed, the information in the record demonstrates the critical need for the proposed rule, that the proposal is cost effective, carefully tailored, pragmatic and is strongly in the interest of Colorado. The proposed rule from the Division represents the best of leading industry practices. In fact, leading companies in Colorado are already deploying many of these practices, which is testament to the cost effective and practical nature of the proposal.

On January 23, 2014, the Division published an updated draft of the proposed rule that included clarifications and several changes as proposed by DCP Midstream and others in its prehearing statement. EDF has reviewed these changes as proposed by the Division and supports the changes. The changes clarify the rule, and also improve the rule with respect to certain components, such as compressor seals and rod packing.

This Rebuttal Statement contains EDF's response to the key issues raised in the prehearing statements and exhibits of other parties seeking to weaken the proposed rule. EDF does not attempt to address each and every argument raised by each and every party, but rather focuses on the issues most germane to EDF's interest in ensuring that the proposed rule adequately protects human health and the environment by requiring cost effective, available controls.

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## **II. The Proposed Rule Is Necessary to Reduce VOCs and CH4 Emissions**

Several parties object to the rule as proposed by the Division, questioning the nature of the problem to be addressed by the rule and whether the rule will be effective in reducing air pollution from those sources.<sup>1</sup> As set forth in the record, oil and gas activities are the single largest anthropogenic contributor of smog-forming volatile organic compounds (“VOCs”) and a significant source of methane in Colorado. Ozone causes serious human health and welfare impacts, even at levels below the current 2008 8-hour federal national ambient air quality standard (“NAAQS”).<sup>2</sup> Methane is a potent greenhouse, with a warming potential at least 84 times that of carbon dioxide in the near term and a contributor to background global ozone concentrations.<sup>3</sup> Targeting reductions of these air pollutants as a means to protect and enhance air quality in Colorado and address climate change in Colorado is both necessary and appropriate.

VOC emissions from oil and gas activities have been increasing steadily, while ozone precursors from other sources are decreasing.<sup>4</sup> The Division predicts a 50% increase in emissions from the oil and gas sector over 2011 levels by 2018.<sup>5</sup> Methane emissions from Colorado oil and gas production will see similar increases. Measurement data, including three peer-reviewed studies and a study performed by EPA, suggests these estimates may be conservative. Studies suggest that actual emissions may be 50% to 300% greater than reported inventories.<sup>6</sup> Modeling sensitivity runs from DGS, purporting to demonstrate that the inventory over estimates VOCs, do not alter the important and consistent conclusions reached by these measurement campaigns.<sup>7</sup> In fact, the model runs submitted by DGS demonstrate that reducing VOCs from oil and gas activities reduces ozone (which supports the rulemaking): “The sensitivity study provided by DGS provides concrete evidence that reducing VOC emissions in Colorado will reduce ozone in Colorado using air quality modeling procedures that follow those recommended by the US EPA for regulatory purposes. In fact, the DGS sensitivity study shows that reducing VOCs from O&G leads to widespread ozone decreases throughout the Front Range on the days shown in the model report with a maximum decrease of 1.67 ppb.”<sup>8</sup>

Modeling, including that done by opponents of the rule, demonstrates that VOC emissions from oil and gas activities are contributing to ozone pollution.<sup>9</sup> In fact source apportionment modeling done for the DGS Group shows VOCs from oil and gas contributing 1.19, 0.50 and 0.53 ppb to ozone concentrations over 70 ppb at monitors in Greeley, Fort Collins

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<sup>1</sup> See e.g. DGS Prehearing Statement at 4.

<sup>2</sup> Tammy M. Thompson, PhD, The potential human and environmental health impacts of emissions from Oil and Gas activities in Colorado, January 6, 2014 (“Thompson PHS expert report”), 7.

<sup>3</sup> EDF-PHS at 4.

<sup>4</sup> *Id.* at 4.

<sup>5</sup> APCD-PHS EX-V to PHS (estimating an increase from 576 tons per day in 2011 to 870 tons per day in 2018).

<sup>6</sup> Tammy M. Thompson, PhD, The potential human and environmental health impacts of emissions from Oil and Gas activities in Colorado: Rebuttal Statement, January 30, 2014 “Thompson RBS expert report”, 4; Thompson PHS expert report, 3.

<sup>7</sup> Thompson RBS expert report, 4.

<sup>8</sup> *Id.* at 5

<sup>9</sup> DGS Client Group Exhibit No. RR. to PHS.

West, and Fort Collins, respectively.<sup>10</sup> This rebuts the DGS Group’s assertion that reducing VOCs (as opposed to oxides of nitrogen or “NOx”) will have no effect on reducing ozone levels. Indeed, the source apportionment modeling DGS presented on this point fails to demonstrate that the nonattainment area is “NOx limited,” or that controlling NOx emissions is the best way to reduce ozone pollution.<sup>11</sup> Modeling also demonstrates that VOC emissions from sources located outside of the Denver nonattainment area travel eastward and contribute to the Front Range nonattainment problem.<sup>12</sup>

### **III. The Proposed Rules are Cost Effective and Effective**

Opponents of the proposal contend that the Division’s proposed rules are not cost effective. A review of the analysis that purports to support this contention, consisting of a report prepared by the Louis Berger Group, demonstrates that it is fundamentally flawed.

#### *A. The Division’s LDAR Analysis is Appropriate*

The Berger analysis offered by the DGS Group contains numerous serious errors and internal inconsistencies that completely undermine its credibility and utility. Berger’s critique of the Division’s cost effectiveness analysis for the proposed leak detection and repair program overstates repair and re-monitoring costs, utilizes an unapproved methodology for calculating cost effectiveness, and arbitrarily modifies aspects of EPA’s Technical Support Document upon which it relies to analyze the cost effectiveness of LDAR.<sup>13</sup> These errors compound to create a cost estimate that has no basis in fact.

The approved methodology, used by EPA and others for estimating the cost effectiveness of LDAR programs, compares the uncontrolled pre-regulation emissions at a facility with the reductions achieved during each inspection period. The Berger analysis instead compared the incremental reductions achieved at each inspection with those achieved during the prior inspection rather than comparing the incremental reductions to the pre-rule emissions baseline. This results in a gross underestimate of the benefits.<sup>14</sup>

Oddly, the Berger Group assumed the same repair and monitoring costs each year of the program’s effect, even though it assumed a lower leak and repair rate over time. This is internally inconsistent and grossly over inflates the cost per ton reduced every year after the first year the program is implemented.<sup>15</sup>

The Berger Group also greatly overestimated the number of leaking components that would require repair and re-monitoring, particularly for more frequent LDAR programs. The analysis purported to rely on a memo used by EPA in its recent analysis of LDAR. The EPA

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<sup>10</sup> Thompson RBS expert report, 5.

<sup>11</sup> *Id.* at 5-6.

<sup>12</sup> *Id.* at 1-2.

<sup>13</sup> WZI Expert Report: Rebuttal to prehearing statements for rulemaking of revised Colorado regulation 7, January 30, 2014 (“WZI Rebuttal expert report”), 1-4.

<sup>14</sup> *Id.* at 2.

