

May 24, 2019

Submitted via ePlanning

Jim Stovall
Bureau of Land Management
Pecos District Office
2909 West Second Street
Roswell, NM 88201-2019

Re: DOI-BLM-NM-P000-2019-0003-EA (September 2019 Competitive Oil and Gas Lease Sale – Pecos District Office)

Dear Mr. Stovall,

Thank you for accepting our comments on the Bureau of Land Management's ("BLM") September 2019 Lease Sale for the Carlsbad and Roswell Field Offices. We are extremely concerned about the lack of adequate measures in place to minimize natural gas waste and methane emissions from the proposed lease parcels.

The revision to BLM's 2016 "Waste Prevention, Production Subject to Royalties, and Resource Conservation" rule (2016 waste rule), the proposed weakening of the EPA methane standards for new and modified oil and gas sources, insufficient state regulation and the lack of waste reduction stipulations in the existing Roswell and Carlsbad RMPs all contribute to an environment in which the agency cannot ensure it is meeting its waste prevention mandate under FLPMA and the MLA. As a result, the rampant waste of federal natural gas that has occurred in New Mexico will continue unabated, harming public health, the environment and causing the American public to lose out on millions of dollars in royalty revenue.

Moreover, under NEPA, the BLM is required to quantify potential methane emissions from the proposed lease sale, analyze the impacts of those emissions, evaluate alternatives based on the impacts and identify mitigation options when preparing an environmental assessment (EA). In its analysis, BLM failed to properly analyze the climate impacts of the proposed sale, evaluate a range of alternatives and identify potential methane and natural gas waste mitigation options.

- I. BLM has failed to ensure adequate measures are in place to minimize waste.**
 - a. BLM has the legal obligation and authority to require waste reduction measures and has a mandate to reduce waste.**

Under the MLA, FLPMA, and the Federal Oil and Gas Royalty Management Act (FOGRMA), the Department of the Interior has a responsibility and an obligation to put forward regulations to manage federal resources in a way that benefits the public. The MLA provides for the Department of

the Interior to manage lands for conservation and development of oil and gas, among other minerals and resources. BLM, under the MLA, is the only federal agency with a waste prevention mandate. The MLA directs DOI to require “all reasonable precautions to prevent waste of oil or gas developed in the land” (30 U.S.C. § 225) and mandates that “[e]ach lease shall contain provisions for the prevention of undue waste.” *Id.* § 187.

Further, the MLA’s use of “all” to modify the term “reasonable precautions” shows that Congress intended BLM to aggressively control waste. The agency may not forego reasonable and effective measures limiting venting, flaring, and leaks for the sake of administrative convenience or to enhance the bottom lines of operators. See *Halliburton, Inc. v. Admin. Review Bd.*, 771 F.3d 254, 266 (5th Cir. 2014) (ruling that statutory term “all relief necessary” authorized broad remedies against defendant because “we think Congress meant what it said. All means all.” (internal quotation omitted)); *Cty. of Oakland v. Fed. Housing Fin. Agency*, 716 F.3d 935, 940 (6th Cir. 2013) (“a straightforward reading of the statute leads to the unremarkable conclusion that when Congress said ‘all taxation,’ it meant *all* taxation” (emphasis original)).

In its revisions to the 2016 waste rule, BLM attempts to justify its decision to rescind reasonable waste prevention measures by adding a new definition of “waste of oil and gas.” Pursuant to the new definition, the agency has indicated it considers only the profits of individual oil and gas companies—not economic losses or other impacts to the public—when deciding what constitutes waste. However, this definition violates the plain language and intent of the MLA, which requires BLM to consider not just private oil and gas interests, but also the “interests of the United States” and the “public welfare” when regulating waste of publicly owned oil and gas resources leased, in the public interest, to oil and gas companies. 30 U.S.C. § 187. BLM also fails to reconcile its new definition of waste with its previous recognition in 2016 that, when regulating waste, it also must consider the interests of the public and state, tribal, and local governments entitled to royalty payments. BLM must consider these interests when evaluating waste in the leasing context and cannot rely on its new definition to avoid its obligations to regulate waste.

FLPMA further provides that “the public lands be managed in a manner that will protect the quality of...environmental, air and atmospheric...values” and for BLM to manage lands for conservation. FLPMA also mandates that the Interior Department “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation” (UUD) of public lands. 43 U.S.C. § 1732(b). This mandate prohibits DOI from managing public lands primarily for energy development or in a manner that unduly or unnecessarily degrades other uses, including by virtue of exacerbating issues such as climate change that operate to degrade public lands further highlighting the need for the agency to regulate and limit natural gas waste.

Given these circumstances, the MLA mandate that BLM require “all reasonable precautions to prevent waste, along with FLPMA’s multiple use mandate and UUD standard, it is clear BLM must address waste and ensure there are adequate standards in place – whether through federal regulatory requirements, land use plan-level prohibitions against development that results in excessive waste or unnecessary or undue methane pollution, lease stipulations, or drilling-stage

conditions of approval – to minimize methane waste and pollution. 30 U.S.C. §§ 187, 225; 43 U.S.C. §§ 1701(a)(8), 1702(c), 1732(b).

b. The waste prevention measures in place are inadequate and cannot ensure waste minimization so this must be addressed in the lease terms.

