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DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Parts 3160 and 3170

[212.LLHQ300000.L13100000.PP0000]

RIN 1004-AE79

Waste Prevention, Production Subject to Royalties, and Resource Conservation

AGENCY: Bureau of Land Management, Interior.

ACTION: Proposed rule.

SUMMARY: The Bureau of Land Management (BLM) is proposing new regulations to reduce the waste of natural gas from venting, flaring, and leaks during oil and gas production activities on Federal and Indian leases. The proposed regulations would be codified in the Code of Federal Regulations and would replace the BLM's current requirements governing venting and flaring, which are more than four decades old.

DATES: Send your comments on this proposed rule to the BLM on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. The BLM is not obligated to consider any comments received after this date in making its decision on the final rule.

If you wish to comment on the information collection requirements in this proposed rule, please note that the Office of Management and Budget (OMB) is required to make a decision concerning the collection of information contained in this proposed rule between 30 and 60 days after publication of this proposed rule in the Federal Register. Therefore, comments should be submitted to OMB by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: *Mail, personal, or messenger delivery:* U.S. Department of the Interior, Director (630), Bureau of Land Management, 1849 C St., N.W., Room 5646, Washington, D.C. 20240, Attention: 1004-AE79.

Federal eRulemaking Portal: https://www.regulations.gov. In the Searchbox, enter "RIN 1004-AE79 and click the "Search" button. Follow the instructions at this website.

FOR COMMENTS ON INFORMATION-COLLECTION REQUIREMENTS: Written comments and recommendations for the information collection requirements should be sent within 30 days of publication of this notice to www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under Review - Open for Public Comments" or by using the search function. You may also provide a copy of your comments to the BLM's Information Collection Clearance Officer to the above address with "Attention PRA Office," or by email to BLM_HQ_PRA_Comments@blm.gov. Please reference OMB Control Number 1004-0211 and RIN 1004-AE79 in the subject line of your comments.

FOR FURTHER INFORMATION CONTACT: Lonny Bagley, Acting Division Chief, Fluid Minerals Division, telephone: 307-622-6956, or email: lbagley@blm.gov, for information regarding the substance of this proposed rule or information about the BLM's Fluid Minerals program. For questions relating to regulatory process issues, contact Faith Bremner at email: fbremner@blm.gov. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services for contacting Mr. Bagley. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

I. Executive Summary

II. Public Comment Procedures

III. Background

IV. Section-by-Section Discussion

V. Procedural Matters

I. Executive Summary

This proposed regulation aims to reduce the waste of natural gas from oil and gas leases administered by the BLM. This gas is lost during oil and gas exploration and production activities through venting, flaring, and leaks. Although some losses of gas may be unavoidable, the law requires that operators take reasonable steps to prevent the waste of gas through venting, flaring and leakage. The proposed rule describes the reasonable steps that operators of Federal and Indian oil and gas leases must take to avoid the waste of natural gas. The proposed rule would also ensure that, when Federal or Indian gas is wasted, the public and Indian mineral owners are compensated through royalty payments.

The BLM conducts a Federal onshore oil and gas leasing program pursuant to the requirements of various statutes, including the Mineral Leasing Act (MLA), the Federal Oil and Gas Royalty Management Act (FOGRMA), the Inflation Reduction Act of 2022, and the Federal Land Policy and Management Act (FLPMA). The MLA requires lessees to "use all reasonable precautions to prevent waste of oil or gas developed in the land,"[1] and further requires oil and gas lessees to observe "such rules . . . for the prevention of undue waste as may be prescribed by [the] Secretary."[2] Under FOGRMA, oil and gas lessees are liable for royalty payments on gas wasted from the lease site.[3] In addition, as discussed further later, a provision of the Inflation Reduction Act ("IRA"), Pub. L. No. 117-169, provides that, for leases issued after August 16, 2022, royalties are owed on all gas produced from Federal land, subject to certain exceptions for gas lost during

[1] 30 U.S.C. 225.
[2] 30 U.S.C. 187.
[3] 30 U.S.C. 1756.

emergency situations, gas used for the benefit of lease operations, and gas that is "unavoidably lost." FLPMA authorizes the BLM to "regulate" the "use, occupancy, and development" of the public lands via "published rules," while mandating that the Secretary, "[i]n managing the public lands . . . shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."

In addition to managing the leasing and production of oil and gas from Federal lands, the BLM also oversees operations on many Indian and Tribal oil and gas leases pursuant to a delegation of authority from the Secretary of the Interior.[4] The Secretary's management and regulation of Indian mineral interests carries with it the duty to act as a trustee for the benefit of the Indian mineral owners.

This proposed rule would replace the BLM's current requirements governing venting and flaring, which are contained in Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases: Royalty or Compensation for Oil and Gas Lost ("NTL-4A").[5] NTL-4A was issued more than 40 years ago and its policies and requirements have become outdated. To begin, NTL-4A is ill-suited to address the large volume of flaring associated with the rapid development of unconventional tight oil and gas resources that has occurred in recent years. In addition, NTL-4A does not account for technological and operational advancements that can reduce losses of gas from oil storage tanks, pneumatic equipment, and equipment leaks.

In 2016, the BLM issued a final rule replacing NTL-4A with new regulations intended to reduce the waste of gas from venting, flaring, and leaks.[6] However, industry groups and a set of States immediately challenged that rule in Federal court, and the BLM never fully implemented the rule due to that litigation.[7] In September 2018, the BLM

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[4] Department of the Interior, Departmental Manual, 235 DM 1.1K.
[5] 44 FR 76,600 (Dec. 27, 1979).
[6] 81 FR 83008 (Nov. 18, 2016).
[7] *See Wyoming v. U.S. Dept. of the Interior*, 493 F. Supp. 3d 1046, 1052-1057 (D. Wyo. 2020).

issued a final rule effectively rescinding the 2016 Rule.[8] Environmental groups and a different set of States then challenged that rule in Federal court. Eventually, a U.S. District Court vacated the 2018 rescission of the 2016 Rule on various grounds, including that the resulting regulatory regime would fail to meet the BLM's statutory mandate to prevent waste.[9] Then a different U.S. District Court vacated the 2016 Rule on the grounds that, among other things: (1) the MLA's "delegation of authority does not allow and was not intended to authorize the enactment of rules justified primarily upon the ancillary benefit of a reduction in air pollution"; and (2) "BLM acted arbitrarily and capriciously in failing to fully assess the impacts of the [2016 Rule] on marginal wells, failing to adequately explain and support the [2016 Rule's] capture requirements, and failing to separately consider the domestic costs and benefits of the [2016 Rule]."[10] The end result of these rulemakings and court decisions is that NTL-4A continues to govern venting and flaring from BLM-managed oil and gas leases.

These recent rulemakings and the related litigation have provided the BLM with two important lessons. First, there are opportunities for the BLM to reduce the waste of natural gas through improved regulatory requirements pertaining to venting, flaring, and leaks. Second, courts disagreed as to whether the BLM's regulatory authority allows for all of the 2016 Rule provisions. The BLM, therefore, has chosen an approach that seeks to improve upon NTL-4A in a variety of significant ways while eschewing certain elements of the 2016 Rule that were the focus of an unfavorable court ruling.

In brief, the primary components of this proposed rule are as follows:

- The proposed rule would establish the general rule that "operators must use all reasonable precautions to prevent the waste of oil or gas developed from the lease." It notes that the BLM may specify reasonable measures to prevent

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[8] 83 FR 49184 (Sept. 28, 2018).
[9] *California v. Bernhardt*, 472 F. Supp. 3d 573 (N.D. Cal. 2020).
[10] *See Wyoming v. U.S. Dept. of the Interior*, 493 F. Supp. 3d 1046, 1086-87 (D. Wyo. 2020).

waste as conditions of approval of an Application for Permit to Drill and, after an Application for Permit to Drill is approved, the BLM may order an operator to implement, within a reasonable time, additional reasonable measures to prevent waste at ongoing exploration and production operations. Reasonable measures to prevent waste may reflect factors including, but not limited to, relevant advances in technology and changes in industry practice.

- The proposed rule would require operators to submit a waste minimization plan with all applications for permits to drill oil wells. This plan would provide the BLM with information on anticipated associated gas production, the operator's capacity to capture that gas production for sale or use, and other steps the operator commits to take to reduce or eliminate gas losses. Where the available information indicates that the plan does not take reasonable steps to avoid wasting gas, the BLM may delay action on the permit until the operator adequately addresses the plan's deficiencies to the BLM's satisfaction.
- The proposed rule would recognize, and clarify, that oil or gas can be "unavoidably lost" in connection with certain oil and gas operations. Unavoidably lost oil or gas will not be considered wasted and therefore not be subjected to royalty payments. In particular, if the operator has not been negligent; has taken "prudent and reasonable steps to avoid waste;" complied fully with applicable laws, lease terms, regulations, provisions of a previously approved operating plan, and other written orders of the BLM; and the loss is within the time or volume limits applicable to the particular situation; then the lost oil or gas will qualify as "unavoidably lost" waste gas for which no royalties are owed.

- The proposed rule would lay out a number of specific circumstances in which lost oil or gas would be considered "unavoidably lost," including during well completions, production testing, and emergencies. The proposed rule would also establish a monthly volume limit on royalty-free flaring due to pipeline capacity constraints, midstream processing failures, or other similar events that may prevent produced gas from being transported to market.
- The proposed rule would include a number of specific affirmative obligations that operators must take to avoid wasting oil or gas. In particular:

    - For certain operators on Federal or Indian leases, or Indian Mineral Development Act (IMDA) agreements, the proposed rule would prohibit the use of natural-gas-activated pneumatic controllers or pneumatic diaphragm pumps with a bleed rate that exceeds 6 standard cubic feet (scf)/hour.
    - The proposed rule would, where technically and economically feasible, require oil storage tanks on Federal or Indian leases to be equipped with a vapor recovery system or other mechanism that avoids the loss of natural gas from the tank.
    - The proposed rule would require operators on Federal or Indian leases to maintain a leak detection and repair (LDAR) program designed to prevent the unreasonable and undue waste of Federal or Indian gas. An operator's LDAR program must provide for regular inspections of all oil and gas production, processing, treatment, storage, and measurement equipment on the lease site.

The requirements of this proposed rule are explained in detail in sections III and IV that follow.

As detailed in the Regulatory Impact Analysis (RIA) prepared for this proposed rule, the BLM estimates that this rule would have the following economic impacts:

- Costs to industry of around $122 million per year (annualized at 7 percent);
- Benefits to industry in recovered gas of $55 million per year (annualized at 7 percent);
- Increases in royalty revenues from recovered and flared gas of $39 million per year; and
- Benefits to society of $427 million per year from reduced greenhouse gas emissions.

II. Public Comment Procedures

If you wish to comment on this proposed rule, you may submit your comments to the BLM by mail, personal or messenger delivery, or through https: www.regulations.gov (see the "ADDRESSES" section).

Please make your comments on the proposed rule as specific as possible, confine them to issues pertinent to the proposed rule, explain the reason for any changes you recommend, and include any supporting documentation. Where possible, your comments should reference the specific section or paragraph of the proposal that you are addressing. The BLM is not obligated to consider or include in the Administrative Record for the final rule comments that we receive after the close of the comment period (see "DATES") or comments delivered to an address other than those listed previously (see "ADDRESSES").

Comments, including names and street addresses of respondents, will be available for public review at the address listed under "ADDRESSES: Personal or messenger delivery" during regular hours (7:45 a.m. to 4:15 p.m.), Monday through Friday, except holidays. Before including your address, telephone number, email address, or other

personal identifying information in your comment, be advised that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

As explained later, this proposed rule would include revisions to information collection requirements that must be approved by the Office of Management and Budget (OMB). If you wish to comment on the revised information collection requirements in this proposed rule, please note that such comments must be sent directly to the OMB in the manner described in the "DATES" and "ADDRESSES" sections. Please note that due to COVID-19, electronic submission of comments is recommended.

III. Background

A. Waste of Natural Gas during the Development of Federal and Indian Oil and Gas Resources.

The BLM is responsible for managing more than 245 million acres of land and 700 million acres of subsurface mineral estate—the latter being nearly a third of the nation's total land mass. The BLM maintains a program for leasing these lands for oil and gas development and regulates oil and gas production operations on Federal leases. While the BLM does not manage the leasing of Indian and Tribal lands for oil and gas production, the BLM does regulate oil and gas operations on many Indian and Tribal leases as part of its Tribal trust responsibilities.