<sup>15</sup> *Id.* at 3.

memo estimated leak rates for various components found at refineries. Berger selectively chose to use the leak frequency of valves as representative for all components a facility, thereby inflating the number of repairs and re-monitoring costs. This inflation of the percentage of leaky components translates into an inflation of repair costs and re-monitoring costs.<sup>16</sup>

An example of the combined impact of these errors is illustrated by the Berger Group cost estimate for LDAR at well production sites with tanks whose actual uncontrolled emissions are larger than 50 tons per year. The Berger Group presents an estimate of \$40 million for these facilities; however, once some of the errors are corrected, their actual estimate would be \$3 million based on the data presented. Thus, the Berger Group estimate for this element (which is a large portion of their total costs), is off by a factor of more than 11 in the first year alone.<sup>17</sup>

Berger similarly over estimates the costs of monitoring components at storage tanks. Berger inexplicably increased the time to repair components that do not require a shut down by a factor of 23 and assumed higher than reasonable costs for repairs that can take place at regularly scheduled shut downs.<sup>18</sup>

Berger claims to rely on data used by EPA to estimate the cost effectiveness of conducting LDAR at well sites. However, Berger misapplies and misconstrues EPA's data in a way that results in illogical results. For example, Berger assumes that it costs \$2,172 to inspect a well site with less than six tons per year of VOCs. Such a well site, according to Berger, consists of 1 gas well with 47 components and no additional equipment such as tanks, separators, etc. Such a site would take 25 minutes to inspect, based on this component count and a high assumption of time to inspect per component (30 seconds). This results in a realized hourly rate of \$5,520 per inspection. Assuming this astronomical hourly rate, a full time inspector working 6 hours a day, 5 days a week, 50 weeks a year would generate eight million dollars in revenue. The absurdity of this result demonstrates fundamental flaws in the Berger analysis.<sup>19</sup> Similar flaws exist in other parts of the Berger analysis examining the cost effectiveness of conducting LDAR at well sites.

Another reality check on the Berger Group data shows that Berger assumes that a single tier of well production facilities (sites with uncontrolled actual tank emissions between 12 and 50 tons per year), contain almost three times the number of wells that exist in the state. Fugitive emissions are a part of the total emissions profile at a well site, yet the Berger Group analysis indicates that the fugitive emissions from this subset of these sites is *more than double the emissions from all oil and gas sources from all sites in the entire state of Colorado*.<sup>20</sup> While one would not expect a perfect match between statewide emissions given the simplified assumptions associated with the use of model facilities, this large discrepancy shows that the Berger Group estimate is not based in fact. As summarized by WZI: "From an engineering standpoint, the Berger Group's data and conclusions revealed that the Berger Group did not produce reliable and meaningful values to assess against the actual CDPHE proposed program and its estimated costs."

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<sup>16</sup> *Id.* at 3-4.

<sup>17</sup> *Id.* at 11.

<sup>18</sup> *Id.* at 5.

<sup>19</sup> *Id.* at 9.

<sup>20</sup> *Id.* at 10.

The Trihydro report submitted by WPX similarly fails to demonstrate flaws in the Division's LDAR analysis. WPX introduced the report to support its request that operators be allowed to move to less frequent monitoring over time (so called "skip monitoring"). The Trihydro report fails to provide a basis for skip monitoring. In fact, the data in the Trihydro report supports the emissions reductions assumed by the Division (40% for annual and 60% for quarterly as reasonable). That report also demonstrates that less frequent inspections, such as those associated with skip monitoring, yield lower emission reductions.<sup>21</sup>

Some other programs do allow skip monitoring in limited circumstances, but those programs are substantially more complex than the one proposed by the Division. The more complex programs involve other costs, such as more robust recordkeeping, tagging and higher enforcement efforts. Moreover, these programs prescribe skip monitoring in narrow circumstances. EPA requires operators check for leaks monthly from valves and pumps at gas processing plants and refineries, where all equipment is tagged and other requirements apply.<sup>22</sup> EPA does allow for reduced monitoring in some instances, but that program is only available for valves—not all components subject to the LDAR program. Similarly, LDAR requirements for gas production facilities in California only allow reduced monitoring for certain components. Certain components known for a high leak recidivism, such as compressor seals, are never subject to reduced monitoring frequencies.<sup>23</sup> These examples of other regulatory LDAR programs that allow for reduced monitoring in very limited circumstances and only for certain components further argues against WPX and others' suggestion that "skip monitoring" should be added to the proposal. As pointed out by the Division, skip monitoring also creates compliance problems and adds complexities to the program. The Division appropriately declined to include a skip monitoring program.

The analysis of the Division is consistent with the report prepared by Carbon Limits, Exhibit A to the Prehearing Statement of the Conservation Groups. The study included data from 4,293 surveys to detect 58,421 emission sources. The study found that, in the aggregate, conducting LDAR surveys had a positive net present value (*e.g.*, less than zero net cost). When considering well sites and batteries, the net present value of the surveys was close to zero. The study included surveys ranging from annual to monthly.<sup>24</sup> That report, which is based on extensive data from actual third party LDAR inspections, provides yet additional evidence that:

- LDAR programs are highly cost effective;
- the Division emission reduction assumptions are conservative,
- the cost information presented by the Berger Group regarding LDAR is not realistic and should be rejected, and;
- it is not necessary or appropriate to incorporate a skip monitoring program into the proposal from the Division.

#### B. *The Division's Flare Analysis is Appropriate*

Berger similarly inflates the costs of flares by assuming higher than reasonable maintenance costs and shorter than reasonable life times. In fact, the maintenance costs are so

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<sup>21</sup> *Id.* at 16. Report did not evaluate monthly LDAR so that value is not presented here.

<sup>22</sup> 40 C.F.R. §§ 60.5400 (cross-referencing the leak detection and repair requirements in Subpart VVa).

<sup>23</sup> San Joaquin R. 4409 § 5.2.9 (2005) ; South Coast R. 1173(f)(2) (1989); Santa Barbara Rule 331(F)(2) (1991); Ventura Rule 74.10(D)(8) (1989).

<sup>24</sup> See Conservation Groups PHS-EX A (Testimony of David McCabe), 2-4.



high that one could buy a new flare every 3.4 years, while the normal life of a flare is greater than 15 years. This contrasts sharply with other information. Flares are so long-lasting that they are often moved from site to site as production declines. These errors compound to unreasonably inflate the costs assumed by the Berger Group. The original estimate from the Division is the better and more accurate estimate.<sup>25</sup>

C. *The Division's Tank Capture Control Analysis is Appropriate*

The Berger Group presents an estimate of installing Buffer Bottles to enhance capture efficiency at storage vessels, but that estimate is grossly inflated. The Berger Group relies on a statistically insufficient sampling of operators and unfounded assumptions regarding the estimated life of Buffer Bottles. A Buffer Bottle is a much simpler and less expensive piece of equipment than other types of equipment, such as primary separators and test separators, yet the Berger Group prices Buffer Bottles at rates higher than or comparable this other equipment. This shows that the Berger Group estimate is too high and not realistic. As a result the Division's cost estimates for installing buffer bottles remains appropriate.<sup>26</sup>

**IV. Statewide Reductions in VOCs and CH<sub>4</sub> are Necessary to Maintain and Attain Clean Air and Reduce Emissions of Climate Altering Methane**

A. *Existing Facilities outside of the Nonattainment Are Responsible for Over Half of the Oil and Gas Point and Area Source Emissions in the State*

Opponents of the Division's proposal maintain that VOC and CH<sub>4</sub> reductions are not necessary outside of the seven counties and two partial counties that form the Denver ozone nonattainment area. Numerous lines of evidence, as well as sound policy, mandate otherwise. Indeed, the Commission would be remiss in its responsibility to ensure that emission control regulations "achieve the maximum practical degree of air purity in every portion of the state" if it failed to require all significant sources of air pollution to reduce emissions.<sup>27</sup>

More than half of the natural gas produced in Colorado in 2012 occurred outside of the Denver nonattainment area. In 2012 1,883,804,502 MCF of gas were produced in attainment counties. This represents 87% of the gas produced in the state.<sup>28</sup> Similarly, 66% of the statewide vented and fugitive emissions occurred in counties outside of the D.J. Basin in the nonattainment area in 2011.<sup>29</sup>

Opponents of the proposed rule suggest that production outside of the nonattainment area will decline in the future. The percent of new gas well starts in 2012 outside the nonattainment does not indicate such a decline is imminent. In 2012 75% of new gas well starts occurred outside the nonattainment area.<sup>30</sup> Even assuming gas production were to decline, the significant

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<sup>25</sup> WZI Rebuttal expert report, 4.