It was imperative to incorporate waste prevention requirements into the lease terms for these parcels because of the glaring lack of adequate protections provided by other means. All substantive waste minimization provisions under the 2016 BLM Waste Rule were removed under the September 2018 revision; New Mexico state requirements fail to address any of the primary sources of waste; EPA is in the process of eliminating protections established under NSPS 0000a; and the Carlsbad and Roswell RMPs do not contain any waste minimization stipulations.

i. The revision to BLM's Waste Prevention Rule will fail to prevent waste

In 1979, NTL-4A was issued to fulfil the agency's waste prevention mandate. Among other things, NTL-4A regulated venting, flaring, and royalty-free uses of oil and natural gas on BLM-administered leases. It prohibited venting or flaring of gas well gas and oil well gas unless otherwise approved; specified the circumstances under which an operator owes royalties on oil and gas lost from a lease; and authorized royalty-free venting or flaring of gas on a short-term basis without the need for approval.

However, after 35 years the agency recognized that relying on this framework was insufficient to meet its waste minimization obligations. The inadequacy of the NTL-4A framework has been well documented.

Starting in December 2007, a Royalty Policy Committee (RPC) report, *Mineral Revenue Collection from Federal and Indian Lands and the Outer Continental Shelf*, recommended that BLM update its rules and identified specific actions to improve production accountability. This was followed by a March 2010 report by the OIG, *BLM and MMS Beneficial Use Deductions* which recommended that BLM clarify its requirements for royalty-free use of natural gas; an October 2010 GAO report, *Federal Oil and Gas Leases – Opportunities Exist to Capture Vented and Flared Gas, Which Would Increase Royalty Payments and Reduce Greenhouse Gases* which recommended that BLM update its regulations to take advantage of opportunities to capture economically recoverable natural gas using available technologies; and eventually a July 2016 GAO report entitled, *OIL AND GAS—Interior Could Do More to Account for and Manage Natural Gas Emissions* which reviewed the DOI's provisions to account for and manage natural gas emissions and found BLM's guidance to operators on determine and reporting non-royalty bearing production was unclear and leading to inconsistent tracking and reporting which may impact the accuracy of DOI's data on natural gas emissions.

The agency recognized these shortcomings, citing each report in the draft 2016 rule and highlighting a number of additional issues. BLM stated that NTL-4A required the agency to address

venting and flaring on a case-by-case basis resulting in a tremendous administrative burden. It also notes that since NTL-4A was issued, technologies and practices for oil and gas production as well as technologies for controlling emissions have advanced considerably and that “NTL-4A neither reflects today’s best practices and advanced technologies, nor is particularly effective in requiring their use to avoid waste.”¹ Finally, BLM acknowledged that the broad, general directives of NTL-4A left key terms and provisions (like “beneficial use”, “beneficial purpose”, avoidably lost” and “economically justified”) open to interpretation resulting in the inconsistent application the NTL across field offices.² More specifically, questions often arose in regards to when venting or flaring required prior approval, when gas was royalty bearing and what constituted royalty-free onsite use.

The issues associated with the NTL-4A framework resulted in the rampant waste of publicly owned gas. The 2010 GAO report found that “in 2008, about 128 billion cubic feet (Bcf) of natural gas was either vented or flared from Federal leases, about 50 Bcf of which was economically recoverable (about 40% of the total volume lost). This economically recoverable volume represents about \$23 million in lost Federal royalties and 16.5 million metric tons of carbon dioxide equivalent (CO₂e) emissions.”³

Between the release of the 2010 GAO report and 2013 this waste continued. As BLM prepared the Regulatory Impact Analysis (RIA) for the 2016 Rule the agency found that in 2013, 98 Bcf of natural gas was vented and flared from Federal and Indian leases. This volume had a sales value of \$392 million and would have generated royalty revenues in excess of \$49 million. Of the 98 Bcf of gas, it is estimated that 22 Bcf was vented and 76 Bcf was flared.⁴ According to the Office of Natural Resources Revenue (ONRR), Federal and Indian onshore lessees and operators reported that they vented or flared 462 Bcf of natural gas between 2009 and 2015.⁵

Moreover, the waste of federal resources continues to worsen. The total amount of annual reported flaring from Federal and Indian leases increased by over 1000 percent from 2009 to 2015.⁶ The trends we have seen in requests for flaring and venting submitted as Sundry Notices to BLM field offices support the trends seen in wasted volumes. In 2005, BLM received just 50 applications to vent or flare gas. In 2011, BLM received 622 applications, and this doubled again within 3 years to 1,248 applications in 2014.⁷ This waste has very real financial and environmental impacts. According to a recent study, taxpayers could lose out on almost \$800 million in royalties over the next decade due to natural gas being flared or vented from federal lands.⁸

¹ 81 Fed. Reg. 25 (February 8, 2016) at 6628.

² Ibid

³ U.S. Bureau of Land Management.(2016). *Regulatory Impact Analysis for: Revisions to 43 CFR 3100 (Onshore Oil and Gas Leasing) and 43 CFR 3600 (Onshore Oil and Gas Operations) Additions of 43 CFR 3178 (Royalty-Free Use of Lease Production) and 43 CFR 3179 (Waste Prevention and Resource Conservation)*. p.2

⁴ Id at 3

⁵ 81 Fed. Reg. 223 (November 18, 2016) at 83009

⁶ Id at 83015

⁷ Ibid.