The BLM's onshore oil and gas management program is a major contributor to the nation's oil and gas production. Domestic production from 88,887 Federal onshore oil and gas wells[11] accounts for approximately 8 percent of the Nation's natural gas supply

[11] BLM Public Lands Statistics, Table 9 (FY 2021 data), available at https://www.blm.gov/programs-energy-and-minerals-oil-and-gas-oil-and-gas-statistics.

and 9 percent of its oil.[12] In Fiscal Year (FY) 2021, operators produced 473 million barrels of oil and 3.65 trillion cubic feet (Tcf) of natural gas from onshore Federal and Indian oil and gas leases. The production of this oil and gas generated more than $4.2 billion in royalties. Approximately $3.2 billion of these royalties were split between the United States and the States in which the production occurred. Approximately $1 billion of these royalties went directly to Tribes and Indian allottees for production from Indian lands. [13]

In recent years, the United States has experienced a significant increase in oil and natural gas production due to technological advances, such as hydraulic fracturing combined with directional drilling. This increase in production has been accompanied by a significant waste of natural gas through venting and flaring. As the following graph illustrates, the amount of venting and flaring from Federal and Indian leases has increased dramatically from the 1990s to the 2010s, and the upward trend in flaring suggests that it will continue to be a problem in the coming years. Between 1990 and 2000, the total venting and flaring reported by Federal and Indian onshore lessees averaged approximately 11 billion cubic feet (Bcf) per year. Between 2010 and 2020, in contrast, the total venting and flaring reported by Federal and Indian onshore lessees averaged approximately 44.2 Bcf per year.[14]

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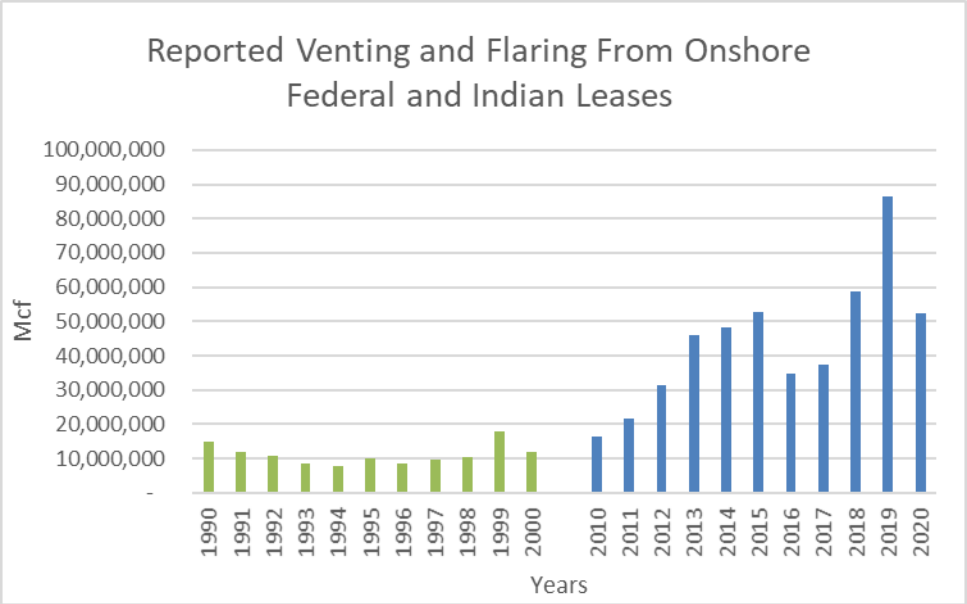
[12] Bureau of Land Management Budget Justifications and Performance Information Fiscal Year 2023, p. V-79, available at https://www.doi.gov/sites/doi.gov/files/fy2023-blm-greenbook.pdf.

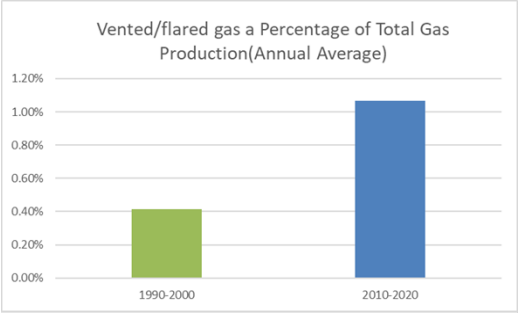
[13] Production and revenue number derived from data maintained by the Office of Natural Resources Revenue at https://revenuedata.doi.gov/.

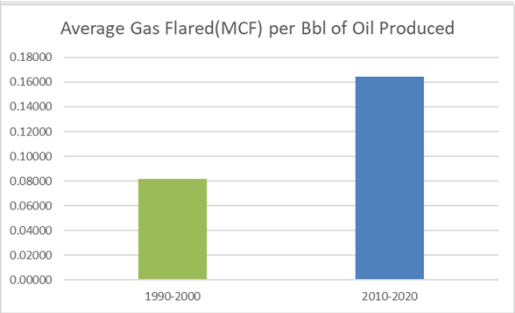
[14] BLM analysis of ONRR Oil and Gas Operations Report Part B (OGOR-B) data provided for 1990-2000 and 2010-2020.



Assuming a $3 per thousand cubic feet (Mcf) price of gas,[15] the Federal and Indian gas that was vented and flared from 2010 to 2020 would be valued at $1.46 billion. The BLM notes that vented and flared volumes have not increased linearly with production. According to data maintained by the Office of Natural Resources Revenue (ONRR), the average volume of vented and flared gas as a percentage of total gas production was 0.42 percent from 1990 – 2000. From 2010 – 2020, however, vented and flared gas averaged 1.07 percent of total gas production. This metric indicates a 157 percent increase in the waste of gas during oil and gas production from Federal and Indian lands. Furthermore, the average amount of vented and flared gas (Mcf) per barrel (bbl) of oil production was 0.8148 Mcf/bbl from 1990 to 2000, while it rose to 1.6418 Mcf/bbl from 2010 to 2020—a 102 percent increase in the waste of gas per barrel of oil produced.

[15] The average annual Henry Hub spot price for natural gas from 2010 through 2020 was $3.19. U.S Energy Information Administration (EIA), Henry Hub Natural Gas Spot Price, *available at* https://www.eia.gov/dnav/ng/hist/rngwhhda.htm.





In addition to the venting and flaring tracked by the ONRR, recent studies have identified three other major sources of gas losses during the oil and gas production process: emissions from natural-gas-activated pneumatic equipment, venting from oil storage tanks, and equipment leaks.[16] The Environmental Protection Agency (EPA) estimates that, overall, 36.2 Bcf of methane was emitted from pneumatic controllers and 4.9 Bcf of methane was emitted from equipment leaks at upstream oil and gas production sites in the United States in 2019.[17] The BLM estimates that 13 Bcf of natural gas was lost from pneumatic devices on Federal and Indian lands in 2019. The BLM estimates that an additional 0.86 Bcf of gas was lost due to equipment leaks from Federal natural gas production operations not subject to existing State or EPA leak detection and repair requirements. Notably, the problem of leakage appears to be exacerbated in areas where there is insufficient infrastructure for natural gas gathering, processing, and transportation[18]—a known issue in basins such as the Permian and Bakken, where substantial BLM-managed oil and gas production occurs. Finally, the BLM estimates that 17.9 Bcf of natural gas was emitted from storage tanks on Federal and Indian lands in 2019. These losses from pneumatic equipment, leaks and storage tanks would be valued at $53.7 million dollars (at $3/Mcf) in 2019.

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[16] Alvarez, et al., "Assessment of methane emissions from the U.S. oil and gas supply chain," *Science* 361 (2018); *see also* 81 FR 83015-17.
[17] EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2019 at 3-73 (2019).
[18] Zhang, et al., "Quantifying methane emissions from the largest oil-producing basin in the United States from space," *Science Advances* 6 (2020).

Excessive venting, flaring, and leaks by Federal oil and gas lessees is wasting valuable publicly owned resources that could be put to productive use, and depriving American taxpayers, Tribes, and States of substantial royalty revenues. In addition, the wasted gas may harm local communities and surrounding areas through visual and noise impacts from flaring, while also contributing to local and regional exposure to smog and other harmful air pollutants such as small particulates and benzene. Vented or leaked gas also contributes to climate change, because the primary constituent of natural gas is methane, an especially powerful greenhouse gas, with climate impacts roughly 28-36 times those of carbon dioxide (CO_2), if measured over a 100-year period, or 84 times those of CO_2 if measured over a 20-year period.[19] Thus, regulatory measures that encourage operators to conserve gas and avoid waste could also significantly benefit public health and the environment as well as provide additional benefits to local communities.[20]

To be clear, as the BLM has consistently recognized during its many decades of implementing the MLA, not every loss of natural gas during oil and gas production constitutes waste under the MLA. Indeed, some amount of venting and flaring is unavoidable and expected to occur during oil and gas exploration and production operations. For example, an operator may need to flare gas on a short-term basis as part of drilling operations, well completion, or production testing, among other situations. Longer-term flaring may occur in exceptional circumstances, which might include the drilling of and production from a wildcat well in a new field, where gas pipelines have

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[19] See Intergovernmental Panel on Climate Change, Climate Change 2013: The Physical Science Basis, Chapter 8, *Anthropogenic and Natural Radiative Forcing,* at 714 (Table 8.7), *available at* https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf.

[20] The BLM notes that the BLM did not rely on such ancillary benefits in developing or selecting the waste prevention/resource conservation provisions presented in this proposed rule. Rather, with the exception of the safety provisions in proposed § 3179.6, the requirements of this proposed rule are independently justified as reasonable measures to prevent waste that would be expected of a prudent operator, regardless of ancillary benefits to public health or the environment.

not yet been built due to a lack of information regarding expected gas production.[21] In some fields, the overall quantity of gas produced may be so small that the development of gas pipeline infrastructure may not be economically justified.

Although at least some venting or flaring may be unavoidable (and thus not wasteful under the relevant statutes) under some circumstances, operators have an affirmative obligation under the law to use reasonable precautions to prevent the waste of oil or gas developed from a lease. Measures that are considered reasonable to prevent waste may shift over time with advances in technology and changes in industry practice.

Further, operators' immediate economic interests may not always be served by minimizing the loss of natural gas, and BLM regulation is necessary to discourage operators from venting or flaring more gas than is operationally necessary. A prime example is the flaring of oil-well gas due to pipeline capacity constraints. Oil wells in certain fields are known to produce relatively large volumes of associated gas. Accordingly, natural-gas-capture infrastructure—including pipelines—has been built out in those fields and operators are expected to capture and sell the associated gas they produce. However, it is not uncommon for the rate of oil-well development to outpace the capacity of the related gas-capture infrastructure. When the existing gas-capture infrastructure is overwhelmed, an operator is faced with a choice: flare the associated gas in order to continue oil production unabated, or curtail oil production in order to conserve the associated gas. Absent clear requirements, an operator might conclude that the former course of action best serves its immediate economic interests by providing immediate revenue from the relatively more valuable production stream. But the latter course of action may often best serve the public's interest by maximizing overall energy

[21] The BLM notes that, even in such exceptional circumstances, operators should be expected to take measures to avoid excessive flaring and this proposed rule would place limitations on royalty-free flaring from exploratory (wildcat) wells.

production (considering both production streams) and royalty revenues. (This proposed rule would incentivize better communication and coordination among operators and midstream companies, which is expected to result in more deliberate development with greater volumes of production sent to market in the long run.) Similar to the problem of inadequate pipelines, maximizing the recovery of gas by investing in vapor-recovery units for oil storage tanks, upgrading pneumatic equipment, and regularly inspecting for leaks may not always maximize the operator's profits, especially when the operator examines the investment on a short time horizon. It is in these circumstances—where an operator's interest in maximizing profits diverges from the public's interest in maximizing resource recovery—that BLM regulation is necessary and appropriate to ensure that operators take reasonable measures to prevent waste.

B. Legal Authority.

Pursuant to a delegation of Secretarial authority, the BLM is authorized to regulate oil and gas exploration and production activities on Federal and Indian lands under a variety of statutes, including the MLA, the Mineral Leasing Act for Acquired Lands (MLAAL), the IRA, FOGRMA, FLPMA, the Indian Mineral Leasing Act of 1938, the IMDA, and the Act of March 3, 1909.[22] These statutes authorize the Secretary of the Interior to promulgate such rules and regulations as may be necessary to carry out the statutes' various purposes.[23]

1. Authority Regarding the Waste of Natural Gas.

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[22] Mineral Leasing Act, 30 U.S.C. 188–287; Mineral Leasing Act for Acquired Lands, 30 U.S.C. §§ 351–360; Federal Oil and Gas Royalty Management Act, 30 U.S.C. 1701–1758; Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701–1785; Indian Mineral Leasing Act of 1938, 25 U.S.C. 396a–g; Indian Mineral Development Act of 1982, 25 U.S.C. 2101–2108; Act of March 3, 1909, 25 U.S.C. 396.
[23] 30 U.S.C. 189 (MLA); 30 U.S.C. 359 (MLAAL); 30 U.S.C. 1751(a) (FOGRMA); 43 U.S.C. 1740 (FLPMA); 25 U.S.C. 396d (IMLA); 25 U.S.C. 2107 (IMDA); 25 U.S.C. 396.