<sup>26</sup> *Id.* at 6-7

<sup>27</sup> C.R.S. § 25-7-102.

<sup>28</sup> Data obtained by EDF from DI Desktop.

<sup>29</sup> EDF-RBS-EXH A.

<sup>30</sup> Data obtained by EDF from DI Desktop.

emissions burden from the myriad existing oil and gas sources outside the nonattainment area supports the scope of the Division's rule.

B. *VOCs Emitted in Western Colorado Contribute to Ozone Formation in the Nonattainment Area.*

Ozone precursors travel and can impact air quality far from the location where initially emitted. Atmospheric studies and meteorological modeling demonstrate that ozone precursors emitted in Western Colorado travel east, impacting monitors in the nonattainment area and contributing to the Front Range's nonattainment status. Reducing VOC emissions from sources emitted outside the nonattainment area will not only reduce impacts at monitors located near such sources, but it will also help the Denver metropolitan area attain the NAAQS.<sup>31</sup>

C. *The Commission and Division Have Authority and a Duty to Protect Clean Air In All Parts of the State*

There is no question that the Commission has the authority to promulgate emission control regulations for sources located throughout the state<sup>32</sup>, or that the Commission has the authority to do so in the absence of a federal driver such as a State Implementation Plan deadline.<sup>33</sup> Indeed, opponents of the proposed rule do not contend as much but rather maintain that statewide emission controls at this time are not good policy. We disagree.

States need not wait until air has deteriorated to unhealthy levels before targeting reductions of air pollutants. The federal Clean Air Act ("CAA") and the Colorado Air Pollution Prevention and Control Act ("APPCA") require states maintain and protect pristine air as well as improve dirty air and reduce pollution. *See* C.R.S. § 25-7-102 (achieving "the maximum practical degree of air purity in every portion of the state" is a primary goal of the APPCA); *see also Id.* ("it is the purpose of this article to require the use of all available practical methods which are technologically feasible and economically reasonable so as to reduce, *prevent*, and control air pollution throughout the state of Colorado"); and *id.*, ("*Prevention*, abatement and control of air pollution in each portion of the state are matters of statewide concern...") (*emphasis added*).

The federal CAA contains similar provisions that emphasize the importance of preventing air pollution. Congress declared pollution prevention "a primary goal" of the CAA.<sup>34</sup> The CAA directs EPA "to establish a national research and development program for the prevention and control of air pollution."<sup>35</sup> Congress further made it clear that states and localities bear the primary responsibility of preventing pollution. *See* 42 U.S.C. § 7401(a)(3) ("Air pollution prevention...is the primary responsibility of States and local governments.").

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<sup>31</sup> Thompson RBS expert report, 2.

<sup>32</sup> C.R.S. § 25-7-102 ("It is further declared that the *prevention*, abatement, and control of air pollution in each portion of the state are matters of statewide concern and are affected with a public interest..."); *Id.* at § 105 (providing authority for the Commission to promulgate emission control regulations "consistent with the legislative declaration set forth in section 25-7-102).

<sup>33</sup> *Id.*; *see e.g.* § 25-7-105.1 (state-only provisions that are more stringent than federal requirements are adopted exclusively under state authority and are not part of the state implementation plan).

<sup>34</sup> 42 U.S.C. § 7401.

<sup>35</sup> *Id.* at § 7403.

Opponents further contend that adopting emission control regulations in order to protect pristine is neither warranted by the nation’s clean air laws nor good policy. Again, neither the letter of the state and federal clean air laws nor common sense supports this position.

States have a duty to *maintain* as well as attain the NAAQS. *See Id.* at § 7410(a)(1) (requiring states to submit “a plan which provides for implementation, *maintenance*, and enforcement” of the NAAQS); *See also Id.* at § 7407(a) (*same*). The Colorado legislature similarly declared it to be “the policy of this state to achieve the maximum practical degree of air purity in every portion of the state, to attain and *maintain* the national ambient air quality standards...”<sup>36</sup> In addition the Commission must promulgate rules and regulations that are consistent with the legislative declaration including “a comprehensive state implementation plan which will assure attainment *and maintenance* of national ambient air quality standards...”<sup>37</sup>

Past efforts by this Commission confirm the wisdom and appropriateness of acting proactively to protect healthy air. In 2006 the Commission adopted a suite of measures to reduce VOCs and oxides of nitrogen (“NOx”) from condensate tanks, reciprocating compressor engines and glycol dehydrators located statewide. In doing so the Commission stated these “revisions constitute a forward-looking approach to deal with the a rapidly growing source of air emissions, and are designed to reduce the possibility of future problems with respect to the attainment of National Ambient Air Quality Standards...”<sup>38</sup> Similar reasons support the adoption of statewide rules here. According to the Division, were EPA to lower the 8-hr ozone standard by 0.005 ppm consistent with recommendations by the Clean Air Scientific Advisory Committee, two Western Slope monitors would fall into non-attainment.<sup>39</sup> If EPA were to lower the standard by 0.010 to 0.065 ppm, 8 to 9 Western Slope and Southwest Colorado monitors would fail to meet federal health-based standards for ozone.<sup>40</sup> And as noted above, VOC emissions from oil and gas sources in Western and Southwestern Colorado impact ozone levels at attainment area as well as non-attainment monitors.<sup>41</sup>

D. *Emissions in Attainment Area Confirms the Wisdom of the Division’s Proposal EPA Policy Encouraging States to Reduce Ozone Precursor*

EPA’s Ozone Advance program encourages states and localities with attainment areas to take steps to proactively ensure continued maintenance with Clean Air Act requirements. States, tribes and local governments are eligible to participate in Ozone Advance to evaluate, select and implement control measures and programs to ensure compliance with current and future NAAQS.<sup>42</sup> As EPA notes “[p]roactive work to address ozone precursors can reduce emissions sooner and avoid violations of the ozone NAAQS that might compromise public health.”<sup>43</sup>

Taking steps to reduce air pollutants in order to avoid a possible non attainment designation or higher non-attainment designation (i.e., moving from marginal to moderate) under

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<sup>36</sup> C.R.S. § 25-7-102.

<sup>37</sup> *Id.* at § 25-7-105(1)(a)(I).

<sup>38</sup> AQCC December 17, 2006 Statement of Basis, Specific Authority and Purpose.

<sup>39</sup> EDF-RBS-EXH B. AQCD, Review of the 2013 Ozone Season, Oct. 17, 2013 Commission Meeting, slide 15.

<sup>40</sup> *Id.*

<sup>41</sup> Thompson RBS expert report, 2.

<sup>42</sup> EPA Ozone Advance Guidance Document (Apr. 2012), available at: <http://www.epa.gov/ozonepmadvance/pdfs/2012404guidance.pdf>.

