



November 14, 2016

Nancy Vehr, Air Quality Division
122 West 25th Street
Cheyenne, WY 82002

VIA Electronic Mail

Dear Administrator Vehr:

Thank you for accepting these comments on behalf of the Environmental Defense Fund (“EDF”) and the Wyoming Outdoor Council (“WOC”). EDF is a national membership organization with over 1 million members residing throughout the United States who are deeply concerned about the pollution emitted from natural gas sources. Established in 1967, the Wyoming Outdoor Council is the state’s oldest independent conservation organization. WOC’s mission is to protect Wyoming’s environment and quality of life for future generations.

EDF and WOC support the Air Quality Division’s (“Air Division”) recommendation to incorporate by reference the U.S. Environmental Protection Agency’s New Source Performance Standards (“NSPS”) from the Federal Register OOOOa (40 CFR part 60) into the Wyoming Air Quality Standards and Regulations, in order to incorporate the most recent versions of the federal rules.

EPA’s OOOOa rules represent critical protections to reduce methane emissions, securing important reductions in smog-forming volatile organic compounds and air toxics as well as cutting emissions of a potent greenhouse gas. Methane contributes to higher global background concentrations of ozone pollution.¹ Methane, the primary constituent of natural gas, has a global warming potential as much as 87 times greater than CO₂ over a 20-year time frame.² EPA anticipates the OOOOa requirements will prevent the release of 300,000 tons of methane into the atmosphere in 2020, equivalent to 6.9 million metric tons of carbon dioxide-equivalent (CO₂ Eq.), using a 100-year global warming potential

¹ J. Jason West et al., Global Health Benefits of Mitigating Ozone Pollution with Methane Emission Controls, 103 PROC. NAT’L ACAD. SCI. 3988, 3989 (2006).

² Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Thomas Stocker et al., eds. 2013), available at https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_ALL_FINAL.pdf

of 25.³ The rules will also reduce harmful air toxics by 1,900 tons and volatile organic compounds by 150,000 tons by 2020.⁴

While offering our strong support for the adoption by reference of these important new federal standards, we also urge the Air Division to retain existing Wyoming state requirements that are at least as protective as their federal equivalents contained in OOOOa, and to move expeditiously to expand its strong state emissions reductions requirements across Wyoming.

A number of the OOOOa requirements, as well as the 2012 OOOO requirements, build on existing Wyoming clean air measures. It is imperative that Wyoming retain its standards that are as protective, or more protective, than EPA's in order to ensure the continued improvement of air quality in Wyoming's Upper Green River Basin ozone nonattainment area, and also to protect the air quality in the rest of the state from deterioration. Importantly, EPA recently lowered the 8-hour standard for ozone, and while all counties currently attain the standards, the state has a duty to protect and maintain healthy air. Expanding the sensible, proven requirements applicable in the Upper Green River Basin is a highly cost effective way to ensure that this critical goal is attained.

And finally, while we recognize it is outside the scope of this proceeding, we urge the Air Division to quickly initiate a process to strengthen its state rules, by expanding its quarterly leak detection and repair requirements, and adopting rules that address emissions from existing sources statewide. Such actions will be vital to keeping Wyoming in its traditional leadership role at the forefront of state and federal air quality regulations, and to protecting Wyoming's air.

Wyoming Must Retain All Requirements that Are More Stringent than Federal Standards

We urge the Air Division to retain those state requirements that are at least as stringent as federal requirements contained in OOOOa, consistent with clear statutory authority, and with its practices in the past.

The Wyoming Environmental Quality Act clearly provides the state with the authority to adopt more stringent state requirements than federal, and we strongly urge the state to retain any such standards.

The declaration of policy and purpose elevates state control of air resources over that of other jurisdictions. This provision provides:

it is hereby declared to be the policy and purpose of this act...*to retain for the state* the control over its air, land and water and to secure cooperation between

³ 81 Fed. Reg. 35824, 35827 (June 3, 2016).

⁴ *Id.*

agencies of the state, agencies of other states, interstate agencies, and the federal government in carrying out these objectives. **(emphasis added)**

WY ST. § 35-11-102.

Furthermore, in 2012, the Air Division retained its existing clean air measures after incorporating by reference the EPA OOOO requirements, even though many of the Wyoming requirements are more stringent than the OOOO requirements. This further underscores the ability of the state to do so here.