The MLA rests on the fundamental principle that the public should benefit from mineral production on public lands.[24] An important means of ensuring that the public benefits from mineral production on public lands is minimizing and deterring the waste of oil and gas produced from the Federal mineral estate. To this end, the MLA requires that oil and gas lessees "use all reasonable precautions to prevent waste of oil or gas developed in the land."[25] The MLA requires lessees to exercise "reasonable diligence, skill, and care" in their operations and also requires oil and gas lessees to observe "such rules . . . for the prevention of undue waste as may be prescribed by [the] Secretary."[26] Lessees are not only responsible for taking measures to prevent waste, but also for making royalty payments on wasted oil and gas when waste does occur, elaborating on the MLA's assessment of royalties on all production "removed or sold from the lease,"[27] FOGRMA expressly made lessees "liable for royalty payments on oil or gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator of the lease, or due to the failure to comply with any rule or regulation, order or citation issued under [FOGRMA] or any mineral leasing law."[28]

In addition, on August 16, 2022, President Biden signed the IRA into law. Pub. L. No. 117-169. Section 50263 of the IRA, which is entitled, "Royalties on All Extracted Methane," provides that, for leases issued after August 16, 2022, royalties are owed on all gas produced from Federal land, including gas that is consumed or lost by venting, flaring, or negligent releases through any equipment during upstream operations. Section 50263 further provides three exceptions to the general obligation to pay royalties on produced gas, namely: (1) gas that is vented or flared for not longer than 48 hours in an

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[24] *See, e.g., California Co. v. Udall*, 296 F.2d 384, 388 (D.C. Cir. 1961) (noting that the MLA was "intended to promote wise development of . . . natural resources and to obtain for the public a reasonable financial return on assets that 'belong' to the public").
[25] 30 U.S.C. 225.
[26] 30 U.S.C. 187.
[27] 30 U.S.C. 226(b).
[28] 30 U.S.C. 1756.

emergency situation that poses a danger to human health, safety, or the environment; (2) gas used or consumed within a lease, unit, or communitized area for the benefit of the lease, unit, or communitized area; and (3) gas that is unavoidably lost.

The BLM's authority to regulate the waste of Federal oil and gas is not limited to operations that occur on Federal lands, but also extends to operations on non-Federal lands where Federal oil and gas is produced under a unit or communitization agreement (CA). "For the purpose of more properly conserving the natural resources of any oil or gas pool, field, or like area," the MLA authorizes lessees to operate their leases under a cooperative or unit plan of development and operation, if the Secretary of the Interior determines such an arrangement to be necessary or advisable in the public interest.[29] The Secretary is authorized, with the consent of the lessees involved, to establish or alter drilling, producing, and royalty requirements and to make such regulations with respect to the leases as she may deem necessary and proper to protect the public interest.[30] The MLA states that a cooperative or unit plan of development may contain a provision authorizing the Secretary to regulate the rate of development and the rate of production.[31] Accordingly, the BLM's standard form unit agreement provides that the BLM may regulate the quantity and rate of production in the interest of conservation.[32] The BLM's standard form CA provides that the BLM "shall have the right of supervision over all fee and state mineral operations within the communitized area to the extent necessary to monitor production and measurement, and to assure that no avoidable loss of hydrocarbons occurs . . . ."[33] As noted earlier, FOGRMA authorizes the BLM to assess royalties on gas lost or wasted from a "lease site." The term "lease site" is broadly

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[29] 30 U.S.C. 226(m).
[30] *Id.*.
[31] *Id.*.
[32] 43 CFR 3186.1, ¶ 21.
[33] See "BLM Manual 3160-9 – Communitization," Appendix 1, ¶ 12.

defined in FOGRMA,[34] extending the BLM's authority to assess royalties on wasted gas to the Federal or Indian portion of gas wasted from operations on non-Federal tracts committed to a Federal unit or communitization agreement. Thus, even where the production of Federal oil and gas occurs on State- or privately owned tracts, the BLM maintains the authority to regulate the waste of Federal minerals from operations on those lands by requiring royalty payments and setting appropriate rates of development and production.[35]

2. Authority Regarding Environmental Impacts to the Public Lands.

In addition to ensuring that the public receives a pecuniary benefit from oil and gas production from public lands, the BLM is also tasked with regulating the physical impacts of oil and gas development on public lands. The MLA directs the Secretary to "regulate all surface-disturbing activities conducted pursuant to any lease" and to "determine reclamation and other actions as required in the interest of conservation of surface resources."[36] The MLA requires oil and gas leases to include provisions "for the protection of the interests of the United States . . . and for the safeguarding of the public welfare," which includes lease terms for the prevention of environmental harm.[37] The

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[34] See 30 U.S.C. 1702(6); *Maralex Resources, Inc. v. Bernhardt*, 913 F.3d 1189, 1200 (10th Cir. 2019) ("the statutory definition of 'lease site' necessarily includes any lands, including privately-owned lands, on which [production] of oil or gas is occurring pursuant to a communitization agreement"). Additionally, FOGRMA defines "oil and gas" broadly to mean "any oil or gas originating from, *or allocated to*, the Outer Continental Shelf, Federal, or Indian lands." 30 U.S.C. 1702(9) (emphasis added).

[35] This conclusion is consistent with the assessment of the BLM's authority expressed by the court that vacated the 2016 Waste Prevention Rule. *See Wyoming v. U.S. Dept. of the Interior*, 493 F. Supp. 3d 1046, 1081-85 (D. Wyo. 2020).

[36] 30 U.S.C. 226(g).

[37] *See Natural Resources Defense Council, Inc. v. Berklund*, 458 F. Supp. 925, 936 n.17 (D.D.C. 1978). The BLM acknowledges that the court that vacated the 2016 Waste Prevention Rule stated that "it is not a reasonable interpretation of BLM's general authority under the MLA to 'safeguard[ ] the public welfare' as empowering the agency to regulate air emissions, particularly when Congress expressly delegated such authority to the EPA under the [Clean Air Act]." *Wyoming*, 493 F. Supp. 3d at 1067. The BLM further notes that the court that vacated the BLM's rescission of the 2016 Waste Prevention Rule found that the rescission failed to satisfy the BLM's "statutory obligation" to "safeguard[] the public welfare," and stated that the MLA's "public welfare" provision supports BLM's consideration of air emissions in promulgating its waste prevention regulations. *See California v. Bernhardt*, 472 F. Supp. 3d 573, 616 (N.D. Cal. 2020). The BLM need not elaborate on the meaning of the MLA's "public welfare" provision in this rulemaking, as the BLM is proposing requirements that are independently justified as waste prevention measures and are not proposed for environmental purposes. The one exception is proposed § 3179.6, which does serve an environmental purpose, but is an exercise of the Secretary's authority to prescribe "rules for the safety and welfare of the miners" under 30 U.S.C. § 187.

Secretary may suspend lease operations "in the interest of conservation of natural resources," a phrase that encompasses not just conservation of mineral deposits, but also preventing environmental harm.[38] The Secretary also may refuse to lease lands in order to protect the public's interest in other natural resources and the environment.[39] The MLA additionally requires oil and gas leases to contain "a provision that such rules for the safety and welfare of the miners . . . as may be prescribed by the Secretary shall be observed . . . ."[40] Accordingly, the BLM's regulations governing oil and gas operations on the public lands have long required operators to conduct operations in a manner that is protective of natural resources, environmental quality, and public health and safety.[41]

FLPMA authorizes the BLM to "regulate" the "use, occupancy, and development" of the public lands via "published rules."[42] FLPMA also mandates that the Secretary, "[i]n managing the public lands . . . shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."[43] FLPMA expressly declares a policy that the BLM should balance the need for domestic sources of minerals against the need to "protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values; . . . [and] provide for outdoor recreation and human occupancy and use."[44]

FLPMA requires the BLM to manage public lands under principles of multiple use and sustained yield.[45] The statutory definition of "multiple use" explicitly includes the consideration of environmental resources. "Multiple use" is a "combination of balanced and diverse resource uses that takes into account the long-term needs of future

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[38] 30 U.S.C. 209; *see also, e.g.*, *Copper Valley Machine Works v. Andrus*, 653 F.2d 595, 601 & nn.7-8 (D.C. Cir. 1981); *Hoyl v. Babbitt*, 129 F.3d 1377, 1380 (10th Cir. 1997); *Getty Oil Co. v. Clark*, 614 F. Supp. 904, 916 (D. Wyo. 1985).
[39] *Udall v. Tallman*, 380 U.S. 1, 4 (1965); *Duesing v. Udall*, 350 F.2d 748, 751-52 (1965).
[40] 30 U.S.C. 187.
[41] *See* 43 CFR 3162.5-1, 3162.5-3.
[42] 43 U.S.C. 1732(b).
[43] *Id*.
[44] *Id.* at 1701(a)(8).
[45] *Id.* at 1702(c), 1732(a).

generations for renewable and nonrenewable resources . . . ."[46] "Multiple use" also requires resources to be managed in a "harmonious and coordinated" manner "without permanent impairment to the productivity of the land and the quality of the environment."[47] Significantly, FLPMA directs the Secretary to consider "the relative values of the resources and not necessarily . . . the combination of uses that will give the greatest economic return or the greatest unit output."[48]

3. Indian Oil and Gas Production.

The Secretary's management and regulation of Indian mineral interests carries with it the duty to act as a trustee for the benefit of the Indian mineral owners.[49] Congress has directed the Secretary to "aggressively carry out [her] trust responsibility in the administration of Indian oil and gas."[50] In furtherance of her trust obligations, the Secretary has delegated regulatory authority for administering operations on Indian oil and gas leases to the BLM,[51] which has developed specialized expertise through regulating the production of oil and gas from public lands administered by the Department. In choosing from among reasonable regulatory alternatives for Indian mineral development, the BLM is obligated to adopt the alternative that is in the best interest of the Tribe and individual Indian mineral owners.[52] What is in the best interest of the Tribe and individual Indian mineral owners is determined by a consideration of all relevant factors, including economic considerations as well as potential environmental and social effects.[53]

C. Regulatory History

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[46] 43 U.S.C. 1702(c).
[47] *Id*.
[48] *Id.*.
[49] *See Woods Petroleum Corp. v. Department of Interior*, 47 F.3d 1032, 1038 (10th Cir. 1995) (*en banc*).
[50] 30 U.S.C. 1701(a)(4).
[51] 235 DM 1.1.K.
[52] *See Jicarilla Apache Tribe v. Supron Energy Corp.*, 728 F.2d 1555, 1567 (10th Cir. 1984) (Seymour, J., concurring in part and dissenting in part), adopted as majority opinion as modified *en banc*, 782 F.2d 855 (10th Cir. 1986).
[53] *See* 25 CFR 211.3.

The BLM has a long history of regulating venting and flaring from onshore oil and gas operations. This section summarizes the BLM's historic practices, as well as the BLM's experience in two recent rulemakings related to venting and flaring.

1. Early Regulation of Surface Waste of Gas.

The Department of the Interior has maintained regulations addressing the waste of gas through venting and flaring from onshore oil and gas leases since 1938. At that time, the Department's regulations required the United States to be compensated "at full value" for "all gas wasted by blowing, release, escape into the air, or otherwise," except where such disposal was authorized under the laws of the United States and the State in which it occurred.[54] The regulations further provided that the production of oil or gas from the lease was to be restricted to such amounts as could be put to beneficial use and that, in order to avoid the excessive production of oil or gas, the Secretary could limit the rate of production based on the market demand for oil or the market demand for gas.[55]

By 1942, the Department's regulations contained a definition of "waste of oil or gas." This definition included the "physical waste of oil or gas," which was defined as "the loss or destruction of oil or gas after recovery thereof such as to prevent proper utilization and beneficial use thereof, and the loss of oil or gas prior to recovery thereof by isolation or entrapment, by migration, by premature release of natural gas from solution in oil, or in any other manner such as to render impracticable the recovery of such oil or gas."[56] The regulations stated that a lessee was "obligated to prevent the waste of oil or gas" and, in order to avoid the physical waste of gas, the lessee was required to "consume it beneficially or market it or return it to the productive formation."[57] The regulations

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[54] 30 CFR 221.5(h) (1938).
[55] *Id.* at 221.27.
[56] 30 CFR 221.6(n) (1942).
[57] *Id.* at 221.35.

stated that "unavoidably lost" gas was not subject to royalty, though the regulations did not define "unavoidably lost."[58]

In 1974, the Secretary issued NTL-4, which established the following policy for royalties on gas production:

> Gas production subject to royalty shall include (1) that gas (both dry and casing-head) which is produced and sold either on a lease basis or that which is allocated to a lease under the terms of an approved communitization or unitization agreement; (2) that gas which is vented or flared in well tests (drill-stem, completion, or production) on a lease, communitized tract, or unitized area; and (3) that gas which is otherwise vented or flared on a lease, communitized tract, or unitized area with the prior written authorization of the Area Oil and Gas Supervisor (Supervisor).

NTL-4 thus effectively required onshore oil and gas lessees to pay royalties on *all* gas produced, including gas that was unavoidably lost or used for production purposes. Various oil and gas companies sought judicial review of NTL-4. In 1978, the U.S. District Court for the District of Wyoming overturned NTL-4, holding that the MLA does not authorize the collection of royalties on gas production that is unavoidably lost or used in lease operations.[59]

2. NTL-4A.

From January 1980 to January 2017, the Department of the Interior's instructions governing the venting and flaring of gas from onshore oil and gas leases were contained in "Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases: Royalty or Compensation for Oil and Gas Lost" ("NTL-4A").[60] NTL-4A was issued by

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[58] *Id.* at 221.44.
[59] *Marathon Oil Co. v. Andrus*, 452 F. Supp. 548, 553 (D. Wyo. 1978).
[60] 44 FR 76,600 (Dec. 27, 1979).

the U.S. Geological Survey (USGS), which was the Interior bureau tasked with oversight of Federal onshore oil and gas production at the time.