<sup>43</sup> *Id.* at p. 2.

a future or current air quality standard, is beneficial to operators as well as to the goal of protecting clean air. An ozone nonattainment designation, or “bump up” to a higher designation, triggers additional control requirements that can impose costs on operations of affected sources.<sup>44</sup>

E. *Cost Effective Programs to Reduce Methane Should Apply Statewide*

The fact that this proposed rule is aimed in part at reducing methane emissions provides even further support for applying these regulations on a state-wide basis. A ton of methane emitted outside the non-attainment area causes damage similar to a ton of methane emitted from within the attainment area. An arbitrary distinction between the attainment and non-attainment area does not make sense in this context. In order to ensure that methane emissions are reduced from all facilities in Colorado, the rules must be applied statewide.

V. **The Proposal is Cost Effective and Reasonable for Operators of All Sizes and Types**

Some have argued that the proposal is a one-size-fits-all approach and is inappropriate for certain operators. To the contrary, the proposal is narrowly tailored to account for differences in production type, facility age, and emissions profile.

The LDAR program specifies different monitoring frequencies and implementation dates based on a facility’s emission profile and age. Facilities with the potential to leak the least are subject to the least stringent, and thus less costly, requirements. Specifically, well sites with less than 6 tons of VOC emissions need only perform a one-time instrument based inspection. This is a very modest requirement. Sites with between 6 and 12 tons of VOCs, as well as compressor stations with less than 12 tons of fugitives, are only subject to annual inspections. This is in line with similar requirements for small emission sources elsewhere.<sup>45</sup>

The LDAR program similarly contains a delayed implementation schedule for small existing facilities. The smallest well sites have until July 1, 2016 in which to conduct their one-time instrument based inspection, while well sites with between 6 and 12 tons of VOCs have until January 1, 2016 to begin conducting annual inspections. Indeed, the earliest that any existing well site must comply with the LDAR provisions is January 1, 2015 and this is only for the largest sites.

Facilities with low VOC emissions, such as coal-bed methane facilities, are subject to minimal requirements. As noted above, sites with small VOCs are subject to very modest LDAR requirements. It is our understanding that most, if not all, CBM well sites will only be subject to a one time or annual instrument based inspection. Similarly, the proposal exempts sites with small tanks whose emissions are under 6 Tpy from the storage vessel control, capture, and auto-igniter requirements. Many CBM facilities do not use tanks, or if they do use tanks, they have small VOC emissions, so again, many CBM operators are unaffected by the tank requirements. Existing facilities with single glycol dehydrator emissions under 6 Tpy similarly need not install controls. These exemptions ensure that the rule is narrowly tailored to focus on the largest emission sources and to provide additional flexibility to smaller emission sources.

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<sup>44</sup> See 42 U.S.C. § 7511.

<sup>45</sup> See e.g., Penn. Dep’t of Env’tl. Prot., Air Quality Permit Exemption No. 38 (July 26, 2003).

## **VI. The Control Strategies and Program as Proposed by The Division Are Appropriate and Should be Adopted**

This section outlines several key elements of the proposed rule and responds to points raised in various prehearing statements. As set forth below, the proposed rule amendments strike the correct balance, and should be adopted. EDF does not speak to each and every point. Silence on any proposal shall not be considered any type of indication that EDF agrees with the proposed change. EDF reserves the right to respond to particular points as necessary at the hearing, even if not specifically discussed herein.

### *A. Appropriate to Require STEM as Proposed by the Division*

None of the Prehearing Statements provide any sound justification to depart from the STEM rules as proposed by the Division. The Colorado Oil and Gas Association (“COGA”) and Colorado Petroleum Association (collectively, “COGA”) and DGS state that they generally support the STEM program as proposed by the Division, but “with clarifications.” One change<sup>46</sup> they propose concerns a modification to the prohibition on venting from storage tanks, which would add additional limitations on this requirement and potentially puts additional burdens on the Division. The standard as proposed by the Division is superior, as it is clearer and is achievable. Venting from storage tanks has been a persistent problem in Colorado. Clear standards are needed to correct these problems. No changes to that term as proposed by the Division are necessary.

### *B. Appropriate to Require LDAR on the Schedule and Tiers Proposed by the Division*

The DGS group and others support the use of LDAR at oil and gas production sites and compressor stations, but it and others propose changes that would significantly weaken the protections of the rule. None of the Prehearing Statements in opposition to the rule provide any sound justification for departing from the practical approach to LDAR as set forth in the proposed regulation. The main argument concerns cost, but as outlined above, the cost information presented by DGS/COGA and WPX are so fundamentally flawed that they are of no probative value.

While some would argue for more or less frequent LDAR tiers, EDF supports the balanced rule as proposed by the Division, and as supported by various industry leaders such as Noble, Anadarko, Encana, and DCP Midstream. As discussed above, under the program proposed by the Division, larger sites will be subject to more frequent instrument based inspections, while smaller sites will be subject to much less frequent or only one time instrument based inspections. This careful tailoring of the rules by the Division ensures that the program will be cost effective. In fact, the cost per ton of VOC and methane reduce is quite low, showing that this program is extremely cost effective.<sup>47</sup>

As discussed above, the LDAR program as proposed by the Division is highly cost effective. Even the data submitted by those opposing the rule supports the approach proposed by

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<sup>46</sup> DGS and COGA generally seek to limit the rules to the nonattainment area. That issue is discussed separately above and is not repeated here.

<sup>47</sup> EDF PHS; APCD PHS; APCD-PHS-EX CCCCC.

the Division, including the control effectiveness of the program. The cost information presented by the Berger Group is fundamentally flawed and should be rejected.

C. *Appropriate to Require Enclosed Flares as Set Forth in the Proposed Rule*

The Proposed Rule requires that, when a flare is used for pollution control from a storage tank or glycol dehydrator, that the flare be an enclosed flare. COGA and the DGS Client Group suggest a change to the draft that would exempt an operator from using an enclosed flare under certain circumstances. EDF does not support the changes proposed by COGA and DGS, and supports the requirement for enclosed flares as proposed by the Division.

Enclosed flares are superior to open flares in several respects. First, enclosed flares provide for improved control of NO<sub>x</sub>, which contributes to ozone formation. Second, enclosed flares are more protective of wildlife, such as birds. Third, enclosed flares are far superior from an aesthetic standpoint compared to open flares.<sup>48</sup>

The exceptions to the rule as proposed by COGA/DGS are simply not necessary. First, enclosed flares can be designed to handle large flows (through the use of larger units or multiple combustors), so the claim that open flares are required for large flows is not correct. Second, an enclosed flare can function properly when used as a backup to the primary means of control, so no exception is required where it is not the primary means of controls. Third, since enclosed flares have benefits other than aesthetics, it is appropriate to require their use in areas other those located within 1,320 feet of a Residential Area (as defined by COGA in its draft). Fourth, DGS has not established that retrofit of enclosed flares is improper or not appropriate.

D. *Appropriate to Require Best Management Practices for Liquids Unloading and Well Maintenance*

COGA and DGS object to the rules that require capture and control of emissions during liquids unloading events and well maintenance. They claim that this issue was not raised during the stakeholder process and should be rejected on that basis. Even if relevant to the authority of the Commission to adopt that element of the rule, which it is not, COGA/DGS is wrong on the facts. EDF did raise this issue throughout the stakeholder process, both in written materials and orally. But the fact that a particular term of the rule was not part of the stakeholder process is not even legally relevant.<sup>49</sup> Flexibility is inherent in this type of rulemaking process, the rigid restrictions implied by COGA and DGS have no basis in law. Now that the terms have been proposed by the Division in the rulemaking, they are subject to review and analysis by the parties and the Commission.