⁸ Western Values Project, “Up in Flames: Taxpayers Left Out in the Cold as Publicly Owned Natural Gas is Carelessly Wasted” (2014) Available at: <http://westernvaluesproject.org/wp-content/uploads/2014/05/Up-In-Flames.pdf>.

These national trends are reflected in New Mexico. According to the analysis conducted by BLM, in 2013 operators in New Mexico flared 8.2Bcf of natural gas; 5.9Bcf, or roughly 72 percent of that came from federal and tribal lands.⁹

The most current scientific estimates from New Mexico show a large and growing methane waste problem as well. [A new analysis](#) from Environmental Defense Fund released last month finds that methane emissions from oil and gas activity in New Mexico are twice what they were just two years ago and five times higher than EPA data suggest, largely driven by expanding production in the Permian Basin. EDF experts analyzed data gathered by University of Wyoming researchers that provide the first publicly available emission measurements from the Permian since the oil boom there began three years ago. EDF estimates that venting, flaring and leaks waste \$275 million of natural gas per year. Flaring alone accounts for nearly \$70 million worth of natural gas waste in New Mexico per year. If captured, this would translate to \$43 million per year in additional tax and royalty revenue that could otherwise be invested in things like education and infrastructure. EDF's analysis estimates upstream oil and gas operations in New Mexico emit at least 1 million metric tons of methane a year and the three counties in New Mexico's Permian Basin (Eddy, Lea and Chaves) where this lease sale is located account for more than 70% of these emissions.¹⁰

More specific to this leasing decision, the BLM in its analysis of future development in the Carlsbad field office found that over the next 20 years, between 3,538 and 6,044 new wells will be completed on BLM-administered lands in the Carlsbad Field Office. Accounting for all on-the-books emissions control regulations, these sources are expected to emit 35,797 tpy VOC in 2028 and 46,191 metric tons per year of methane (worth roughly \$16.5 million) in 2028.¹¹ However, if more stringent emission controls are applied - as recommended in Alternatives A and B of the Draft Carlsbad RMP - these sources are expected to contribute only 7,391 tpy VOC in 2028 and 13,235 metric tons per year of methane in 2028.¹² Importantly, both alternatives A and B fail to include waste reduction measures as comprehensive as those included in BLMs 2016 rule.

This lease sale will contribute to those emission projections. BLM's own analysis of the proposed action estimates that the sale of the 13 parcels included in the final sale notice will result in the production of 9,380,000 barrels of oil, 53,250,000 Mcf of natural gas and result in direct emissions of 77,661 metric tons of CO₂e per year and downstream/end use emissions of 6,947,140 metric tons CO₂e using an estimated ultimate recovery analysis.¹³ The direct emissions are largely attributable to the lack of adequate waste reduction requirements at the state or federal level.

The 2016 Final Rule, if fully implemented, would have significantly reduced the waste of federal and tribal natural gas. When finalizing the 2016 Rule, BLM conducted a thorough analysis and estimated net benefits of up to \$204 million per year.¹⁴ That estimate took into consideration engineering compliance costs as well as the social cost of additions of carbon dioxide to the

⁹ U.S. Bureau of Land Management.(2016). *Regulatory Impact Analysis for: Revisions to 43 CFR 3100 (Onshore Oil and Gas Leasing) and 43 CFR 3600 (Onshore Oil and Gas Operations) Additions of 43 CFR 3178 (Royalty-Free Use of Lease Production) and 43 CFR 3179 (Waste Prevention and Resource Conservation)*. p.202

¹⁰ <https://www.edf.org/energy/explore-new-mexicos-oil-and-gas-pollution>

¹¹ BLM Carlsbad Field Office Draft RMP Volume I – EIS p.4-269.

¹² *Ibid*

¹³ September 2019 Competitive Oil and Gas Lease Sale Pecos District Office DOI-BLM-NM-P000-2019-0003-EA at 38-39.

¹⁴ 81 Fed. Reg. 223 (November 18, 2016) at 83014.

atmosphere. Total costs were estimated to be between \$110-279 million per year.¹⁵ The benefits included projected environmental benefits of reducing the amount of greenhouse gas (GHG) pollution as well as the cost savings that the industry will receive from the recovery and sale of natural gas. Monetized benefits were estimated to be between \$209 – 403 million per year.¹⁶ The rule was projected to reduce VOC emissions by 250,000-267,000 tons per year and methane emissions by 175,000 – 180,000 tpy (using the social cost of methane, estimated to be worth \$189 – 247 million per year).¹⁷ Additionally, the 2016 rule was expected to increase royalties by up to \$14 million per year and increasing natural gas production by 41Bcf per year, while having little if any effect on crude oil production.¹⁸ Altogether, the 2016 final rule would have reduced venting by about 35% and flaring by 49%.¹⁹

The 2016 Rule also had numerous ancillary benefits including reducing light and noise pollution from flaring operations, reducing exposure to hazardous air pollutants and known carcinogens like benzene, and reducing respiratory problems associated with exposure to high ozone levels.