Under NTL-4A, operators were required to pay royalties on "avoidably lost" gas—i.e., gas lost due to the operator's negligence, failure to take reasonable precautions to prevent or control the loss, or failure to comply with lease terms, regulations, or BLM orders. NTL-4A expressly authorized royalty-free venting and flaring "on a short-term basis" during emergencies, well purging and evaluation tests, initial production tests, and routine and special well tests. NTL-4A prohibited the flaring of gas from gas wells under any other circumstances. For gas produced from oil wells, however, NTL-4A authorized (but did not mandate) the BLM to approve flaring where conservation of the gas was not "economically justified" because it would "lead to the premature abandonment of recoverable oil reserves and ultimately to a greater loss of equivalent energy than would be recovered if the venting or flaring were permitted to continue." NTL-4A stated that, "when evaluating the feasibility of requiring conservation of the gas, the total leasehold production, including oil and gas, as well as the economics of a field-wide plan," must be considered. Finally, under NTL-4A, the loss of gas vapors from storage tanks was considered "unavoidably lost," unless the BLM "determine[d] that the recovery of such vapors would be warranted."

Soon after issuing NTL-4A, the USGS issued guidelines and procedures for implementing NTL-4A, which were published in the Conservation Division Manual (CDM) Part 644, Chapter 5. Among other things, the CDM provided guidance regarding applications to flare oil-well gas based on economics. Specifically, the CDM addressed how to respond to a lessee's contention "that reserves of casinghead gas are inadequate to support the installation of facilities for gas collection and sale." The CDM explained that "[f]rom an economic basis, all leasehold production must be considered; the major concern is profitable operation of the lease, not just profitable disposition of the gas."

The CDM further explained that the "economics of conserving gas must be on a field-wide basis, and the Supervisor must consider the feasibility of a joint operation between all other lessees/operators in the field or area." Thus, the economic standard for obtaining approval to flare oil-well gas under NTL-4A was intended to be a demanding one. The fact that the capture and sale of oil-well gas from an individual lease would not pay for itself was not sufficient to justify royalty-free flaring of the gas.

The CDM also provided guidance for venting and flaring situations involving both Federal and non-Federal lands. In such cases, the BLM was directed to contact the appropriate State agency in order to work jointly to effect optimum gas conservation. However, where such a cooperative effort was not possible, the BLM was directed to "proceed unilaterally to take action to prevent unnecessary venting or flaring from Federal lands."

Under the plain terms of NTL-4A, flaring without prior approval (outside of the short-term circumstances specified in Sections II and III of NTL-4A) constituted a royalty-bearing loss of gas, regardless of the economic circumstances. The BLM originally applied NTL-4A to that effect, and this practice was upheld by the Interior Board of Land Appeals. *See Lomax Exploration Co.*, 105 IBLA 1 (1988). However, the BLM changed this policy in Instruction Memorandum No. 87-652 (Aug. 17, 1987), which required the BLM to give an operator an opportunity to demonstrate, after the fact, that capturing the gas was not economically justified. *See Ladd Petroleum Corp.*, 107 IBLA 5 (1989).

The number of applications for royalty-free flaring received by the BLM increased dramatically between 2005 and 2016: in 2005, the BLM received just 50 applications to vent or flare gas, while in 2015 it received 4,181 flaring applications, with another 3,539 flaring applications submitted in 2016. (Both the 2016 Waste Prevention Rule and the 2018 Revision Rule dispensed with case-by-case flaring approvals, and so post-2016

flaring application data does not provide a useful comparison.) Most of the applications to flare royalty-free were submitted to the New Mexico and Montana-Dakotas State Offices, which oversee Federal and Indian mineral interests in unconventional plays where oil production is accompanied by large volumes of associated gas. Notably, the vast majority of these applications involved wells that were connected to a gas pipeline but flared due to pipeline capacity constraints.

3. 2016 Waste Prevention Rule.

On November 18, 2016, the BLM issued a final rule intended to reduce the waste of Federal and Indian gas through venting, flaring, and leaks ("Waste Prevention Rule").[61] The Waste Prevention Rule replaced NTL-4A and became effective on January 17, 2017. The BLM's development of the Waste Prevention Rule was prompted by a combination of factors, including the substantial increase in flaring over the previous decade, the growing number of applications to flare royalty-free, new information regarding the quantities of gas lost through venting and leaks, and concerns expressed by oversight entities such as the U.S. Government Accountability Office (GAO).[62]

The Waste Prevention Rule applied to all onshore Federal and Indian oil and gas leases, units, and communitized areas. The key components of the Waste Prevention Rule were:

- A requirement that applications for permits to drill (APDs) be accompanied by a "waste minimization plan" that would detail anticipated gas production and opportunities to conserve the gas;
- A provision specifying the various circumstances under which a loss of oil or gas would be "avoidably lost," and therefore royalty-bearing;

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[61] 81 FR 83008 (Nov. 18, 2016).
[62] 81 FR 83014–83017; GAO, "Federal Oil and Gas Leases – Opportunities Exist to Capture Vented and Flared Gas, Which Would Increase Royalty Payments and Reduce Greenhouse Gases" (Oct. 2010); GAO, "OIL AND GAS – Interior Could Do More to Account for and Manage Natural Gas Emissions" (July 2016).

- A requirement that operators capture (rather than flare) a certain percentage of the gas they produce;
- Equipment requirements for pneumatic controllers, pneumatic diaphragm pumps, and storage vessels (tanks); and
- LDAR provisions requiring semiannual lease site inspections, the use of specified instruments and methods, and recordkeeping and reporting.

The rule's "capture percentage" requirements were intended to address the routine flaring of gas from oil wells. The rule required an operator to capture, rather than flare, a certain percentage of the gas produced from the operator's "development oil wells." The required capture percentage would increase over a 10-year period, starting at 85 percent in 2018 and ultimately reaching 98 percent in 2026. Gas flared in excess of the capture requirements would be royalty bearing.

The BLM recognized that the EPA had promulgated emissions limitations for pneumatic equipment and storage tanks as well as LDAR requirements for new and modified sources in the oil and gas production sector pursuant to its authority under the Clean Air Act. The BLM further recognized that these analogous EPA requirements would have the effect of reducing the waste of gas from leases subject to those requirements. So, in order to avoid unnecessary duplication or conflict, the Waste Prevention Rule allowed for operators to comply with the analogous EPA regulations as an alternative means of compliance with the BLM's requirements.[63]

The capture percentage, pneumatic equipment, storage tanks, and LDAR requirements were each subject to phase-in periods, and the rule allowed operators to obtain exemptions or reduced requirements where compliance would "cause the operator to cease production and abandon significant recoverable oil reserves under the lease." The BLM's RIA for the Waste Prevention Rule estimated that the rule would impose

[63] See 83 FR 83018–19, 83085–89.

costs of between $110 million and $275 million per year, while generating benefits of between $20 million and $157 million per year worth of additional gas captured and between $189 million and $247 million per year in quantified social benefits (in the form of forgone methane emissions).

Industry groups and certain States[64] filed petitions for judicial review of the Waste Prevention Rule in the U.S. District Court for the District of Wyoming. *Wyoming v. DOI*, Case No. 2:16-cv-00285-SWS (D. Wyo.). A coalition of environmental groups and other States intervened in the case in defense of the rule. Following the change in Administration in January 2017, the litigation was effectively paused in response to the BLM's administrative actions to suspend the rule. After those actions were invalidated by a different court, the *Wyoming* court stayed implementation of the capture percentage, pneumatic equipment, storage tank, and LDAR requirements, and stayed the litigation pending finalization of the BLM's voluntary revision of the Waste Prevention Rule.

4. 2018 Revision of Waste Prevention Rule

On September 28, 2018, the BLM issued a final rule substantially revising the Waste Prevention Rule ("Revision Rule").[65] In the Revision Rule, the BLM rescinded the waste minimization plan, gas capture percentage, pneumatic equipment, storage tank, and LDAR requirements of the 2016 Rule. The BLM also revised the remaining provisions of the rule to largely reflect the language of NTL-4A. Finally, the BLM established a new policy of deferring to State regulations for determining when the routine flaring of oil-well gas is royalty-free.

In the Revision Rule, the BLM stated that the Waste Prevention Rule exceeded the BLM's statutory authority by imposing requirements with compliance costs that exceed the value of the gas that would be conserved, thus violating the "prudent operator"

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[64] The States of North Dakota, Texas, Wyoming, and Montana joined the litigation in opposition to the rule.
[65] 83 FR 49184 (Sept. 28, 2018).

standard implicitly incorporated into the MLA when it was adopted in 1920. The BLM also stated that the 2016 Rule created a risk of premature shut-ins of marginal wells, as the compliance costs associated with the 2016 Rule would represent a significant proportion of a marginal well's revenue. Contrary to what the BLM had found in 2016, the BLM stated in the Revision Rule that existing State flaring regulations provided sufficient assurance against excessive flaring.

The RIA for the Revision Rule found that the economic benefits of the Revision Rule (i.e., reduced compliance costs) would significantly outweigh its economic costs (i.e., forgone gas production and additional methane emissions). This result was based in large part on the use of a "domestic" social cost of methane metric that was not based on the best available science[66] and drastically reduced the monetized climate benefits of the 2016 Rule relative to what had been estimated in the RIA for the 2016 Rule.

5. Judicial Review of the Revision Rule.

In September of 2018, a coalition of environmental groups and the States of California and New Mexico filed lawsuits challenging the Revision Rule in the U.S. District Court for the Northern District of California. On July 15, 2020, the district court ruled in favor of the plaintiffs. *California v. Bernhardt*, 472 F. Supp. 3d 573 (N.D. Cal. 2020). The court's key findings were:

- The BLM's interpretation of its statutory authority in the Revision Rule was unjustifiably limited, failed to require lessees to use all reasonable precautions to prevent waste, and failed to meet the BLM's statutory mandate to protect the public welfare;
- The BLM's decision to defer to State flaring regulations was not supported by sufficient analysis or record evidence;

[66] *See California v. Bernhardt*, 472 F. Supp. 3d 573, 611 (N.D. Cal. 2020).

- The record did not support the BLM's claims that the 2016 Rule posed excessive regulatory burdens and that the 2016 Rule's costs outweighed its benefits; and
- The BLM's cost-benefit analysis underlying the rule was flawed for a variety of reasons, including that the use of a "domestic" social cost of methane was unreasonable and not based on the best available science.

The court ordered that the Revision Rule be vacated in its entirety. However, the court stayed vacatur until October 13, 2020.

6. Judicial Review of the 2016 Waste Prevention Rule.

Following the *California v. Bernhardt* decision, the district court in Wyoming lifted the stay on the litigation over the Waste Prevention Rule. In the briefing, the Department confessed error on the grounds that the BLM exceeded its statutory authority and was "arbitrary and capricious" in promulgating the rule. In October 2020, the district court ruled in favor of the plaintiffs, finding that the BLM had exceeded its statutory authority and had been arbitrary and capricious in promulgating the Waste Prevention Rule. *Wyoming v. DOI*, 493 F. Supp. 3d 1046 (D. Wyo. 2020). Specifically, the court found that the Waste Prevention Rule was essentially an air quality regulation and that the BLM had usurped the authority to regulate air emissions that Congress had granted to EPA and the States in the Clean Air Act. The court found that the rule was not independently justified as a waste-prevention measure under the MLA. Rather, in the court's view, the record reflected that the BLM's primary concern was regulating methane emissions from existing oil and gas sources. The court faulted the BLM's rulemaking for imposing requirements beyond what could be expected of a "prudent operator" that develops the lease for the mutual profit of lessee and lessor. Finally, the court faulted the BLM for applying air quality regulations—as opposed to waste-prevention regulations—to unit and CA operations on non-Federal lands. The court ordered that the Waste Prevention

Rule be vacated, thereby reinstating NTL-4A as the BLM's standard for managing venting and flaring from Federal oil and gas leases.

7. The Inflation Reduction Act

As discussed earlier, on August 16, 2022, President Biden signed the IRA into law. Pub. L. No. 117-169. The IRA is designed to "make a historic down payment on deficit reduction to fight inflation, invest in domestic energy production and manufacturing, and reduce carbon emissions by roughly 40 percent by 2030." Summary: The Inflation Reduction Act of 2022, available at https://www.democrats.senate.gov/imo/media/doc/inflation_reduction_act_one_page_summary.pdf. The Act authorizes, among other things, massive and unprecedented investments to enhance energy security and combat the climate crisis.

Of particular relevance here, the IRA contains a suite of provisions addressing onshore and offshore oil and gas development under Federal leases. For example, Section 50265 requires, *inter alia*, the Department to maintain a certain level of onshore oil and gas leasing activity as a prerequisite to approving renewable energy rights-of-way on Federal lands. Importantly, that provision of the IRA is accompanied by other provisions that serve to ensure that lessees pay fair and appropriate compensation to the Federal Government in exchange for the opportunity to conduct their industrial activities under Federal leases.