DGS argues that particular best management practices cannot be utilized in certain circumstances. That argument is irrelevant to whether the Commission should adopt this flexible element of the rule. The regulation does not require the use of any particular practice (such as plunger lifts) in any particular setting or in every setting. Rather, the rule requires the operator to employ the best management practice for the situation at issue. As outlined in the EDF Prehearing Statement and accompanying WZI report, a host of cost effective methods are

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<sup>48</sup> See WZI Rebuttal expert report, 1.

<sup>49</sup> Indeed, DGS itself proposes new terms that were not part of the stakeholder process, such as terms relating to open flares.

available to control emissions during these activities, including “BMPs” recommended by the American Petroleum Institute.

Operators in Wyoming have complied with a very similar requirement to the Division’s proposal since 2010. Wyoming requires operators statewide to minimize VOC and hazardous air pollutant emissions during “manual and automated blowdown/venting episodes associated with liquids unloading, wellbore depressurization in preparation for maintenance or repair, hydrate clearing, emergency operations, equipment depressurization, etc.” Like the Colorado proposal, Wyoming also requires “personnel shall remain on site to ensure minimal gas venting occurs” during manual blowdown or venting.<sup>50</sup>

E. *Other Requirements Proposed by the Division are Appropriate*

COGA, DGS and others object to other elements of the proposed rule, including the glycol dehydrator controls, certain aspects of the pneumatic controls and auto igniters. As demonstrated by the Division, and affirmed in WZI’s expert report accompanying EDF’s Prehearing Statement, the proposed changes to the control requirements for certain glycol units are cost effective and would reduce emissions from these units as part of the proposed regulation. The pneumatic control changes are highly cost effective and will reduce VOC and methane emissions in the state. The requirement to install auto igniters outside of the nonattainment area is also very cost effective and should be adopted.<sup>51</sup>

**VII. Stakeholder and Rulemaking Process Comply Fully with Due Process and the letter and spirit of the Colorado Administrative Procedures Act (APA)**

COGA and others argue that the more than ten-month stakeholder process somehow falls short of what the law requires in Colorado. Nothing could be further from the truth. The stakeholder process carried out by the Division was extensive. The Division held numerous meetings, large and small, accepted comments from a wide range of stakeholders. This process goes well beyond the minimum requirements of the Colorado APA and due process. The rule proposed by the Division is a mix of what various stakeholders discussed and proposed during the stakeholder process. Following this process, the draft rule was published, and this rulemaking initiated. The Division continues to consider language from various stakeholders during the rulemaking, as reflected by the updated rule language it circulated on January 23, 2014, including its acceptance of language proposed by other regulated sources.

The proposed rules are now the subject of this rulemaking that enables the parties to submit written briefs, expert reports, present witnesses, and cross examine witnesses. That such an extensive process would deprive any party of due process is difficult to fathom. The process complies with the letter and spirit of the requirements of the Colorado APA.

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<sup>50</sup> Wyo. Dep’t of Env’tl. Quality, Oil and Gas Production Facilities: Chapter 6, Section 2 Permitting Guidance at 18, 24, 28 (Sept. 2013).

<sup>51</sup> See WZI Report, January 6, 2014.

## **VIII. The Division's Proposal to Retain Current Reporting and Permitting Thresholds is Reasonable and Appropriate**

COGA, DGS and other seek to rollback current reporting and permitting thresholds contained in Regulation 3. These rollbacks are against public policy and should be rejected.

### *A. Emission Reports are Important to Policy Development and Compliance Monitoring*

APENs provide important information regarding emissions, facility operations, and location relied on by the Division for permitting and policy development. For example, APENs provided critical information used by the Division to demonstrate the cost effectiveness of the proposed LDAR program. There are many emission sources in the oil and gas industry whose individual emissions are small, but when grouped, can be quite large. Fugitive emissions and emissions from pneumatic devices are such examples. As demonstrated by the Division's proposal, emissions from these sources sum to represent a significant percentage of the inventory. Therefore, it is critical to retain the APEN thresholds at the current levels in order to continue to have access to these source's emissions as well as other similar sources that have small individual, but large grouped, emissions.

The Commission has recognized the importance of maintaining a robust, accurate and comprehensive emission inventory in prior rulemakings.<sup>52</sup> In 2011 the Commission proposed exemptions from the reporting requirements of Reg. No. 3 for stationary internal combustion engines, emergency power generators and deaerator/vacuum pump exhausts.<sup>53</sup> EPA disapproved of these proposed revisions because they "relax existing SIP requirements."<sup>54</sup> The Commission repealed the exemption in response to EPA's disapproval.<sup>55</sup> In so doing the AQCC recognized "[E]mission inventories are essential tools in protecting public health and the environment. A less accurate emissions inventory may translate into a public health and environmental cost, by delaying the time necessary to improve the inventory when developing plans to address future NAAQS" and that "[U]nderstanding emissions is essential to preventing pollution."<sup>56</sup>

In addition to providing important data on emissions, APENs serve an important notice function. APENs inform the Division of the presence of new or modified emission points that can be sources of air pollution. Specifically, APENs ensure the Division knows of the location, ownership and operator status of each emissions point at or above APEN thresholds. *See* Reg. No. 3, pt. G (Oct. 17, 2002) (noting that revision to APEN requirements "allows the Division to keep track of these points [emission points]"). This information is important to compliance

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<sup>52</sup> C.R.S. § 25-7-102 ("a current and accurate inventory of actual emissions of air pollutants from all sources is essential for the proper identification and designation of attainment and nonattainment areas, the determination of the most cost-effective regulatory strategy to reduce pollution, the targeting of regulatory efforts to achieve the greatest health and environmental benefits, and the achievement of a federally approved clean air program. In order to achieve the most accurate inventory of air pollution sources possible, this article specifically provides incentives to achieve the most accurate and complete inventory possible and to provide for the most accurate enforcement program achievable based upon that inventory").

<sup>53</sup> 76 Fed. Reg. 61, 054 (Oct. 3, 2011).

<sup>54</sup> *Id.*

<sup>55</sup> Reg. No. 3, pt. G.I.VV (Oct. 20, 2011) ("Statements of Basis, Specific Statutory Authority, and Purpose").

<sup>56</sup> *See also* Reg. No. 3 II.B.4. (allowing for emission point source grouping provided that the "overall goals of receiving accurate and verifiable emissions information are not compromised.")



monitoring efforts aimed at ensuring sources install and maintain appropriate controls to meet state and federal emission control requirements, including new requirements proposed here.

B. *Permits are An Important Compliance Monitoring Tool and Provide Transparency*

The permit process provides important information to operators, state and local regulators and inspectors, and the public. For operators, the permit process provides an opportunity to meet with the Division staff prior to construction in order to review applicable emission control requirements and ensure that the source can meet them.<sup>57</sup> State and local inspectors, as well as members of the public, rely on permits to help ensure compliance. The Division and EPA may deny future permits to operators with poor compliance histories.<sup>58</sup> Permit conditions can be a source of enforcement actions including injunctions,<sup>59</sup> civil penalties,<sup>60</sup> criminal penalties and a denial of future activity.<sup>61</sup> Because of the important role permits play in ensuring compliance and providing transparency, the Commission should not decrease the current permit thresholds.