Wyoming's permit requirements for minor oil and gas sources provide a benchmark upon which EPA's NSPS should be measured; for this reason, and to ensure healthy air is protected and restored to all Wyoming citizens, the Air Division must retain all state air requirements that are more protective than EPA's. This is particularly true with respect to certain elements of the state's LDAR and flash emission requirements.

Wyoming has a long history of demonstrating national leadership when it comes to implementing clean air measures for the oil and gas industry. It was one of the first states to adopt rigorous air pollution control measures for crude oil, gas and condensate production sources in 1995. Since then it has gradually strengthened and expanded on these initial permit requirements, lowering emission thresholds and expanding requirements to other types of activities—all the while remaining at the forefront of clean air policy. Wyoming was one of the first states to add a quarterly leak detection and repair requirement for new and modified well sites, require venting limits on pneumatic controllers, and control liquids unloading activities. Wyoming was also one of the first states to regulate existing oil and gas sources.

Even though EPA's final NSPS departs from similar Wyoming requirements in certain instances, we do not believe this is a reason for the Air Division to relax its standards. The success of the clean air measures in the UGRB and the imperative to protect and maintain healthy air in pristine areas mandates the opposite. This is particularly true with respect to retention of those aspects of the state's LDAR requirements and the Division's approach to reducing flash emissions from storage vessels and separators.

The Air Division Should Retain its 98% Control Requirement and Approach to Reducing Flash Emissions from Storage Vessels

A number of aspects of Wyoming's flash emission requirements for storage vessels and separators are more protective than EPA's and thus should control.

First, Wyoming requires 98% control of VOCs and HAPs from all storage tanks and separation vessels. EPA's NSPS requires only 95% control from storage vessels; it does not apply to separators. As demonstrated by Wyoming's longstanding requirements, modern pollution controls such as enclosed flares and vapor recovery devices are capable of achieving at least 98% control of VOCs and HAPs. Accordingly, the Air Division should retain its 98% control requirement.

Second, the Air Division should continue to define a storage vessel as all storage vessels at a facility for purposes of determining whether controls must be installed or removed. EPA defines a storage vessel as a single tank. This distinction is important. For example, assume the presence of five storage vessels at a facility, each of which emits five tons per year of VOCs. Under EPA's approach, no controls would be required on any storage vessel because the emissions potential of each individual tank falls below six tons per year. The Wyoming Division takes a different, and more protective, approach. It sums the emissions of all tanks at a facility for purposes of determining whether controls are required. Thus, in this current example, for a facility located statewide, if the sum flash emissions from all tanks and separators equaled 6 Tpy, controls would be required even though each individual tank's emissions fall below 6 Tpy.⁵ Because the state's approach is more protective than EPA's, and has been demonstrated to be feasible and cost effective, we urge the Air Division to retain its current method for determining whether or not tanks must install controls.

The Air Division Should Retain its Quarterly Leak Detection and Repair (LDAR) Requirement and Expand Application to All Sources Statewide

We urge the Air Division to retain its quarterly LDAR requirement in the UGRB and furthermore to set a date certain by which it will expand the application of this requirement to all well sites statewide. Equipment leaks from production sources represent a significant source of VOCs, HAPs and methane emissions and instituting quarterly LDAR inspections is one of the most effective means to reduce such emissions. Equipment leaks are the second largest source of methane and third largest source of VOCs in the state, according to inventories submitted by operators to the EPA and DEQ.⁶ Indeed, multiple scientific studies demonstrate that leaks are not correlated to production levels and can randomly pop up at all types and sizes of facilities, underscoring the importance of frequent, comprehensive inspections.⁷

Further, quarterly instrument-based inspections can remove significant VOCs, HAPs, and methane, from the atmosphere for very low costs. In nearly every instance, well site operators are able to monetize the value of recovered gas, either by routing the gas to a pipeline or using it onsite. This is borne out by the experience of many operators, including Jonah Energy's experience implementing voluntary monthly inspections at all of its multi-well sites in the UGRB. According to Jonah Energy, "the estimated gas savings from the repair of leaks identified often exceeds the labor and material cost of

⁵ Note, this is not the case for tanks in the JPAD and CDAs where all tanks, regardless of emissions, must be controlled by 98%. We support the retention of this approach to requiring 98% control of flash emissions in the JPAD and CDA, regardless of the potential to emit. Such standards are necessary to ensure clean air to citizens residing in and near the ozone nonattainment area.