One such provision of the Act is Section 50263, which is entitled, "Royalties on All Extracted Methane." Consistent with the MLA's assessment of royalties on all gas "removed or sold from the lease"[67] and FOGRMA's requirement that lessees pay royalties on lost or wasted gas,[68] Section 50263 of the IRA provides that, for leases issued after the date of enactment of the Act, royalties are owed on all gas produced from

[67] 30 U.S.C. 226(b)
[68] 30 U.S.C. 1756.

Federal land, including gas that is consumed or lost by venting, flaring, or negligent releases through any equipment during upstream operations. Section 50263 further provides three exceptions to the general obligation to pay royalties on produced gas, namely: (1) gas that is vented or flared for not longer than 48 hours in an emergency situation that poses a danger to human health, safety, or the environment; (2) gas used or consumed within a lease, unit, or communitized area for the benefit of the lease, unit, or communitized area; and (3) gas that is unavoidably lost.

The BLM has for decades assessed royalties on upstream production and has exempted from royalties gas lost in emergency situations, "beneficial use" gas, and "unavoidably lost" gas. IRA Section 50263 is consistent with the BLM's prior agency practice regarding emergency situations and the unavoidable loss of gas, and it provides additional support for the approach set forth in this proposed rule. Importantly, IRA Section 50263 confirms that the concepts of "avoidable" and "unavoidable" loss are appropriate for assessing royalties. Section 50263 also confirms that the BLM's pecuniary interest in regulating losses extends to those from upstream equipment. But the IRA leaves certain questions open, such as what losses qualify as "unavoidably lost" and what qualifies as an "emergency situation." Congress thus has left it to the BLM, as an exercise of the agency's expertise and judgment, to determine answers to the specific questions the IRA leaves open. As set forth later, this proposed rule addresses these issues in a manner that is consistent with the IRA's focus (and the MLA's and FOGRMA's pre-existing emphasis) on ensuring that Federal lessees pay fair and appropriate compensation to the Federal Government in exchange for the opportunity to conduct their industrial activities under Federal leases.

D. A New Approach.

The BLM has authority under the MLA to promulgate such rules and regulations as may be necessary "for the prevention of undue waste"[69] and to ensure that lessees "use all reasonable precautions to prevent waste of oil or gas."[70] For many years, the BLM has implemented this authority through restrictions on the venting and flaring of gas from onshore Federal oil and gas leases. However, as illustrated by the judicial decisions noted previously, courts have disagreed (prior to enactment of the IRA) as to the full scope of the BLM's authority to regulate venting and flaring. Requirements that one court might consider necessary for the BLM to meet its statutory mandates might be seen as regulatory overreach by another court. In this proposed rulemaking, the BLM has chosen to focus on improving upon NTL-4A in a variety of ways without advancing elements of the 2016 Waste Prevention Rule that were the subject of certain judicial criticism.

As explained in more detail later and in the section-by-section discussion, this proposed rule would make substantial improvements in addressing the waste of Federal and Indian gas while also addressing the criticisms of the 2016 Rule that were raised by the *Wyoming* court. First, the proposed requirements more clearly constitute reasonable waste prevention measures that should be expected of a prudent operator. The proposed requirements should impose fewer overall costs than those of the 2016 Rule and would ensure either actual conservation of gas that would otherwise be wasted or compensation to the public and Indian mineral owners through royalty payments when gas is wasted. (This contrasts with certain provisions in the 2016 Rule that would have reduced pollution—but not necessarily reduced waste—by allowing operators to comply with analogous EPA standards in place of the BLM requirements.) Second, in order to address the *Wyoming* court's concern with the BLM's limited authority regarding unit and CA

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[69] 30 U.S.C. 187.
[70] 30 U.S.C. 225.

operations on non-Federal/Indian lands, certain requirements in this proposed rule are narrower in scope than similar requirements in the 2016 Rule. Specifically, the proposed rule's requirements pertaining to safety, pneumatic equipment, storage tanks, and leak detection and repair would apply only to operations on a Federal or Indian lease. Third, the proposed requirements are consistent with the "prudent operator" standard as that term has been applied in the oil and gas jurisprudence. Fourth, the proposed rule was developed with an eye towards avoiding excessive compliance burdens on marginal wells. Finally, the BLM is expressly excluding the social cost of greenhouse gases from the considerations underpinning any of the proposed waste prevention requirements, thereby addressing the *Wyoming* court's concern that the 2016 Rule was inappropriately supported by "climate change benefits."

The provisions of this proposed rule serve straightforward waste prevention objectives by promoting gas conservation. In order to avoid situations where oil-well development outpaces the capacity of the available gas capture infrastructure, the BLM is proposing to require operators to submit a waste minimization plan with oil-well APDs and is also proposing to establish a process for delaying action on an APD where undue waste of Federal gas is expected to result from approving the permit. The BLM recognizes that not all venting and flaring can be prevented. In the circumstances in which some venting or flaring cannot be prevented (e.g., initial production tests or emergencies), the BLM is proposing to set appropriate time or volume limits on royalty-free venting or flaring. The BLM is proposing to address the problem of intermittent flaring due to pipeline capacity constraints by setting a monthly volume limit on royalty-free flaring caused by inadequate capture infrastructure. Requiring royalty payments on venting and flaring that exceeds the appropriate volume limits would both discourage waste and ensure that Federal and Indian royalty revenues are not harmed by an operator's wasteful practices. The BLM estimates that the royalty-free flaring limits of

the proposed rule would generate $32.9 million a year in additional royalties. See section 7.6 of the RIA for more information.

This proposed rule also contains provisions intended to reduce losses of natural gas from pneumatic equipment, oil storage tanks, and equipment leaks. Unlike the 2016 Waste Prevention Rule—which extended these requirements to State and private lands in certain situations[71]—the requirements now proposed by the BLM would apply only to operations on Federal or Indian lands, where the BLM has express authority and responsibility to regulate both for the prevention of waste and for the protection of the environment. These requirements would not apply to operations that occur on State or private tracts committed to a Federal unit or CA. The BLM estimates that the requirements of this proposed rule regarding pneumatic equipment, oil storage tanks, and LDAR would result in the conservation of up to 15.3 Bcf of gas each year.

The BLM acknowledges that the contents of this proposed rule may differ in some regards from the Revision Rule's unnecessarily narrow interpretation of the BLM's statutory authority and the similarly narrow interpretation reflected in the confession of error related to the 2016 Waste Prevention Rule.[72] Consistent with the BLM's understanding of its authority prior to 2018, the BLM has reconsidered the relevant conclusions of the Revision Rule and its related confession of error and now rejects those conclusions for the following reasons. To begin, nothing in the MLA's plain text, which requires lessees to take "all reasonable precautions to prevent waste" and to abide by rules and regulations issued "for the prevention of undue waste," suggests that the BLM's authority is limited to the promulgation of rules that effectively pay for themselves (as measured by balancing compliance costs against the value of the recovered gas). Consistent with this text, the BLM's longstanding policy governing venting and flaring

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[71] *Cf. Wyoming v. DOI*, 493 F. Supp. 3d 1046, 1083-85 (D. Wyo. 2020).
[72] See 83 FR 49185–86.

has assessed the economic feasibility of gas conservation in the context of "the total leasehold production, including oil and gas, as well as the economics of a field-wide plan." *See supra*, Part III.C.2. As the CDM made clear, the BLM's concern under the MLA for nearly four decades prior to the Revision Rule was "profitable operation of the lease, not just profitable disposition of the gas."

Despite suggestions to the contrary in the 2018 Revision Rule, the BLM's longstanding emphasis on *overall* ultimate resource recovery, not lessee profits vis-à-vis wasted gas, is entirely consistent with the "prudent operator" standard in oil and gas law. While the prudent operator standard rests on an expectation of "mutually profitable development of the lease's mineral resources,"[73] it does not follow that lessees can maximize their profit by wasting recoverable hydrocarbon resources without regard for the lessor's lost royalty revenues or the lessor's interest in conserving the gas for future disposition. To the contrary, lessees have an obligation of reasonable diligence in the development of the leased resources, rooted in due regard for the interests of both the lessee and the lessor.[74] And in the MLA, FOGRMA, and the IRA, Congress enshrined the United States' interest, as a mineral lessor, in avoiding waste and maximizing royalty revenues.[75] The BLM, in managing oil and gas resources on behalf of the United States, may value more production—considering both oil and gas production—over a longer

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[73] *Wyoming v. DOI*, 493 F. Supp. 3d 1046, 1072 (D. Wyo. 2020).

[74] *See id.*; *see also Sinclair Oil & Gas Co. v. Bishop*, 441 P.2d 436, 447 (Okla. 1967) ("Necessarily, we determine the lessee was acting prudently when he ascertained that it was illegal and improper to flare gas in the quantities shown by the evidence, in order to produce the unallocated allowable of oil."); *Tr. Co. of Chicago v. Samedan Oil Corp.*, 192 F.2d 282, 284 (10th Cir. 1951) ("A first consideration is the precept that a prudent operator may not act only for his self interest. He must not forget that the primary consideration to the lessor for the lease is royalty from the production of the lease free of cost of development and operation.").

[75] *See* 30 U.S.C. §§ 187, 225, 226(m), 1756; *see also California Co. v. Udall*, 296 F.2d 384, 388 (D.C. Cir. 1961) ("[The Secretary] has a responsibility to insure that these resources are not physically wasted and that their extraction accords with prudent principles of conservation. To protect the public's royalty interest he may determine that minerals are being sold at less than reasonable value. Under existing regulations he can restrict a lessee's production to an amount commensurate with market demand, and thus protect the public's royalty interest by preventing depression of the market.").

time period more highly than does an operator, who might be more focused on generating near-term profits. None of the authorities previously relied upon by the BLM to interpret the "prudent operator" standard foreclose any Secretarial action that might marginally affect lessee profits.[76]

In contrast to NTL-4A, this proposed rule would not allow operators to request that flared oil-well gas be deemed royalty-free based on case-by-case economic assessments. There are a number of reasons for this change. In the first instance, there is no statutory requirement that the public forgo royalties on wasted gas based on an operator's individual economic circumstances. Although it was the BLM's practice to engage in case-by-case economic assessments under NTL-4A, that approach is no longer appropriate, as the practical realities of oilfield development have changed dramatically since 1980. As the U.S. Department of Energy explained in a recent report, "flaring has become more of an issue with the rapid development of unconventional tight oil and gas resources over the past two decades" that has "brought online hydrocarbon resources that vary in their characteristics and proportions of natural gas, natural gas liquids and crude oil."[77] As explained earlier, the BLM has witnessed a massive increase in the amount of venting and flaring from the 1990's to the 2010's. The average amount of annual venting and flaring from Federal and Indian leases between 1990 and 2000 was 11 Bcf but quadrupled to an average of 44.2 Bcf per year, between 2010 and 2020; and, as noted earlier, the upward trend in flaring suggests it will continue to be a problem in the coming years. The related increase in the number of royalty-free flaring applications—from 50 in 2005 to 4,181 in 2015—has created a significant administrative burden for the BLM as well as an estimated information collection burden of approximately 33,488 total annual

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[76] *Cf. California v. Bernhardt*, 472 F. Supp. 3d 573, 596 (N.D. Cal. 2020) ("The statutory language demonstrates on its face that any consideration of waste management limited to the *economics* of individual well-operators would ignore express statutory mandates concerning BLM's public welfare obligations.").

[77] U.S. Department of Energy, Office of Fossil Energy, Office of Oil and Natural Gas, "Natural Gas Flaring and Venting: State and Federal Regulatory Overview, Trends, and Impacts" (June 2019).

burden hours potentially incurred by operators, and significant uncertainty for operators as hundreds of applications wait to be processed. Finally, it is important to note that the bulk of the recent royalty-free flaring applications have concerned flaring from wells that are actually connected to pipeline infrastructure. Although the capacity of that infrastructure may be overwhelmed from time to time, these are not the situations that the NTL-4A economic standard was designed to accommodate. The purpose of the economic inquiry under NTL-4A was to determine whether the volumes of associated gas production would make the installation of gas-capture infrastructure economically viable. Where the gas-capture infrastructure has already been built out, its economic viability is not in question.

One of the primary concerns underlying the BLM's promulgation of the Revision Rule in 2018 was the compliance burden on "marginal wells," i.e., wells that produce approximately 10 barrels of oil or 60 Mcf of natural gas per day or less.[78] The court that vacated the Revision Rule rejected that concern as unfounded.[79] However, the court that vacated the Waste Prevention Rule faulted the BLM for failing to adequately assess the impact of that rule on marginal wells.[80] The BLM does not wish to impose requirements that inadvertently cause recoverable oil or gas resources to be stranded due to premature lease abandonment. Simultaneously, even the operators of marginal wells are capable of taking reasonable precautions to prevent waste, as they must under the MLA. (For example, there is no real risk of premature abandonment by requiring the operator of a marginal gas well to minimize the loss of gas during liquids unloading operations, as required in this proposed rule.)