Impressively, the 2016 rule was able to provide these benefits while imposing minimal compliance costs on operators. BLM estimated that average costs for a representative small operator under the 2016 final rule would increase by about \$55,200, which would result in an average reduction in profit margin of 0.15 percentage points.²⁰ Independent economic analyses have come to similar conclusions. A recent study found that capture costs will account for less than 3 percent of annual costs for an average marginal well, resulting in a decrease in annual profit of less than one-tenth of one percent.²¹

The new BLM rule explicitly rescinds well drilling requirements (43 CFR § 3179.101), well completion and related operations requirements (43 CFR § 3179.102), pneumatic controllers equipment requirements (43 CFR § 3179.201), pneumatic diaphragm pumps equipment requirements (43 CFR § 3179.202), storage vessels equipment requirements (43 CFR § 3179.203), LDAR requirements (43 CFR § 3179.301 – 3179.305) and the requirement to submit Waste Minimization Plans (43 CFR § 3162.3-1). It modifies and/or replaces the 2016 final rule requirements addressing the determination of avoidable and unavoidable loss (43 CFR § 3179.4), the determination of royalty bearing production (43 CFR § 3178.3 – 3178.10 and § 3179.5), initial production testing requirements (43 CFR § 3179.103), subsequent well testing requirements (43 CFR § 3179.104) and gas capture requirements (43 CFR § 3179.7 and 3179.8) with requirements that are similar to those of NTL-4A.”²²

¹⁵ *Id.* at 83068.

¹⁶ *Id.* at 83069.

¹⁷ *Ibid.*

¹⁸ *Id.* at 83014.

¹⁹ *Id.* at 83069.

²⁰ 81 Fed. Reg. 223 (November 18, 2016) at 83014.

²¹ Morton, Pete and Hjerpe, Evan. 2016. A Review of the Economic Factors Surrounding the Capture of Methane from Oil and Natural Gas Development on Federal Public Land. Conservation Economics Institute. Available at: https://docs.wixstatic.com/ugd/5fc209_59c6d0e608554ac98fd5ac9b4655fad1.pdf.

²² 83 Fed. Reg. 189 (September 28, 2018).

The changes made by the new rule are likely to result in the same issues experienced when federal gas waste was managed under the original NTL-4A framework. This decision will ultimately lead to increased VOC and methane emissions and increased waste of from venting, flaring and leaks. BLM's own analysis found that the revised rule will lead to lost cost savings from natural gas recovery and sale of \$559 million to \$734 million, forgone methane emissions reductions valued at \$66 million to \$259 million, the loss of 299 Bcf of natural gas production and lost royalty payments of \$28.3 million to \$79.1 million.²³ Meanwhile, the revised rule is not expected to result in any tangible increases in federal oil production and unlikely to alter the investment or employment decisions of firms.²⁴

ii. Existing New Mexico state regulations fail to adequately address waste of federal resources

As part of BLM's final 2016 Rule, the agency consulted with State regulators and reviewed State requirements related to waste of oil and gas resources.²⁵ BLM discussed that State regulations do not apply to BLM-administered leases on Indian lands, and that States do not have a statutory mandate or trust responsibility to reduce the waste of Federal and Indian oil and gas.²⁶ Moreover, states typically are not subject to FLPMA's statutory mandates regarding environmental protection and multiple use management. For these and *other* reasons, BLM concluded that there was "a need for uniform, modern waste reduction standards for oil and gas operations on public and Indian lands across the country."²⁷ Considering BLM's prior findings, eliminating BLM waste policies would not result in reduced methane emissions and doing so would not satisfy BLM's mandate to prevent waste of both Federal *and* Indian oil and gas.

Setting aside the potential legal issues associated with relying on inconsistent and varying state standards to fulfil the agency's federal waste prevention obligations, the regulations that do exist in the New Mexico are inadequate. When preparing the Waste Prevention Rule, BLM found that New Mexico flared more federal oil well gas than every state but North Dakota and that flared volumes have continued to grow over time, rising a staggering 2,255% from 2009 to 2013.²⁸ A 2015 report from business consulting firm ICF International reaffirmed these results, finding that more methane gas was wasted from oil and gas production on federal and tribal lands in New Mexico than any other state.²⁹ In the Permian Basin alone, more than 409,000 tons of methane was released from oil and gas facilities in 2014.³⁰

While the state of New Mexico is in the process of enacting new, more protective methane waste and pollution standards under Governor Michelle Lujan Grisham, for now, this rampant waste of

²³ *Ibid*

²⁴ *Ibid*

²⁵ See 81 Fed. Reg. at 83,019.