**IX. The Commission Has Authority to Regulate Hydrocarbons As Proposed in the Rule**

COGA and CPA claim that this Commission lacks authority to regulate hydrocarbons as proposed in the rule, but this claim is wholly without merit. As set forth in our opening papers, Colorado law provides this Commission with express authority to regulate hydrocarbons.<sup>62</sup>

Undaunted, COGA/CPA attempts to throw one meritless hurdle on top of another in an effort to dissuade the Commission from exercising its clear authority. Each of these supposed hurdles is addressed below.

A. *The Proposed Regulation is Consistent with the Legislative Declaration Contained in 25-7-102*

COGA/CPA first seeks to prevent regulation of hydrocarbons by claiming the existing inventory is not sufficient and that the regulation will lead to a “host of unintended consequences, including a regulatory scheme that renders minimal environmental health benefits and is not cost effective.”<sup>63</sup> The record contains ample evidence demonstrating that oil and gas production activities are a large and growing source of hydrocarbon emissions and that regulating these sources will produce important and cost effective benefits for public health and the environment.

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<sup>57</sup> Reg. No. 3. Pt. B.III.A. Sources may elect to submit a “Regulatory Analysis” that identifies the applicability of state and federal air quality permitting requirements and air pollution control regulations and may meet with Division staff to ensure compliance.

<sup>58</sup> C.R.S. § 25-7-122(2)(a)(I); 42 U.S.C. § 7413(e).

<sup>59</sup> *Id.* § 25-7-121.

<sup>60</sup> *Id.* § 25-7-122.

<sup>61</sup> *Id.* § 25-7-122.1.

<sup>62</sup> *Id.* §§ 25-7-105-106; 109(c)(2).

<sup>63</sup> COGA/CPA PHS Appendix A at 4.

First, COGA/CPA argues the “Commission ‘shall’ take into consideration, among other things, the state’s policy regarding air pollution set forth in Colorado Revised Statutes Section 25-7-102....”. COGA/CPA claims that this declaration “emphasizes” the need for a current and accurate inventory.” COGA/CPA then claims that the existing emission inventory data does not provide a basis for regulating methane emissions, claiming the data beg the question of whether “regulation of methane emissions from upstream oil and gas operations ... can produce meaningful environmental benefits.”<sup>64</sup>

We disagree. The existing inventory is robust, and sufficient for the purposes of this regulation. The proposed rule is sound, based on appropriate information about the inventory, and the data could not be clearer regarding the need for the proposed regulation. As explained in the Prehearing Statement of EDF and others:

- Hydrocarbon emissions from oil and gas activities in Colorado exceeded 500,000 tons in 2011 (counting only VOC and methane emissions). Methane emissions alone were in excess of 300,000 tons.<sup>65</sup> As demonstrated in EDF’s Prehearing Statement, these methane emissions represent the greenhouse gas emissions of millions of cars.
- The significance of these emissions is also demonstrated by the fact that concentrations of methane and ethane pollution are higher in rural oil and gas production areas than in downtown Denver.<sup>66</sup>
- The Division analysis shows that, absent the currently proposed regulation, oil and gas emissions are going to become a much larger share of anthropogenic emissions in the future. By 2018, the Division projects that oil and gas emissions will account for 68% of anthropogenic VOC emissions in Colorado, almost twenty times that from all other point sources combined and almost 7 times the VOC emissions from all on-road mobile sources. A similar growth in methane emissions is likely, absent these controls.
- As pointed out in the EDF PHS and this rebuttal PHS, several studies using field measurements conclude that the oil and gas inventories may be understated.
- The WZI report shows that the proposed rules will reduce methane emissions by 112,000 tons per year, once fully implemented. If the measures are evaluated solely using VOCs as the metric (e.g., tons per VOC reduced), these methane reductions are at a zero additional cost.
- If one uses standard measures to evaluate the benefits of these methane reductions in terms of climate change, the methane reductions will generate benefits of \$100 million to \$300 million per year, based on central values from the US Government for the social cost of carbon. The actual values are likely even higher.<sup>67</sup> These values do not account for the benefits of the valuable gas and condensate liquids that will be captured or the public health benefits associated with the associated ozone reductions associated with these reductions.

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<sup>64</sup> COGA PHS Appendix A at 2-4.

<sup>65</sup> WZI Expert Report, Jan. 6, 2014, Table 3.1-1.

<sup>66</sup> See APCD PHS at 9, tables 4 and 5.

<sup>67</sup> Expert Rebuttal Report and Rebuttal Written Testimony of Gernot Wagner, Ph.D., Characterizing the Economic Benefits of Anticipated Methane Reductions for the Proposed Amendment to Colorado’s Proposed Oil and Gas Regulations with Respect to Climate Change, Jan. 30, 2014, at 2.

COGA/CPA's argument on this point really comes down to whether the available information about the inventory enables this Commission to evaluate whether the rules will have any environmental or health benefits and whether the rules will be cost effective. On these facts, this standard is easily met.

COGA/CPA goes on to argue that the Colorado GHG inventory it attached as Exhibit C to its PHS is somehow insufficient because it is "draft" or based on default factors. COGA/CPA also tried to claim that the ongoing efforts of the Commission to gain additional information about the important issues of climate change should preclude action at this time.

These arguments fare no better. The Draft 2013 GHG inventory is clearly sufficient for purposes of this rulemaking. Default emission factors are commonly used by the EPA<sup>68</sup> and this Commission and the Division. Moreover, a review of that inventory indicates that it greatly *understates* GHG emissions from the oil and gas sector. Among other things:

1. The inventory only includes emissions from oil and gas production, but does not include any emissions from the transportation or distribution sectors.
2. The report uses default assumptions for industry growth, but the growth in Colorado is projected to be greater than the national average. This leads to an understatement of future emissions.<sup>69</sup>
3. The report uses outdated information about the climate forcing potential of methane. The report converts methane to CO<sub>2</sub>e using a value of 21.<sup>70</sup> A more appropriate figure is 28 to 34 over the long term (100 years) and 84 to 86 over the short term (20 year timeframe), based on the most recent ICC report.<sup>71</sup>
4. The report does not reflect the fact that field measurement studies suggest actual emissions from oil and gas production may be even greater than those in the reported inventory.

The state will be reviewing these and other issues to update the inventory in the future; however, it is clear that any update to the inventory contained in COGA/CPA Exhibit C would yield a larger estimate of current and future emissions from this burgeoning industrial sector, and provide only a stronger basis to adopt these regulations. Of course, it is perverse to argue that the Commission is precluded from regulating these sources because their emissions are even bigger than currently estimated.

The COGA/CPA focus on only one inventory is also misplaced. Other data is also available. Data from the Division and WZI show very large emissions of VOCs and methane from oil and gas activities, which are derived separately from the COGA/CPA Exhibit C. All of these inventories further support the need for action as proposed by the Division.

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<sup>68</sup> <http://www.epa.gov/ttn/chief/efpac/abefpac.html> (describing how emissions factors have long been a fundamental tool in developing inventories and control strategies).

<sup>69</sup> Compare COGA/CPA Exhibit C Table 2-18 (showing cumulative increase of 6.96 percent between 2010 and 2020) to APCD Exhibit V (showing a 50% increase in oil and gas emissions between 2011 and 2018).

<sup>70</sup> COGA/CPA Exhibit C., p.169.

<sup>71</sup> Wagner report at 6.

Finally, it is important to point out that COGA/CPA's myopic focus on the recommendations regarding the inventory in section 102 disregards other critical elements of the legislative declaration. That section contains a clear and express statement of the "policy" of the state "to achieve the maximum practical degree of air purity in every portion of the state.... To that end, it is the purpose of this article to require the use of all available practical methods, which are technologically feasible and economically reasonable so as to reduce, prevent, and control pollution throughout the state of Colorado."<sup>72</sup> That is exactly what this proposed rule would do. The proposed rules are clearly consistent with the legislative declaration of C.R.S. § 25-7-102.