The BLM developed this proposed rule to avoid excessive compliance burdens on marginal wells when balanced against the need to reduce waste. In the Revision Rule,

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[78] 83 FR 49187.
[79] *California v. Bernhardt*, 472 F. Supp. 3d 573, 606 (N.D. Cal. 2020).
[80] *Wyoming v. DOI*, 493 F. Supp. 3d 1046, 1075-78 (D. Wyo. 2020).

the BLM noted that the provisions of the 2016 Waste Prevention Rule that placed a particular burden on marginal wells were those pertaining to pneumatic controllers, pneumatic diaphragm pumps, and LDAR. In this proposed rule, the requirements for pneumatic equipment would apply only where a lease, unit PA, or CA is producing a quantity of oil or gas (120 Mcf of gas or 20 barrels of oil per month) that would offset the compliance costs within a reasonable payout period. And, as explained in more detail in the following section-by-section discussion, the LDAR provisions of this proposed rule are more flexible than those in the 2016 Waste Prevention Rule, reducing the potential burden on marginal wells. The BLM requests comment on the proposed approach to marginal wells, the point at which additional regulatory burdens might result in stranded resources from marginal wells, and whether the proposed rule is sufficient to prevent avoidable waste from marginal wells.

The BLM acknowledges that, in the Revision Rule, the BLM asserted that additional restrictions on flaring were unnecessary because the States with the most significant BLM-managed oil and gas production maintain regulatory restrictions on flaring from oil wells, and that these State regulations "provide[d] a reasonable assurance . . . that the waste of associated gas will be controlled."[81] This assertion was in direct conflict with the BLM's prior findings during the promulgation of the 2016 Waste Prevention Rule, and a U.S. District Court found that the BLM's decision to rely on State flaring regulations was unjustified based on the record evidence.[82]

For this rulemaking, the BLM analyzed the State regulations governing flaring, venting, and leaks in the 10 States responsible for 99 percent of Federal oil and gas production: New Mexico, Wyoming, Colorado, North Dakota, Utah, California, Montana, Texas, Alaska, and Oklahoma. Summaries of these regulations were collected

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[81] 83 FR 49202.
[82] *California v. Bernhardt*, 472 F. Supp. 3d 573, 601-04 (N.D. Cal. 2020).

in a table that is available in the docket for this rulemaking at www.regulations.gov. While there have been notable advancements in some States since the promulgation of the 2016 Waste Prevention Rule—for example, new comprehensive flaring regulations have since been adopted in New Mexico and Colorado, and new requirements for storage tanks, pneumatic equipment, and LDAR have been adopted in Colorado and Utah—State regulations vary widely in their scope and stringency.[83] And, importantly, many of the State flaring regulations reserve substantial discretion to the States to authorize additional flaring.[84] That discretion creates significant uncertainty about the extent to which the BLM could rely on those regulations to protect the interests of the United States and Indian mineral owners in minimizing waste and maximizing royalty revenues.

For example, the BLM's review of State regulations revealed that North Dakota's flaring rules were modified in recent years in a manner allowing for more flaring within the State's gas-capture-percentage requirements. Operators in the Bakken, Bakken/Three Forks, and Three Forks pools are currently subject to a 91 percent gas capture requirement under North Dakota Industrial Commission (NDIC) Order 24655. However, the NDIC's current Policy/Guidance[85] for Order 24655 identifies a number of circumstances under which flared volumes will not be counted against the operator's capture percentage. These circumstances (referred to as "variances" by the NDIC) include flaring due to "force majeure" events, flaring due to new wells being connected to the same gas infrastructure system, and right-of-way delays. Thus, it appears that many flaring events that are rooted in inadequate gas-capture infrastructure will not count against an operator's gas-capture percentage under NDIC Order 24655. The BLM notes

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[83] Examples of variations among State regulations include the following. Unlike other States, (1) the States of New Mexico, North Dakota, Montana, Texas, Alaska, and Oklahoma do not have regulations to control losses of gas from pneumatic equipment; (2) Texas' requirements to inspect for and repair leaks are focused on storage tanks; (3) Alaska does not maintain LDAR requirements; and (4) Wyoming's requirements for tanks, pneumatic equipment, and LDAR are limited to the Upper Green River Basin ozone nonattainment area.

[84] These States are: Wyoming, Utah, Montana, Texas, and Oklahoma.

[85] NDIC Order 24665 Policy/Guidance Version 09-22-2020.

that in 2019—when NDIC Order 24655 ostensibly imposed an 88 percent capture requirement on operators—19 percent of total natural gas production in North Dakota was flared.[86] North Dakota is a major source of Federal oil and gas production, producing approximately 89 Bcf of Federal gas and 45 million barrels of Federal oil in 2019.

In addition to State regulation, the BLM recognizes that the EPA maintains regulations governing VOCs and/or methane emissions from certain aspects of oil and gas production operations at 40 CFR part 60, subparts OOOO and OOOOa, and that these regulations can have the co-benefit of reducing the waste of gas during production activities. Specifically, EPA's regulations require: (1) operators to capture or flare gas that reaches the surface during well completion operations with hydraulic fracturing; (2) operators of storage tanks (at facilities constructed, modified, or reconstructed after August 23, 2011) with potential VOC emissions of 6 tons or more per year to control those emissions (including through combustion); (3) pneumatic controllers (at facilities constructed, modified or reconstructed after October 15, 2013) to be low-bleed (i.e., bleed rate less than 6 standard cubic feet/hour) or no-bleed at onshore natural gas processing plants; (4) emissions from pneumatic pumps (at facilities that were constructed, modified, or reconstructed after September 18, 2015) to be routed to a control device or process; and (5) operators of well sites constructed, modified, or reconstructed after September 18, 2015, to develop and implement a leak-monitoring plan involving instrument-based leak detection and semi-annual inspections.

Although operator compliance with these EPA requirements can reduce the waste of natural gas from Federal and Indian leases, they do not supplant the need for BLM standards for the following reasons. First, the EPA's requirements for storage tanks,

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[86] EIA, "Natural gas venting and flaring in North Dakota and Texas increased in 2019" (Dec. 8, 2020), *available at* https://www.eia.gov/todayinenergy/detail.php?id=46176.

pneumatic equipment, and LDAR apply only to emissions sources that were constructed, modified, or reconstructed after August 23, 2011, or later, depending on the requirement. Thus, relying on EPA's requirements would ignore wasteful practices at many[87] well sites producing Federal and Indian gas.[88] Second, EPA's requirements are not a substitute for BLM standards because EPA's requirements are focused on controlling methane and VOC emissions, rather than conserving natural gas, and compliance with the EPA's standards will not always reduce the waste of natural gas. For example, an operator can comply with EPA's current requirements for storage tanks and pneumatic pumps by routing the emissions to combustion (i.e., flaring) and therefore eliminating venting from the tanks and pumps altogether—a process that results in the same loss of gas as venting the gas from the tank or pump.

Based on its review and analysis of State and EPA regulations, the BLM finds that it is necessary to establish a uniform standard governing the wasteful losses of Federal and Indian gas through venting, flaring, and leaks.[89] The BLM cannot rely on a patchwork of State and EPA regulations to ensure that operators of Federal oil and gas leases

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[87] The BLM estimates that approximately 39% of BLM-managed well sites are not covered by the EPA requirements.

[88] The BLM recognizes that the EPA has proposed to revise new source performance standards for new, modified, and reconstructed oil and gas sources and has proposed emissions guidelines for existing oil and gas sources. See 86 FR 63110 (Nov 15, 2021). The BLM cannot presuppose the outcome of that rulemaking process. *Cf. California v. Bernhardt*, 472 F. Supp. 3d 573, 625 (N.D. Cal. 2020) ("BLM was not required to prejudge the outcome of that proposed rulemaking in its EA."). However, the BLM will maintain an awareness of developments in EPA's regulations and will make adjustments to the final rule as appropriate. The BLM further notes that, under the Clean Air Act, once the EPA finalizes the new emission guidelines, States with one or more existing sources must develop and submit State plans to the EPA for approval. Under this statutory structure, State plans that would implement new emissions guidelines for existing sources would likely not go into effect until some period of time after such guidelines are finalized.

[89] The BLM acknowledges that the court in *Wyoming* questioned what it described as the BLM's authority to "hijack" cooperative federalism under the Clean Air Act "under the guise of waste management." *Wyoming*, 493 F. Supp. 3d 1046, 1066 (D. Wyo. 2020). However, as noted elsewhere, this proposed rule is justified not by any ancillary effects on air quality or climate change, but solely on the basis of waste prevention—an arena where the BLM has independent statutory authority to regulate. *See Wyoming,* 493 F. Supp. 3d at 1063 ("The terms of the MLA and FOGRMA make clear that Congress intended the Secretary, through the BLM, to exercise rulemaking authority to prevent the waste of Federal and Indian mineral resources and to ensure the proper payment of royalties to Federal, State, and Tribal governments."). On its own terms, therefore, the *Wyoming* court's reference to cooperative federalism under the Clean Air Act is therefore inapplicable to this proposal.

consistently meet the waste prevention mandates of the MLA, that the American public receives a fair return for the development of the Federal mineral estate, and that the Department's trust responsibility to Indian mineral owners is satisfied. The BLM acknowledges that this is a change in position from what the BLM stated in the Revision Rule regarding analogous State and EPA regulations.

The RIA[90] for this rule calculates that this rule would cost operators $122 million a year, using a 7 percent discount rate, for the next 10 years ($110 million a year using a 3 percent discount rate) while generating benefits to operators of approximately $54.2 million a year, using a 7 percent discount rate, in the form of 15.3 Bcf of additional captured gas ($54.8 million using a 3 percent discount rate). The RIA estimates that this proposed rule would generate $39 million a year in additional royalties. The BLM acknowledges that the costs of this rule to operators will outweigh the benefits in terms of the monetized market value of the gas conserved. The BLM notes that the statutory provisions authorizing the BLM to regulate oil and gas operations for the prevention of waste do not impose a net-benefit requirement.

The reduced methane emissions associated with the proposed rule would provide a monetized benefit to society (in the form of avoided climate damages) of $427 million a year over the same time frame, leading to an overall net monetized benefit from the rule of $359 million a year, as well as additional unquantified benefits (see section 7.2 of the RIA regarding unquantified benefits). The basis for the BLM's estimates of social benefits from reduced methane emissions—namely, the social cost of greenhouse gases (SC-GHG)—is explained in detail in Section 7 of the RIA. To be clear, although the BLM is reporting its estimates of the social benefits of reduced methane emissions here

[90] The cost-benefit analysis contained in the RIA was generated to comply with Executive Order 12866 and is not required by the statutes authorizing the BLM to regulate for the prevention of waste from oil and gas leases.

and in the RIA, the purpose of that reporting is solely to provide the most complete and transparent accounting of the costs and benefits of the proposed rule for the public's awareness and consideration. The requirements of this proposed rule reflect reasonable measures to avoid waste that could be expected of a prudent operator, irrespective of any impacts with respect to climate change.

IV. Section-by-Section Discussion of Proposed Rule.

A. 43 CFR Part 3160 – Onshore Oil and Gas Operations

Section 3162.3-1 Drilling applications and plans.

Existing § 3162.3-1 contains the BLM's longstanding requirement that operators must submit an APD prior to conducting any drilling operations on a Federal or Indian oil and gas lease. No drilling operations may be commenced prior to the BLM's approval of the APD. This proposed rule would add two new paragraphs to § 3162.3-1 that are intended to help operators and the BLM avoid situations where substantial volumes of natural gas are flared due to inadequate gas capture infrastructure.

Proposed § 3162.3-1(j) would require an APD for an oil well to be accompanied by a plan to minimize the waste of natural gas from that well. This "waste minimization plan" would demonstrate how the operator plans to capture associated gas upon the start of oil production, or as soon thereafter as reasonably possible, and would also explain why any delay in capture of the associated gas would be necessary. The waste minimization plan would contain certain information that would provide the BLM with a more complete picture of the consequences of approving the APD in terms of wasted natural gas. Specifically, the waste minimization plan would be required to include the following information: the anticipated completion date of the well; a description of the anticipated production of both oil *and* associated gas; a certification that the operator has informed at least one midstream processing company of the operator's production plans; and information regarding the gas pipeline to which the operator plans to connect. If an

operator cannot identify a gas pipeline with sufficient capacity to accommodate the anticipated associated gas production, the waste minimization plan would be required to also include: a gas-pipeline-system map showing the existing pipelines within 20 miles of the well and the location of the closest gas processing plant; information about the operator's flaring from other wells in the vicinity; and a detailed evaluation of opportunities for alternative on-site capture approaches, such as compression of the gas, removal of NGLs, or electricity generation. Finally, the operator would also be required to include any other information demonstrating the operator's plans to avoid the waste of gas production from any source, including pneumatic equipment, storage tanks, and leaks.