⁶ 2014 EPA Subpart W inventory for the production sector; Wyoming DEQ 2011 NEI inventory.

⁷ See Harriss et al., "Using Multi-Scale Measurements to Improve Methane Emissions Estimates from Oil and Gas Operations in the Barnett Shale, Texas: Campaign Summary," available at <http://pubs.acs.org/doi/abs/10.1021/acs.est.5b02305>.

repairing the identified leaks.”⁸ During the UGRB existing source rulemaking we estimated the cost effectiveness of quarterly inspections at well sites with 4 tons of VOCs as \$1,442 per ton of VOC reduced assuming no credit for gas savings and \$480 assuming credit for recovered gas.

In addition to retaining its quarterly LDAR requirement in the UGRB, we respectfully request the DEQ implement this requirement statewide. About 45% of the total fugitive VOC emissions in Wyoming come from counties outside the Upper Green River Basin.⁹ Fugitive emissions are likely to increase in the basins outside of this area due to the growth in production in the eastern portions of the state and absence of any federal controls for existing sources. This, coupled with EPA’s lower ozone standard, necessitates stronger actions to reduce hydrocarbon emissions that contribute to ozone pollution.

Additionally, we urge the DEQ to require fugitive emission monitoring at smaller well sites statewide. According to the most recent data, the vast majority of fugitive VOC emissions – 88% - come from wells emitting less than 4 tpy, which is less than the current control threshold for new and existing well sites in the UGRB.¹⁰ These smaller wells collectively cause the bulk of the fugitive VOC emissions in Wyoming and should not be left unregulated.

The Air Division Should Follow Up with State Rules for Existing Sources

The NSPS applies only to new and modified sources and therefore a significant gap remains with respect to existing pollution sources. All of the current methane, VOCs and air toxics reported by industry to the state and EPA emanate from existing sources. Indeed, the only requirements currently on the books that will reduce such pollution are the Wyoming rules that apply to sources in the Upper Green River Basin nonattainment area. EPA has yet to propose any requirements that will apply comprehensively to emissions of methane and VOCs from existing sources. The EPA’s Control Techniques Guidelines apply only to sources of VOCs located in moderate or above ozone nonattainment areas. Wyoming has no such areas. The proposed Bureau of Land Management venting and flaring rules, once final, apply only on federal and tribal lands. Accordingly, there is considerable room for Wyoming to act to address existing sources of pollution.

We respectfully request the DEQ set a date certain by which it will regulate existing oil and gas sources statewide. Wyoming has already adopted regulations for existing sources in the UGRB. We strongly urge the DEQ to extend the coverage of the requirements to all existing sources statewide, thereby once again preserving its role as a leader in promulgating clean air measures for oil and gas facilities. As ICF International found,

⁸ Comments submitted to Mr. Steven A. Dietrich from Jonah Energy LLC on Proposed Regulation WAQSR, Chapter 8, Nonattainment Area Regulations, Section 6, Upper Green River Basin Permit by Rule for Existing Sources (April 13, 2015).

⁹ Emissions data obtained by EDF from the DEQ inventory

¹⁰ Id.

nearly 90 percent of the oil and gas sector's emissions in 2020 will come from existing infrastructure.¹¹

In sum, we urge the Environmental Quality Council to approve of the Air Division's proposal to incorporate by reference the NSPS OOOOa rules. We further urge the Air Division to commit to retaining existing state requirements that are at least as protective as those contained in OOOOa, to set a date certain by which it will propose a statewide quarterly LDAR requirement, and propose rules to address emissions from existing oil and gas sources statewide.

Thank you,



Jon Goldstein
Elizabeth Paranhos
Environmental Defense Fund

And on behalf of

Chris Merrill
Wyoming Outdoor Council

¹¹ ICF International, "Economic Analysis of Methane Emission Reduction Opportunities in the U.S. Onshore Oil and Natural Gas Industries," (March 2014), available at <https://www.edf.org/energy/icf-methane-cost-curve-report>. ICF looked specifically at the percentage of methane emissions contributed by existing sources. They did not conduct a comparable estimate of the amount of VOC emissions that come from existing oil and gas sources. Nevertheless, it is reasonable to expect that existing oil and gas sources are also responsible for the vast majority of VOC emissions from the oil and gas sector due to the sheer number of existing oil and gas facilities.