²⁶ *Ibid*

²⁷ *Ibid*

²⁸ U.S. Bureau of Land Management.(2016). *Regulatory Impact Analysis for: Revisions to 43 CFR 3100 (Onshore Oil and Gas Leasing) and 43 CFR 3600 (Onshore Oil and Gas Operations) Additions of 43 CFR 3178 (Royalty-Free Use of Lease Production) and 43 CFR 3179 (Waste Prevention and Resource Conservation)*. p.202

²⁹ ICF International "Onshore Petroleum and Natural Gas Operations on Federal and Tribal Lands in the United States: Analysis of Emissions and Abatement Opportunities" (2015). Available at:

https://www.edf.org/sites/default/files/content/federal_and_tribal_land_analysis_presentation_091615.pdf

³⁰ Western Regional Air Partnership "O&G Emissions Inventory Project: Greater San Juan and Permian Basin." (2017) Available at: <https://www.wrapair2.org/SanJuanPermian.aspx>

federal gas is indicative of a high producing state with inadequate waste prevention standards. More specifically, New Mexico's current state regulations fail to address a number of issues that otherwise would have been resolved under BLM's 2016 final rule and now are not covered by the new BLM rule:

- Section 3179.6 of the 2016 Final Rule prohibited the venting of gas under all but a short list of exempted situations. New Mexico has no venting prohibition.
- Section 3179.7 of the 2016 Final Rule established monthly gas capture percentage targets that operators must meet, starting at 85% and increasing to 98% by 2027. The capture percentages were a crucial component of the 2016 Final Rule's larger venting and flaring reduction strategy. New Mexico does not have any comparable venting or flaring reduction targets. While the state does prohibit operators from flaring and venting casinghead gas produced from a well after 60 days following the well's completion, exceptions may be granted when "when the flaring or venting casinghead gas appears reasonably necessary to protect correlative rights, prevent waste or prevent undue hardships on the applicant."³¹
- Section 3179.9 of the 2016 Final Rule required operators to measure and report the volume of all flared and vented gas. Operators of lower producing wells were permitted to estimate rather than measure the flared or vented volumes. This data helps BLM track the volume of federal gas vented and flared. It ensures the agency has the data it needs to evaluate the effectiveness of its rule and to make sure royalties are being properly assessed. New Mexico only requires operators to "meter and report casinghead gas produced and sold or transported away from a lease..." and casinghead gas that "the owner produces and uses for fuel purposes in the lease's development and normal operation."³² New Mexico regulations explicitly state that flared gas does not need to be measured except for that gas which is flared prior to connection to a gathering line. Recently, Senate Memorial 102 established a pilot program requiring operators to report the volume of flared, vented and leaked gas. However, these requirements have not been formally adopted by the state or made permanent in any way.
- Section 3179.101 through 3179.104 of the 2016 Final Rule required that gas from all well drilling, completion and testing operations be captured and sold, flared, used on site, or injected. New Mexico has no comparable requirements.
- Sections 3179.201 and 3179.202 of the 2016 Final Rule established requirements for pneumatic controllers and diaphragm pumps. BLM's own analysis found that combined, pneumatic pumps and controllers were the single largest source of vented natural gas from federal lands in 2013 accounting for nearly 40% of all vented gas.³³ New Mexico has no state requirements to minimize emissions from pneumatic pumps or controllers.
- Sections 3179.301 through 3179.305 of the 2016 final rule required leak detection and repair (LDAR) for all well production facilities, compressors and produced water facilities located on a federal lease. Operators must use optical gas imaging technology, a portable

³¹ New Mexico Administrative Code (NMAC) 19.15.18.12.F

³² NMAC 19.18.15.11

³³ U.S. Bureau of Land Management.(2016). *Regulatory Impact Analysis for: Revisions to 43 CFR 3100 (Onshore Oil and Gas Leasing) and 43 CFR 3600 (Onshore Oil and Gas Operations) Additions of 43 CFR 3178 (Royalty-Free Use of Lease Production) and 43 CFR 3179 (Waste Prevention and Resource Conservation)*. p.19

analyzer or a device not listed that is approved by BLM. Inspections must be conducted semi-annually for all well production facilities and quarterly for all compressors. Any leaks found must be repaired within 30 days. The rule also establishes a 500ppm repair threshold when leaks are detected. In Colorado the repair threshold is less stringent for compressor stations (2,000ppm) and inspection frequencies vary based on actual VOC emissions. New Mexico has no LDAR requirements for oil and gas production facilities or compressor stations. Additionally, the BLM's 2016 rule contained the only LDAR requirements for nearly 88,000 wells on federal and tribal lands—in other words, over 80% of wells subject to the Waste Prevention Rule are not covered by EPA 0000a or state LDAR standards and are now leaking unchecked.

More generally, even where state regulations meet or exceed the standard established by the 2016 rule, without regulations of its own, the agency must rely on the state's inspection and enforcement and defer to New Mexico in the assessment of penalties in instances where violations do occur. In other words, by not imposing more specific waste prevention requirements in lease terms, BLM may lose out on its ability to effectively regulate waste and ensure accurate royalty collection. And, insofar as BLM determined that the specific provisions of the 2016 Methane Waste Rule were not appropriate at a national level, BLM should nonetheless consider, as a reasonable alternative, their appropriateness for inclusion as "reasonable measures" at the lease-level to prevent waste or unnecessary or undue degradation within the Carlsbad and Roswell Field Offices and based on an lease sale-specific NEPA analysis.