The contents of the operator's waste minimization plan would provide the BLM with the information necessary to understand how much associated gas would be lost to flaring if the oil-well APD were approved, and whether such loss of gas would be reasonable under the circumstances. If the available information demonstrates that approving the APD could result in the unreasonable and undue waste of Federal or Indian gas, proposed § 3162.3-1(k) would expressly authorize the BLM to take one of the following actions on the APD. First, the BLM could approve the APD subject to conditions for gas capture and/or royalty payments on vented and flared gas. Second, the BLM could defer action on the APD in the interest of preventing waste. If the BLM were to defer action on the APD under proposed § 3162.3-1(k)(2), the BLM would notify the applicant and specify steps that the applicant could take for the APD to be issued. If the potential for unreasonable and undue waste is not addressed within 2 years of the applicant's receipt of the notice, the BLM could deny the APD. The BLM notes that this proposed process is based on the requirements for APD processing in the MLA (30 U.S.C. 226(p)) and is consistent with the APD processing provisions of Onshore Order Number 1. The BLM seeks comment on its definition of "unreasonable and undue

waste" (see discussion of § 3179.3 later) and whether or to what extent the final rule (or implementing guidance) should spell out in additional detail how the BLM expects to make decisions to defer or deny an APD due to concerns regarding excessive waste of associated gas.

The BLM believes that the proposed amendments to § 3162.3-1 would help to reduce the waste of associated gas from oil wells for the following reasons. First, the requirement to submit a waste minimization plan would force operators to think critically about opportunities for gas capture before the well is drilled. Second, the information provided in the proposed waste minimization plan would help the BLM make better decisions about which APDs should be approved and under what conditions. Finally, the express authorization for the BLM to defer—and potentially deny—an APD would incentivize operators to tailor their development plans to the available gas-capture infrastructure and avoid the waste of public, Tribal, and allottee-owned gas.

The BLM notes that some States have already incorporated concepts similar to the proposed waste minimization plan requirement into their regulations governing flaring. In New Mexico, operators must submit a "natural gas management plan" with any APD that describes the actions the operator will take to ensure that it will meet New Mexico's gas-capture requirements. In Wyoming, an operator's application for authorization to flare must include, among other information, a gas-capture plan identifying gas gathering and transportation facilities in the area, the name of gas gatherers providing "gas take-away capacity," and information on the gas gathering line to which the operator proposes to connect. In Colorado, an operator must either commit to connecting to a gathering system by the commencement of production or submit a gas-capture plan containing information about the closest or contracted natural-gas gathering system and describing the operator's plan for connecting to the gas-gathering system or otherwise putting the gas to beneficial use. In North Dakota, an operator that has failed to meet its gas-capture

requirements in any of the previous 3 months must submit a gas-capture plan with any application for a permit to drill. These existing, State-level gas-capture planning requirements demonstrate that operators have the capacity to comply with the BLM's proposed waste minimization plan requirement and that the proposed requirement is consistent with the regulatory practices of other traditional oil and gas resource conservation agencies. To be clear, these State requirements do not obviate the need for a waste minimization plan requirement in the BLM's regulations. In the first instance, many States (including Utah, Montana, Texas, and Oklahoma) in which the BLM manages oil and gas drilling and production do not have analogous planning requirements. Second, the gas capture plan requirements in Wyoming and North Dakota are only triggered *after* flaring is demonstrated to be a problem at the well, and therefore do not address flaring at the well permitting stage. Finally, none of the State gas capture plan requirements require the operator to submit the plans to the BLM and, therefore, do not provide the BLM, in its capacity as regulator of the Federal mineral estate, with an opportunity to render its own determinations regarding potential waste when processing an APD.

The BLM acknowledges that the BLM's proposal to require waste minimization plans with oil-well APDs constitutes a change from the position the BLM articulated in the 2018 Revision Rule. See 83 FR 49184, 49191-92 (Sept. 28, 2018). For the reasons discussed earlier, the BLM has concluded that many assertions made in the Revision Rule are not supported by contemporary data, and the proposed waste minimization plan requirement; would facilitate less wasteful development; would not be unnecessarily duplicative of existing State requirements; and would not impose an undue administrative burden on operators.

The proposed additions to § 3162.3-1 would reduce the waste of Federal and Indian gas by allowing the BLM to make better-informed decisions when processing oil-

well APDs. In effect, the BLM would be able to more swiftly approve wells that pose the least risk of waste, while deferring approval of APDs for wells that lack access to the necessary gas-capture infrastructure and that would therefore result in waste. The BLM is not alone in recognizing the potential benefits of the proposed waste minimization plan requirement. In a recent report, the GAO analyzed State-level gas capture plan requirements and recommended that the BLM "consider whether to require gas capture plans that are similar to what States require, including gas capture percentage targets, from operators on federal lands."[91] (As discussed later in the section-by-section discussion of proposed § 3179.8, the BLM has decided not to use gas-capture percentage targets in this proposed rule.)

Although the proposal discussed here pertains specifically to the permitting stage of oil and gas development, information regarding the capacity of available gas-capture infrastructure helps the BLM make better decisions at the leasing stage as well. The BLM currently has the discretion to offer, or not offer, parcels for lease based on waste/conservation considerations,[92] and the proposed waste minimization plans could provide an efficient (though not exclusive) means of collecting additional information regarding the location of adequate gas capture infrastructure that would be relevant for lease sale decisions. The BLM requests comment on how it can improve its processes pertaining to the leasing stage of development so as to minimize the waste of natural gas during later stages of development.

B. 43 CFR Part 3170 – Onshore Oil and Gas Production

Subpart 3179 – Waste Prevention and Resource Conservation

Section 3179.1 Purpose.

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[91] GAO, OIL AND GAS: Federal Actions Needed to Address Methane Emissions from Oil and Gas Development (April 2022) (GAO-22-104759).

[92] *See, e.g., Western Energy Alliance v. Salazar*, 709 F.3d 1040, 1044 (10th Cir. 2013) (MLA "vest[s] the Secretary with considerable discretion to determine which lands will be leased").

Proposed § 3179.1 would state that the purpose of subpart 3179 is to implement and carry out the purposes of statutes relating to prevention of waste from Federal and Indian oil and gas leases, conservation of surface resources, and management of the public lands for multiple use and sustained yield, including Section 50263 of the Inflation Reduction Act. These statutes are discussed in detail in Section III.B of this preamble.

Section 3179.1 would also clarify that subpart 3179 would supersede those portions of NTL-4A pertaining to, among other things, flaring and venting of produced gas, unavoidably and avoidably lost gas, and waste prevention. Subpart 3178 has already superseded the portions of NTL-4A pertaining to oil or gas used for beneficial purposes (see 43 CFR 3178.1). Thus, if proposed subpart 3179 is ultimately adopted, NTL-4A will have been superseded in its entirety.

Section 3179.2 Scope

Section 3179.2 identifies the operations to which the various provisions of proposed subpart 3179 would apply. Paragraph (a) states that, in general, the provisions of proposed subpart 3179 would apply to: (1) all onshore Federal and Indian (other than Osage Tribe) oil and gas leases, units, and communitized areas; (2) Indian Mineral Development Act oil and gas agreements; (3) leases and other business agreements and contracts for the development of Tribal energy resources under a Tribal Energy Resource Agreement entered into with the Secretary; and (4) wells, equipment, and operations on State or private tracts that are committed to a federally approved unit or CA.

Paragraph (b) states that certain provisions in proposed subpart 3179 would apply only to operations and production equipment located on a Federal or Indian oil and gas lease, and would not apply to operations on State or private tracts, even where such tracts have been committed to a federally approved unit or CA (sometimes referred to as "mixed-ownership" units or CAs). The provisions of subpart 3179 subject to this more limited scope are those provisions pertaining to safety (proposed § 3179.6), pneumatic

equipment (proposed § 3179.201), storage tanks (proposed § 3179.203), and LDAR (proposed §§ 3179.301 through 303).

As mentioned in Section III.D, proposed § 3179.2(b) responds to a question regarding the BLM's authority raised by the court that vacated the 2016 Waste Prevention Rule. Specifically, that court stated that the MLA "does not provide broad authorization for the BLM to impose comprehensive Federal regulations similar to those applicable to operations on Federal lands on State or privately owned tracts or interests."[93] Rather, in that court's view, the BLM's authority to regulate unit or CA operations on State and private tracts under the MLA and FOGRMA is limited to rates of development and matters directly relevant to the BLM's proprietary interest in the Federal minerals.[94] The BLM maintains that the requirements proposed herein related to pneumatic equipment, storage tanks, and LDAR serve a legitimate waste-prevention purpose by requiring interventions that would lead to the conservation of natural gas and, therefore, to additional royalties allocable to the United States or Indian mineral owners in a mixed-ownership unit or CA. In this rulemaking, however, the BLM has chosen to limit the scope of these provisions to operations on Federal or Indian leases. Other provisions that have a more direct impact on royalty revenues—such as the limits on royalty-free flaring in proposed §§ 3179.4, 3179.8, 3179.102, 3179.103, 3179.104, and 3179.105, and the measurement and reporting requirements of proposed § 3179.9—would apply to all operations producing Federal or Indian gas, whether on lease or as part of a mixed-ownership unit or CA. The BLM requests comment on its proposed approach to balancing its resource conservation objectives.

Section 3179.3 Definitions and Acronyms

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[93] *Wyoming v. DOI*, 493 F. Supp. 3d 1046, 1082 (D. Wyo. 2020).
[94] *Id.* at 1082-83.

This proposed section contains definitions for 13 terms that are used in subpart 3179: ‘‘automatic ignition system;” ‘‘capture;’’ “compressor station;” ‘‘gas-to-oil ratio;’’ ‘‘gas well;’’ “high-pressure flare;” ‘‘leak;’’ ‘‘liquids unloading;’’ ‘‘lost oil or lost gas;” “low-pressure flare;” “pneumatic controller;” ‘‘storage vessel;’’ and “unreasonable and undue waste of gas.” Some defined terms would have a particular meaning in this proposed rule. Other defined terms may be familiar to many readers, but we include their definitions in the proposed regulatory text to enhance the clarity of the rule.

The proposed rule would define “unreasonable and undue waste of gas” to mean a frequent or ongoing loss of gas that could be avoided without causing an ultimately greater loss of equivalent total energy than would occur if the loss of gas were to continue unabated. The intent of this definition is to clarify that the goal of waste prevention is maximizing the overall recovery of energy resources. To illustrate, the long-term flaring of associated gas from an oil well would constitute “unreasonable and undue waste of gas” if the operator could avoid or reduce the flaring by curtailing production in the near-term and producing an equal or greater amount of total energy resources (considering both oil and gas production) from the well in the long term. Thus, this proposed definition incorporates the fundamental concept of waste contained in NTL-4A. The phrase “frequent or ongoing loss” is intended to exclude one-off events such as an unanticipated equipment failure or a specific operation, like liquids unloading, that involves some venting or flaring of a limited duration. The phrase “total equivalent energy” compares the total expected energy production from the well with capture required to the total expected energy production from the well without capture, considering *both* production streams (oil and gas). Expected gas production is converted to barrels of oil equivalent to allow for an “apples to apples” comparison. In brief, if the gas that would otherwise be lost could be conserved without stranding more energy resources in the ground (i.e., without creating more waste overall), the operator should be

expected to take the necessary measures to conserve that gas. The BLM seeks comment on this definition of "unreasonable and undue waste of gas."

The phrase "unreasonable and undue waste of gas" appears in proposed §§ 3162.3-1(k), 3179.8, and 3179.301, which pertain to APD processing, oil-well gas flaring, and LDAR, respectively. As explained elsewhere in this section-by-section analysis, proposed §§ 3162.3-1(k), 3179.8, and 3179.301 each authorize the BLM to take some discretionary action based on its view of the "unreasonable and undue waste of gas." This definition would establish parameters on the exercise of that discretion.

The BLM seeks comment on the following alternative definition: "Unreasonable and undue waste of gas" means a frequent or ongoing loss of substantial quantities of gas that could reasonably be avoided if the operator were to take prudent steps to plan for and manage anticipated production of both oil and associated gas from its operation, including, where appropriate, coordination with other nearby operations.

The BLM also seeks comment on the inter-relation and interaction of the "unreasonable and undue waste" concept with the "avoidable/unavoidable loss" concept detailed later. The BLM views "avoidable/unavoidable loss" primarily as a means of determining when royalties must be paid on lost gas, while the concept of "unreasonable and undue waste" would inform BLM decision-making with respect to other, more complicated waste prevention measures, such as delaying or denying a permit to drill or ordering a well to be shut-in due to excessive flaring. The BLM requests comment on whether the BLM should be considering other ways to view the inter-relation and interaction of these two concepts.

Section 3179.4 Determining when the loss of oil or gas is avoidable or unavoidable.