B. *The Commission is Complying with C.R.S. § 25-7-109(b)(II) by Taking Into Consideration Federal Recommendations and Requirements*

COGA/CPA next argues that adopting the proposed hydrocarbon measures would be inconsistent with "federal recommendations and requirements" in violation of C.R.S. § 25-7-109(b)(ii). As a threshold matter, C.R.S. § 25-7-109(b)(ii) directs the Commission only to "*take into consideration . . . [f]ederal recommendations and requirements,*" and does not mandate consistency with such requirements. (*emphasis added*). The Commission has been and will continue to take these requirements into consideration and so COGA's arguments fail. In any event, COGA fails to identify any actual inconsistencies with federal requirements or recommendations, and indeed, these recommendations strongly reinforce the need to reduce climate pollution, including harmful emissions of methane.

Even if the controlling Colorado statute did require consistency with a federal program – which it does not – COGA/CPA fails to identify any federal recommendation – much less requirement – pertaining to states' authority to regulate methane from the oil and natural gas sector. COGA/CPA emphasizes EPA's decision to "continue to evaluate the appropriateness of regulating methane," but that is not inconsistent with Colorado's proposed requirements, and, in any event, is neither a federal recommendation nor requirement. COGA/CPA also attempts to manufacture inconsistency by pointing to a pending, narrow Supreme Court challenge, which does not implicate EPA's fundamental authority to address climate pollution,<sup>73</sup> and by speculating about legal challenges to EPA's proposed carbon pollution standards. These arguments fail entirely.

In fact, federal recommendations and requirements strongly reinforce the need to reduce climate pollution. EPA has issued first and second generation standards to reduce greenhouse gas pollution from cars and light trucks, first generation standards to address GHGs from medium and heavy-duty trucks, and proposed carbon pollution standards for power plants.<sup>74</sup> Moreover, the President's Climate Action Plan identifies the critical importance of reducing climate pollution and the need to partner with "*states, local communities, and the private*

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<sup>72</sup> C.R.S. § 25-7-102.

<sup>73</sup> The Supreme Court declined to hear any challenges to EPA's authority to regulate GHGs, which the Court has repeatedly affirmed. *See, Massachusetts v. EPA*, 549 U.S. 497 (2007); *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011).

<sup>74</sup> 76 Fed. Reg. 57105 (September 15, 2011), 77 Fed. Reg. 62624 (October 15, 2012) and 79 Fed. Reg. 1430 (January 8, 2014).

sector,”<sup>75</sup> in doing so. The Plan also unequivocally states: “[c]urbing emissions of methane is critical to our overall effort to address global climate change.”<sup>76</sup> Colorado’s efforts to reduce methane emissions from the oil and gas sector are entirely consistent with these federal recommendations and requirements.

C. *GHG Emissions from the Oil and Gas Industry Are Significant and Warrant Control*

COGA/CPA also argues that the Commission has not determined that GHGs in Colorado or from the oil and gas sector are “significant” within the meaning of Section 109(1)(a)(I), 109(1)(a)(II) and 109(1)(b)(V). The oil and gas trade associations also claim “the Division has improperly singled out the oil and gas industry for GHG regulation.”<sup>77</sup> These arguments fair no better than the others.

The proposed regulations easily meet the threshold of CRS 25-7-109. First, section 109(1)(a)(II) requires regulation of “each significant source or category of air significant sources of air pollutants” or “each type of facility, process, or activity which produces or *might* produce significant emissions of air pollutants.” (*emphasis added*). As set forth above oil and gas production activities emit more than five hundred thousand tons of hydrocarbons, including more than three hundred thousands of tons of methane each year. And those emissions are going up. COGA/CPA cannot seriously contend that oil and gas facilities are not a “significant source of air pollutants” or that the Commission does not have the authority to find that oil and gas activities “might produce significant emissions.” Section (1)(b)(V) is of no further help to COGA/CPA. That section merely requires the Commission “to take into consideration” among other factors, the “extent to which the emissions to be controlled is significant.” The Commission is doing just that in these proceedings.

The data presented by the Division, EDF and other parties demonstrate that oil and gas production activities are large sources of GHGs, and these emissions may be understated, both nationally and in Colorado. Even looking at the methane reductions in isolation, these rules will generate at least \$100 to \$300 million benefits.<sup>78</sup> The actual value is likely substantially higher.<sup>79</sup> Finally, the proposed rule targets many of the largest sources of methane in the oil and natural gas sector, including equipment leaks (23% of the 2011 inventory), venting during well blowdowns (24%), and continuous bleed pneumatic devices (21%).<sup>80</sup>

Although COGA/CPA characterize the Commission’s efforts as hasty and ill-considered, the proposed rule concludes a deliberate and careful regulatory process. The Division engaged in an almost one year stakeholder process. More broadly, Colorado is engaged in a larger, multi-pronged effort to reduce GHG emissions in the state. For example, in 2010, Colorado increased its Renewable Energy Standard (“RES”) from 20 percent to 30 percent by 2020 for investor-

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<sup>75</sup> Executive Office of the President, The President’s Climate Action Plan, June 2013. (*emphasis added*), available at <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

<sup>76</sup> *Id.*

<sup>77</sup> COGA/CPA, Attachment A: Legal and Policy Discussion Regarding the Commission’s Inability to Regulate Methane and Ethane from Oil and Gas Emissions Sources as Part of the Proposed Rules at 5–7.

<sup>78</sup> Wagner report at 2.

<sup>79</sup> *Id.*

<sup>80</sup> Based on percentage of source emissions from the entire oil and natural gas sector. *See* WZI Jan. 6 Report at Table 3.1-1.

owned utilities.<sup>81</sup> Under separate legislation passed in 2013, larger rural electric co-ops must meet a 20 percent RES target by 2020, while smaller co-ops and most municipal utilities are required to meet a 10 percent target.<sup>82</sup>

Another example of Colorado’s long-term GHG planning effort, the Clean Air – Clean Jobs Act, was enacted in 2010 with the support of a diverse group of stakeholders, including the natural gas industry, environmental groups, and utilities.<sup>83</sup> The law requires utilities to develop plans to reduce emissions from high-polluting plants. Xcel Energy alone anticipates reducing its CO<sub>2</sub> emissions in Colorado by 28.<sup>84</sup> Indeed, the oil and gas industry has been a beneficiary of programs like the Clean Air – Clean Jobs Act, which has resulted in the retirement of coal plants and the construction of additional gas plants in the state. The industry worked hard to ensure natural gas would play a prominent role in electricity generation, and many leading companies such as Encana, Noble, Anadarko and DCP Midstream have demonstrated a commitment to ensuring that natural gas fulfills its promise as a cleaner alternative by supporting the Division’s proposed rule. However, for this promise to be realized, all members of the industry must ensure that methane leaks are minimized to the maximum extent practicable. Moreover, the controls proposed by the Division, such as looking for and fixing leaks, are cost effective and readily implementable. This claim of being unfairly singled out is simply unfounded.

#### D. *Pollution Controls Are Effective*

COGA/CPA then argues CRS 25-7-109(1)(a) requires the Commission to implement emission control regulations that require “the use of effective practical air pollution controls.” COGA/CPA claims that this “requirement implies” that the Commission “establish that the proposed controls are ‘effective’ in reducing emissions.”<sup>85</sup> The Commission’s proposal easily meets the requirements in 25-7-109(1)(a) as well as COGA/CPA’s “implied” requirement that the proposed controls are “effective in reducing emissions.”