iii. *The Carlsbad and Roswell RMPs do not address waste*

Additionally, the stipulations in the Carlsbad and Roswell RMPs, along with the associated lease notices, COAs and BMPs fail to address waste capture and minimization. Under the 1997 RMP Amendment and ROD, approximately 95% of the Carlsbad planning area is open to oil and gas leasing under BLM's standard terms and conditions. The Conditions of Approval listed in Appendix 2 of the RMP do not address natural gas waste or methane emissions in any way. Appendix 3 identifies best practices for oil and gas drilling and operations in cave and karst areas, but again fails to address gas waste or methane emissions. In fact, it incentivizes the flaring and venting of gas.³⁴ In 2008 the Carlsbad Field Office finalized the ROD and ARMPA for Special Status Species. Most of the fluid mineral stipulations remained unchanged under this amendment. The agency is in the process of revising the Carlsbad RMP and a Draft Plan was released in September. The preferred alternative included in the Draft Plan does not adequately address methane emissions and natural gas waste and unless the final plan incorporates waste mitigation measures beyond what were included in the preferred alternative the new RMP will have insufficient protections. Additionally, while the revised RMP may ultimately address gas waste and methane emissions, the Record of Decision may not be signed prior to the issuance of these leases and as currently written would not apply any stipulations retroactively.

³⁴ U.S. Bureau of Land Management, Roswell District, New Mexico. "Carlsbad Approved Resource Management Plan Amendment and Record of Decision". (1997). Appendix 3, p. 5

In the 1997 Roswell Approved RMP and ROD, approximately 97% of the planning area is open to oil and gas leasing under BLM's standard terms and conditions. Like the Carlsbad RMP, the Roswell RMP does not establish any stipulations, COAs or BMPs that address gas waste or methane emissions and contains the same appendix with more specific recommendations for operating in cave and karst landscapes. The 2008 Roswell Special Species Amendment also fails to include any requirements or best practices that would minimize gas waste and emissions.

Consequently, there is a clear lack of adequate measures in place to ensure waste reduction from these leases in the existing RMPs. The absence of existing stipulations in the underlying RMPs along with the revision of the BLM Waste Rule and the inadequacy of New Mexico's state regulations increases the likelihood that there will be insufficient measures in place to ensure the agency meets its waste prevention mandate under the MLA and FLPMA.

c. The current boom in the Permian Basin increases the potential for significant GHG emissions and natural gas waste.

Along with currently weak state regulations and inadequate protections in the existing RMPs, the natural gas waste issue is compounded in New Mexico by the ongoing boom in the Permian Basin. The Permian has experienced a renaissance as of late. The unique geological shale formation in the basin, containing six to eight oil-rich zones, began attracting investment about a decade ago after operators employed new technologies and techniques that significantly drive down the cost of production. These developments, along with existing infrastructure, have brought the breakeven price as low as \$40 a barrel.³⁵

As the economics in the basin have improved, the area has seen increased investment, a surge in leasing and rising oil production. As of 2017, New Mexico produced more onshore federal oil – around 89 million bbls or 46% of total US federal onshore oil - than any other state in the country and was second to only Wyoming in federal onshore natural gas production – producing around 801,000,000Mcf or 25% of total US federal onshore gas.³⁶

Production volumes and trends are even more striking in Eddy and Lea counties which overlay the Permian and make up the majority of the CFO RMP planning area. In 2017, the two counties accounted for 94% of all oil produced in the state and 50% of all gas.³⁷ Over the last decade, (2007-2017) gas production in Eddy and Lea counties combined increased 34% while oil production increased 191%. And as of June 2018, the two counties had 367 operators, 9,073 leases and 23,564 producing wells.³⁸ And interest continues to grow. According to Baker Hughes rig count data, as of October 26, 2018, the Permian Basin had 110 more active drill rigs than it did at the same time one

³⁵ Krauss, Clifford. "Land Rush in Permian Basin, Where Oil Is Stacked Like a Layer Cake". *New York Times*. 17 Jan. 2017.

³⁶ US Department of the Interior, Office of Natural Resources Revenue, Extractive Industries Transparency Initiative: <https://revenuedata.doi.gov/>

³⁷ US Department of the Interior, Office of Natural Resources Revenue, Extractive Industries Transparency Initiative: <https://revenuedata.doi.gov/>

³⁸ "Lea County, NM Permits, Production, Wells & Operators." *DrillingEdge.com - Oil and Gas Data as a Service*, www.drillingedge.com/new-mexico/lea-county.

year ago, now up to 489.³⁹ And New Mexico currently has 106 active drill rigs, up from 32 in October 2016.⁴⁰

But for the purposes of this leasing decision, it is important to note that federal production accounts for just over 50% of all oil and gas produced in those counties and from 2008 to 2017 federal natural gas production in Eddy and Lea counties increased 70% while federal oil production increased by 251%.⁴¹ Federal oil and gas production in the planning area is growing at a rapid pace and BLM predicts that over the next 20 years, between 3,538 and 6,044 new wells will be completed on BLM-administered lands in the Carlsbad Field Office.⁴²

Increased production, along with depressed natural gas prices and the fact that the Permian is primarily an oil play have all contributed to the waste issue. Operators have frequently seen the production of associated gas as more of a nuisance than an asset and often flare or vent the gas rather than capture and sell it. It has not helped that pipeline infrastructure in the region is outdated and insufficient to handle the volume of production. And in some instances, existing gas pipelines are being converted to handle crude oil simply because the economics are better.⁴³

Without regulatory or economic incentives and amidst the rush to develop oil in the Permian, operators in New Mexico will continue to waste gas. According to the New Mexico Oil Conservation Division's C-115 Non-Transported Product Disposition Report, operators wasted 14,660,288Mcf of natural gas statewide in 2017.⁴⁴ And the BLM anticipates this will continue. Accounting for all on-the-books emissions control regulations, projected oil and gas development in the CFO planning area is expected to emit 46,191 metric tons per year of methane (worth roughly \$16.5 million) in 2028.⁴⁵

More stringent standards are necessary to incentivize capture. As the BLM notes in its Air Resources Technical Support Document, although production is expected to increase at a rapid pace in the CFO, GHG emissions "may be offset if natural gas produced using stringent GHG emission reduction strategies (such as green completions) replaces higher GHG-emitting natural gas production within the CFO or elsewhere in New Mexico..."⁴⁶

d. BLM has exercised its authority regarding capture of wasted gas prior to issuance of the 2016 Final Rule.