It is clear that the proposed rules will be effective in reducing a significant source of air pollution. The various emission reduction strategies proposed in the rule are well established, common sense approaches to reducing emissions, such as inspecting a site for leaks and fixing them, reviewing tank design and operations to control emissions tanks through managing pressure or vapor recovery systems, requiring the use of enclosed flares or other pollution controls, and using best management practices to control emissions during maintenance and blowdowns, among other things. These measures are effective.<sup>86</sup>

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<sup>81</sup> Colo. House Bill 10-1001 (2010); *see* Colo. Governor’s Energy Office, Colorado’s 30% Renewable Energy Standard: Policy Design and New Markets 3 (2010), <http://cnee.colostate.edu/graphics/uploads/HB10-1001-Colorados-30-percent-Renewable-Energy-Standard.pdf>.

<sup>82</sup> Colo. Senate Bill 13-252 (2013).

<sup>83</sup> *See* Press Release, Gov. Ritter, Bipartisan Lawmakers & Coalition Introduce Colorado Clean Air-Clean Jobs Legislation (March 16, 2010), <http://www.colorado.gov/cs/Satellite%3Fc%3DPage%26childpagename%3DGovRitter%252FGOVRLayou%26cid%3D1251573201310%26pagename%3DGOVRWrapper>.

<sup>84</sup> Colorado Clean Air – Clean Jobs Act, Xcel Energy, [http://www.xcelenergy.com/Environment/Doing\\_Our\\_Part/Clean\\_Air\\_Projects/Colorado\\_Clean\\_Air\\_-\\_Clean\\_Jobs\\_Plan](http://www.xcelenergy.com/Environment/Doing_Our_Part/Clean_Air_Projects/Colorado_Clean_Air_-_Clean_Jobs_Plan).

<sup>85</sup> COGA/CPA PHS at 7.

<sup>86</sup> *See* WZI Expert Report, Jan. 6, 2014.

COGA attempts to avoid this clear result by suggesting that “effectiveness” of Colorado’s proposed pollution controls must be understood in terms of a private plaintiff’s ability to demonstrate Article III climate standing in federal court – but that suggestion is nonsensical. Colorado Revised Statute section 25-7-109 does not require a showing of Article III standing, nor is that concept appropriate for understanding the effectiveness of pollution control measures proposed by the Commission. The policies and doctrines that animate the standing inquiry are fundamentally different than those at issue here. The Commission is sitting in a quasi-legislative capacity adopting regulations to implement state policy authorized broadly by the state’s police powers. In contrast, the standing doctrine is founded on principles of separation of powers and whether there is a case or controversy before the court. But even under so, *Massachusetts v. EPA*, confirms that states can challenge an agency’s failure to take incremental steps toward solving complex problems like climate change.<sup>87</sup> Accordingly, even if one were to engage in the flawed inquiry as framed by COGA/CPA on this issue, it is clear that the rules are “effective.”

Finally, COGA/CPA argues that a market-based approach, like that applied in the electric utility sector, may avoid the need for command and control strategies. This policy argument should be rejected here. Colorado must employ a mix of strategies, as it has, to address the multifaceted problem of climate change. No serious proposals on market-based approaches were made by any party in this proceeding or during the stakeholder process. There are no such options on the table at this time. While such programs may work in some sectors, that does not imply that command and control programs should be abandoned.

#### E. *Proposed Rule Amendments are Not Preempted*

COGA/CPA lastly argues that proposed regulation “may be preempted” by the federal Clean Air Act. COGA/CPA’s tentative argument on this point indicates that even it believes this argument is at best a weak one. COGA/CPA does not articulate any way that these rules would meet any of the preemption tests. Does the Clean Air prevent a state from requiring operators to conduct inspections and fix leaks? From controlling emissions from storage tanks? From installing enclosed flares or any other requirement of the proposed rule? In no instance do these requirements meet the preemption tests. For example, in no instance is it physically impossible to comply with both the state and federal requirement. *Rocky Mountain Farmers v. Goldstene*, 719 F.Supp 2d 1170 (E.D. Cal. 2010) (such a conflict can result in preemption where it is impossible for a private party to comply with both state and federal requirements.)

The CAA in fact contains a broad savings clause, that expressly allows states to adopt more stringent controls, with exceptions for mobile sources not applicable here:

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<sup>87</sup> *Massachusetts v. EPA*, 549 U.S. 497, 524, 529 (2007), and rejecting the exact argument made by COGA/CPA here. The other cases cited by COGA are simply not on point. For example, in *Washington Environmental Council v. Bellon* 732 F.3d 1131, 1146 (9<sup>th</sup> Cir. 2013), private parties sought to require a state agency to take specific action to regulate GHGs. This court expressly stated that it could not use the reasoning of the *Massachusetts* case since a state agency was not a plaintiff. The *Native Village* case was also a private party case where the plaintiff could not meet causation pleading requirements for a private person seeking damages. The case is simply not applicable here, particularly in light of *Massachusetts*. *American Electric Power Co., Inc.*, *supra* simply concerns the available of federal common law nuisance claims, which is not at issue here.

Except as otherwise provided in sections [1857c-10 \(c\)](#), (e), and (f) (as in effect before August 7, 1977), 7543, 7545(c)(4), and 7573 of this title (preempting certain State regulation of moving sources) nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section [7411](#) or section [7412](#) of this title, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan or section.<sup>88</sup>

Preemption can exist in three circumstances. A federal statute can expressly state that it preempts all state laws. The CAA does just the opposite under 42 U.S.C. § 7416. Second, a federal statute can represent such a complete set of laws over a given subject, that it is inferred that preemption was intended, known as implied preemption. Again, given the savings clause in 42 U.S.C. § 7416, this does not exist under these facts. Third, preemption can arise where it is impossible to comply with both the state and federal rule. COGA does not identify any way these rules would create such a possibility.

COGA/CPA cites *American Electric Power Co., Inc.*, *supra*. But that case merely holds that federal common law is displaced by the CAA. Further, as stated in *American Electric Power* the standards for displacing federal common law are not the same and are more lenient than the standards for preemption of state laws.<sup>89</sup> The unpublished case of *North Dakota v. Swanson*, 2012 WL 4479246 (D. Minn., Sept. 30, 2012) cited by COGA/CPA is also not applicable here. In that case, the court denied a motion to dismiss a preemption argument because the state was attempting to redress external (e.g. out of state) air quality interferences without following the CAA's regulatory scheme. In this case, Colorado is not attempting to regulate any sources outside of the state, so that case is simply inapplicable. *Clean Air Markets Group v. Pataki*, 338 F.3d 82 (2<sup>nd</sup> Cir. 2003) is also inapplicable, because that case involved a state statute that had an actual conflict with the CAA (state restrictions on transferring allowances to [utilities] in the Upwind States is contrary to the federal provision that allowances be tradeable to *any* other person). COGA has identified no such conflict here. Nor has COGA/CPA identified any way that reducing emissions in the state, as contemplated by the proposed rule, would frustrate Congressional purpose or interfere with the methods by which the Clean Air Act was designed to reach its goals.

## **X. Conclusion**

For the reasons stated above we respectfully request the Commission adopt the Division's proposed rule.

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<sup>88</sup> 42 U.S.C. § 7416.

<sup>89</sup> *American Elec. Power Co., Inc. v. Connecticut*, 131 S.Ct. 2527, (June 20, 2011).



Respectfully submitted this 30th day of January, 2014.

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