In the absence of the 2016 Waste Rule, BLM is still required to take proactive steps to minimize waste of taxpayer owned resources and manage public lands in a balanced manner. This is evidenced by the fact that some BLM field offices had already implemented unique measures to incentivize capture and reduce waste prior to finalization of the 2016 Final Rule.

³⁹ "North America Rig Count." North America Rig Count | BakerHughes.com, phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother.

⁴⁰ *Ibid*

⁴¹ US Department of the Interior, Office of Natural Resources Revenue, Extractive Industries Transparency Initiative:

<https://revenue.data.doi.gov/>

⁴² BLM Carlsbad Field Office Draft RMP Volume I – EIS p.4-269.

⁴³ Adams-Heard, Rachel. "Permian Pipeline to Temporarily Convert to Oil." *Bloomberg News*. 5 Oct. 2018.

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⁴⁵ BLM Carlsbad Field Office Draft RMP Volume I – EIS p.4-269.

⁴⁶ U.S. Bureau of Land Management.(2018). *Air Resources Technical Support Document: Carlsbad Field Office Oil and Gas Resource Management Plan Revision* at 5-3.

To fulfill its waste prevention mandate, in June of 2017, BLM finalized an environmental assessment proposing to evaluate pending Sundry Notice requests to flare in the North Dakota Field Office to ensure direct capture of or mitigation of impacts from associated gas from oil wells in the Bakken in western North Dakota.⁴⁷ The field office will determine the environmental and social impacts from flaring and identify any design features and mitigation measures that may need to be applied to future flaring from new facilities as Conditions of Approval. The EA reiterated BLM's authority to regulating venting and flaring stating, "The BLM has the authority to protect the viewsheds of cultural and historic properties for federally administered wells on both federal and non-federal surface under the National Historic Preservation Act (NHPA), and 36 CFR 800 – Protection of Historic Properties. In addition, mitigation requirements for venting and flaring within the viewsheds of historic or cultural properties are authorized under the NEPA, section 6.8.4."⁴⁸ According to the EA, the agency will carry out this authority by, "analyz[ing] 1,7701 pending SN requests (Appendix A) to flare oil-well gas from Federal and Indian oil wells along with disclosing the reasonably foreseeable impacts from flaring in the western portion of North Dakota, and identify mitigation measures for flaring from future production facilities."⁴⁹ Those potential mitigation measures include the following:

- Construct a gathering pipeline which will ultimately be connected to a trunk pipeline;
- Liquefy the gas on location and store on location until it can be transported via truck to a pipeline injection location;
- Reinject the natural gas into a formation for possible future use;
- Reinject the natural gas into the reservoir for secondary enhanced oil recovery;
- Beneficial use on lease;
- Camouflaging of flare using vegetation or architectural structures;
- Reduce flare stack height;
- Restriction of active flaring at night;
- Coordination with the appropriate SMA would be required for future flaring requests within the viewshed of a cultural or historic property.

Similarly, both the Price Field Office in preparing the San Rafael Desert MLP and the Royal Gorge Field Office in preparing the Eastern Colorado RMP drafted stipulations based on the requirements in the 2016 final rule and other successful waste minimization strategies to address waste at the planning level.

While the San Rafael Desert MLP will not be moving forward, the preliminary alternatives released by the Price Field Office for the San Rafael Desert MLP address the issues of venting and flaring under stipulation AQ-11.⁵⁰ The stipulation explicitly calls out the requirement to eliminate venting and flaring of associated gas and to submit a waste minimization plan along with APDs. Stipulation

⁴⁷ Bureau of Land Management, North Dakota Field Office, *Environmental Assessment: Sundry Notice Flaring Requests* (June 2017). Available at: https://eplanning.blm.gov/epl-front-office/projects/nepa/62240/108472/132791/NDFO_Flaring_EA.pdf

⁴⁸ Id. at 33

⁴⁹ Id. at 9

⁵⁰ See stipulation AQ-11 at: https://eplanning.blm.gov/epl-front-office/projects/nepa/61781/93139/112240/SRD_MLP_Chapter_2_Alternatives_-_Public_Review.pdf

AQ-11 illustrates how BLM can draft a stipulation to address the flaring, venting and waste minimization plan requirements of the rule:

In the absence of a pipeline, to capture gas associated with production from an oil well, use of a combustor or other best available technologies would be required. To minimize impacts on air quality and AQRVs, as well as minimize emissions of greenhouse gases, venting or open flaring would be prohibited except in the limited circumstances identified in the BLM's methane waste prevention rule. Evaluation of all reasonable and technically feasible gas capture technologies would be required as part of operator plan approvals. In the case of an exception, a visual screen must be used to minimize sky glow, glare, and adverse visual effects on night sky resources.⁵¹

Similarly, the Royal Gorge Field Office included stipulations in the preliminary alternatives for the Eastern Colorado RMP. There, the field office addressed venting and flaring in the planning area more generally. AU-23 states "Allow venting of gas only in emergency situations or under circumstances when capture is not technically feasible." While MA-6 reads, "Minimize flaring as much as is technically and economically feasible. Authorize flaring on a case by case basis. The BLM engineer will review requests and attach conditions of approval to any authorization. Operators must record volumes and amount of time flaring takes place, and submit the information to the BLM..."⁵²

The Carlsbad field office attempted to address waste prior to the 2016 rule as well, although unsuccessfully. According to a 2016 GAO report⁵³, in Carlsbad officials charged royalties on flared gas. Through discussion with operators they found that operators made an economic choice to flare gas associated with their oil wells rather than wait until gas gathering pipeline was available and that operators could generally restrict production at their wells without endangering the amount of oil that these wells could ultimately produce. They therefore determined that much of the flared oil-well gas was "avoidably lost". However, as noted in the preparation of the 2016 waste rule, "in spite of those payments, rates of flaring [had] not changed appreciably since 2013."⁵⁴ The Carlsbad example highlights the flaw in relying on purely economic incentives to reduce waste – the approach used under NTL-4A- and the need for more explicit requirements.

BLM should have included similarly proactive measures like those considered in North Dakota, Price and Royal Gorge to analyze and incentivize methane capture.

II. BLM must develop and include stipulations in the lease terms to reduce natural gas waste and mitigate impacts from associated methane emissions.

⁵¹ See San Rafael Desert Preliminary Alternatives, Stipulation AQ-11.

⁵² Preliminary Alternatives Report, Eastern Colorado Resource Management Plan (March 2017). Available at: https://eplanning.blm.gov/epl-front-office/projects/lup/39877/98740/119608/ECRMP_PrelimAltsReport.pdf

⁵³ United States Government Accountability Office. (2016). OIL AND GAS—Interior Could Do More to Account for and Manage Natural Gas Emissions. (GAO-16-607)

⁵⁴ 81 Fed. Reg. 25 (February 8, 2016) at 6644.

Ultimately, BLM failed to analyze alternatives in this lease sale EA that would minimize and/or mitigate methane emissions, such as deferring leases, phasing leasing, requiring technology to mitigate emissions, and requiring practices that would reduce methane emissions and natural gas waste. The only analysis of mitigation measures conducted by BLM in the EA for this lease sale was a cursory overview of optional actions. BLM referred to the potential for unspecified voluntary BMPs and enrollment in the Natural GasSTAR program as potential ways to reduce methane and other GHG emissions. Moreover, BLM did not include any potential methane or waste minimization stipulations and did not evaluate the potential impact of those or other waste and methane reduction measures on GHG emissions from this lease sale.

BLM is subject to a broad range of authorities supporting mitigation measures to avoid, minimize and offset impacts. FLPMA requires BLM to manage for multiple use and sustained yield, and to avoid unnecessary or undue degradation of resources and values. 43 C.F.R. §§ 1701, 1732(b). NEPA and associated CEQ regulations require BLM to analyze potential impacts and consider ways to avoid, minimize and mitigate impacts, in accordance with the mitigation hierarchy. 40 C.F.R. §§ 1508.8, 1502.14, 1502.16. NEPA specifically requires an agency to “include appropriate mitigation measures not already included in the proposed action or alternatives.” 40 CFR 1502.14(f), 1502.16(h). Additionally, BLM’s broad discretion under the MLA, coupled with the MLA’s direction that leases should support the public interest, can further support such an approach.

In the context of this lease sale, BLM had the opportunity to mitigate the impacts from associated methane emissions by incorporating waste minimization stipulations as lease notices in the lease terms. Specifically, BLM failed to consider or incorporate lease notices to address the six areas we identified as covered under the 2016 final rule but left unaddressed by New Mexico’s state regulations, the revised BLM rule or existing RMP stipulations. Those include:

- Prohibiting the venting of natural gas.
- Mandating operators meet monthly capture gas percentage targets as outlined in the 2016 final rule and establishing restrictions on flaring.
- Requiring operators to report volumes of gas vented, flared and leaked.
- Requiring the capture of emissions associated with well drilling, completion and testing operations.
- Establishing waste minimization requirements for pneumatic controllers and diaphragm pumps.
- Establishing a comprehensive LDAR inspection and reporting protocol for all well production facilities similar to that of the 2016 final rule.

The Roswell and Carlsbad RMPs both lack stipulations that would reduce methane emissions and natural gas waste. Additionally, the revision of the 2016 waste rule along with the deficient New Mexico state regulations means inadequate measures are in place to ensure BLM meets its waste prevention mandate. The field office failed to take any action to reduce waste and increase federal revenues by ensuring lease terms include waste minimization requirements.

We hope to see BLM complete needed analysis and fully comply with applicable law and guidance prior to proceeding with leasing these parcels.

Sincerely,

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