This proposed section would specify when lost oil or gas would be classified as "unavoidably lost" (i.e., when it is royalty free) and when it would be classified as "avoidably lost" (i.e., when it is royalty bearing). NTL-4A contains similar provisions

addressing when oil or gas is "avoidably lost" or "unavoidably lost." However, these NTL-4A provisions have been subject to interpretation and have not always been applied consistently. In order to address this deficiency in NTL-4A, this proposed rule would deem losses from specified operations and sources to be "unavoidably lost" when the operator has not been negligent, has not violated laws, regulations, lease terms or orders, and has taken prudent and reasonable steps to avoid waste. Any oil or gas that is not categorized as unavoidably lost would be considered "avoidably lost," and therefore royalty-bearing. The listed operations and sources that may constitute an unavoidable loss under this proposed rule include: well drilling; well completions and related operations; initial production tests; subsequent well tests; emergencies; downhole well maintenance and liquids unloading; facility and pipeline maintenance; and flaring due to pipeline capacity constraints, midstream processing failures, or other similar events. Notably, the proposed rule would apply reasonable time and/or volume limitations on royalty-free flaring attributable to many of these operations and sources. See the discussion of proposed §§ 3179.8, 3179.102, 3179.103., 3179.104, and 3179.105 later in this preamble. The BLM requests comment on whether the definition of "unavoidably lost" can be more narrowly defined than as proposed.

Section 3179.5 When lost production is subject to royalty.

This section would state that royalty is due on all "avoidably lost" gas, and that no royalty is due on "unavoidably lost" gas.

Section 3179.6 Safety.

Proposed § 3179.6 contains provisions intended to ensure safety at the well site.

First, proposed § 3179.6(a) would require that gas that cannot be captured must be flared (rather than vented), except under certain specified circumstances. It is generally safer to combust gas rather than to allow it to vent into the surrounding air due to the gas' explosiveness and the risks to workers from hypoxia and exposure to various associated

pollutants.[95] The preference for flaring over venting is well-established in oilfield operations. Indeed, the USGS implementing guidance for NTL-4A stated that, "[b]ecause of safety requirements, gas which cannot be beneficially used or sold must normally be flared, not vented." CDM, 644.5.3G (June 1980). Operators would be allowed to vent gas when flaring is technically infeasible, under emergency conditions, and when gas is vented through the normal operation of pneumatic equipment, among other circumstances.

Proposed § 3179.6(b) would require flares or combustion devices be equipped with automatic ignition systems. There is no similar requirement in NTL-4A. Under proposed § 3179.6(b), the BLM would be authorized to issue an immediate assessment of $1,000 upon discovering a flare that is not lit.

Finally, proposed § 3179.6(c) would require that flares be placed a sufficient distance from the tank battery containment or other significant structures or objects so as not to create a safety hazard. NTL-4A does not contain similar flare location requirements.

Section 3179.7 Gas-Well Gas.

This section states that gas-well gas cannot be flared or vented unless it is unavoidably lost under proposed § 3179.4(b). Currently, gas-well gas is prohibited from being vented or flared under NTL-4A unless it qualifies as "unavoidably lost" or is specially authorized by the BLM. Unlike oil wells, the primary purpose of a gas well is the production and sale of gas. Therefore, consistent with longstanding BLM policy, gas-well gas should not be vented or flared except in narrow circumstances.

Section 3179.8 Oil-well gas.

Proposed § 3179.8 would establish a new policy governing the flaring of associated gas from oil wells. Most of the flaring from BLM-managed oil and gas leases occurs at

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[95] NIOSH-OSHA Hazard Alert, "Health and Safety Risks for Workers Involved in Manual Tank Gauging and Sampling at Oil and Gas Extraction Sites," February 2016, available at https://www.osha.gov/sites/default/files/publications/OSHA3843.pdf.

oil wells that are connected to a gas pipeline with insufficient takeaway capacity for the well(s) connected to the pipeline. When the gas pipeline associated with an oil well becomes overwhelmed, the well is "kicked off" the pipeline and the operator is faced with a choice: flare the associated gas in order to continue oil production unabated, or curtail oil production in order to conserve the associated gas. At this point, the interests of the operator and the lessor (either the United States or the Indian mineral owner) may diverge. Specifically, the operator may wish to continue oil production unabated, sacrificing the associated gas production for near-term revenues from the oil production. When an operator chooses this course of action, proposed § 3179.8(a) would ensure that the financial interests of the public and Indian mineral owners are not unduly compromised. Under proposed § 3179.8(a), when oil-well gas must be flared due to pipeline capacity constraints, midstream processing failures, or other similar events that prevent produced gas from being transported through the connected pipeline, a maximum of 1,050 Mcf per month (per lease, unit, or CA) of such flared gas would be considered a royalty-free "unavoidable loss." The operator would owe royalties on flaring beyond that limit.

The proposed monthly volume limit on royalty-free flaring due to pipeline capacity constraints replaces the case-by-case flaring approval process of NTL-4A. Under NTL-4A, an operator could seek BLM approval to flare where conservation of the gas was not "economically justified."[96] As the rapid development of unconventional tight oil and gas resources resulted in more flaring due to midstream problems such as pipeline capacity constraints, many operators began to submit applications arguing that the flaring was justified under the economic circumstances and should therefore be royalty free.[97] The

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[96] See Section III.C.2 of this preamble for additional detail on this process and the applicable standard.
[97] *See, e.g., Petro-Hunt, LLC*, 197 IBLA 100, 105-106 ("Petro-Hunt stated that '[t]he flaring at issue was primarily the result of, among other things, force majeure events, maintenance, and/or capacity issues in the third-party gas gathering and processing system, a common cause of flaring in the Williston Basin.' It argued that '[w]hile [it] could have prevented flaring by shutting-in its productive oil wells and refusing to

BLM has never taken the position that long-term flaring due to pipeline capacity constraints is economically justified. Furthermore, the BLM does not believe that the economic test in NTL-4A was intended to accommodate situations where large volumes of associated gas are flared in order to maximize an individual operator's near-term profits. Rather, as explained in detail previously, the economic standard in NTL-4A looked to "the total leasehold production, including oil and gas, as well as the economics of a field-wide plan," when evaluating the feasibility of conserving the associated gas, and this standard did not envision that operators could use a pipeline constraint as an economic justification for long-term flaring. Finally, the drastic increase in flaring applications under NTL-4A demonstrates that the case-by-case application process is not a sustainable approach for evaluating the appropriateness of flaring. Therefore, the BLM is proposing to set a volume limit that will accommodate any truly unavoidable losses due to midstream failures while ensuring that royalties are paid when an operator makes the business decision to flare gas in order to continue producing oil.

In order to determine the appropriate monthly volume limit on royalty-free flaring due to midstream constraints, the BLM examined flaring data reported to ONRR for the years 2015-2019. Based on that data, the BLM determined that a limit of 1,050 Mcf per month would impact the 20 percent of flaring operations responsible for 95 percent of the reported flaring volumes. Thus, the proposed limit targets only those operators that generate the vast majority of the flaring. The BLM estimates that the proposed 1,050 Mcf per month limit would make approximately 85 percent of flared volumes royalty-bearing and generate an average of nearly $33 million in royalty revenues each year. The BLM examined limits lower than 1,050 Mcf per month, but found diminishing returns in terms of additional royalties relative to the number of operations impacted.

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continue developing the field, such actions would not have been reasonable' because 'there are vast discrepancies in value between produced oil and gas.'").

In most cases, payment of royalties on flared associated gas would be sufficient to protect the proprietary interests of the United States and Indian mineral owners. However, because the incentive to flare is strongest where the price of gas (and, therefore, the royalty value of the gas) is lowest with respect to the price of oil, the BLM must be prepared for the possibility of egregious cases where the volume of flaring is unacceptable even in the face of royalty payments. In order to protect the public interest in such cases, paragraphs (b) and (c) of proposed § 3179.8 would establish a process whereby the BLM could, under a narrow set of circumstances, order an operator to curtail or shut-in production as necessary to avoid the unreasonable waste of Federal or Indian gas. The BLM is proposing to limit shut-in or curtailment orders under this section to situations where the operator had reported flaring in excess of 4,000 Mcf per month for 3 consecutive months and the BLM confirms that flaring is ongoing. According to ONRR data, only 3 percent of reporting units had 3 consecutive months of more than 4,000 Mcf of flaring. However, this 3 percent accounted for approximately 16 percent of the total flaring in 2019.

The proposed standard for shut-in or curtailment orders is based on flaring over a consecutive 3-month period to account for the fact that flaring is often at its highest levels during the first months of a well's life and can taper off to substantially lower levels soon thereafter. One reason for this phenomenon is that facilities are often designed to accommodate long-term production levels, as opposed to the high levels of gas production experienced in the initial months of production. The purpose of the 3-month time frame is to focus shut-in and curtailment orders on wells most likely to flare large volumes for longer periods. The BLM requests comment on the proposed standard for shut-in or curtailment orders, including the volume threshold and the 3-month time frame.

If a shut-in or curtailment order would adversely affect production of oil or gas from non-Federal and non-Indian mineral interests (e.g., State or private leases in a mixed-ownership unit or CA), the BLM is proposing to issue such an order only where the BLM is authorized to regulate the rate of production under the governing unit or communitization agreement. In the absence of such authorization, the BLM would contact the State regulatory authority having jurisdiction over the oil and gas production from the non-Federal and non-Indian interests and request that that entity take appropriate action to limit the waste of gas.

The BLM requests comment on this proposed approach to regulating the flaring of associated gas from oil wells. Specifically, the BLM would like comment on whether the proposed volume thresholds are appropriate, whether the proposed limit on royalty-free flaring in proposed § 3179.8(a) should cover sources of flaring besides midstream constraints, and whether shut-in or curtailment orders under proposed § 3179.8(b) can or should be applied more broadly (e.g., for lower volumes of flaring, over a shorter time frame, or using a different standard for impacting non-Federal production).

The BLM also invites comment on alternative approaches to regulating flaring, such as the capture percentage regimes employed by New Mexico and North Dakota. The BLM has not proposed capture percentage requirements similar to those in the 2016 Rule because such requirements would appear to be more difficult for the BLM to implement and enforce (due to the relative complexity of the calculations) and not necessarily more effective at controlling waste or ensuring appropriate royalty payments as opposed to the provisions proposed herein.

Section 3179.9 Measuring and reporting volumes of gas vented and flared.

Under proposed § 3179.9(a), operators would be required to estimate (using estimation protocols) or measure (using a metering device) all flared and vented gas,

whether royalty-bearing or royalty-free. Operators would also be required to report all volumes vented or flared under applicable ONRR reporting requirements.

Proposed paragraph (b) would require operators to use an orifice meter for any flare that is flaring at a rate of 1,050 Mcf per month or higher. The meter would be required to conform to the requirements of 43 CFR subpart 3175 for a low-volume facility measurement point (FMP), but with lesser requirements for plate inspection, EGM verification, determination of heating value, and overall measurement uncertainty. The proposed section would establish the timeframe for installation of the required meter (6 months after the effective date of the final rule) and would establish special requirements relating to the location of the meter. The BLM requests comment on whether operators should be required to document compliance with proposed paragraph (b) and provide that documentation to the BLM on a regular or as-needed basis.

Proposed paragraph (c) would provide the requirements for flares not covered by paragraph (b). This section would allow those flared volumes to be measured per the requirements of paragraph (b), estimated utilizing sampling and compositional analysis that complies with the requirements of proposed § 3179.203(c), or estimated using another method that has been approved by the BLM.

Proposed paragraph (d) would address situations where a flare is combusting gas that is combined across multiple leases, unit PAs, or communitized areas. This proposed paragraph would allow the operator to measure or estimate the gas at a single point at the flare but would require the operator to use an allocation method approved by the BLM to allocate the quantities of flared gas to each lease, unit PA, or communitized area.

Paragraph (e) would clarify that flare meters are not FMPs for the purposes of the BLM's gas measurement regulations at 43 CFR subpart 3175.

Section 3179.10 Determinations regarding royalty-free flaring.

This proposed section would provide for a transition period for operators that are operating under existing approvals for royalty-free flaring as of the effective date of the final rule. Proposed paragraph (a) states those operators could continue to flare royalty-free pursuant to such approvals for 6 months after the effective date of the rule.

Paragraph (b) would clarify that nothing in proposed subpart 3179 would alter the royalty-bearing status of flaring that occurred prior to the effective date of the final rule or the BLM's authority to determine that status and collect appropriate back-royalties.

Section 3179.11 Incorporation by Reference (IBR).

The proposed rule would incorporate two industry standards without republishing the standards in their entirety in the CFR, a practice known as incorporation by reference. These standards were developed through a consensus process, facilitated by the Gas Processors Association (GPA) Midstream, with input from the oil and gas industry. The BLM has reviewed these standards and determined that they would further the purposes of § 3179.203 of this proposed rule. These standards reflect the industry-accepted standards for compositional analysis for samples under pressure where the sample is expected to have C10+ components. Under § 3179.203, pressurized samples from the last pressurized vessel upstream of the storage tank would be used to determine whether the volumes of gas lost from the storage tank are of sufficient quantity and quality to justify the installation of a vapor recovery unit. The legal effect of incorporation by reference is that the incorporated standards become regulatory requirements. This proposed rule would incorporate the specific versions of the standards listed. The standards referenced in this section would be incorporated in their entirety.

The proposed incorporation of industry standards follows the requirements found in 1 CFR part 51. The industry standards can be incorporated by reference pursuant to 1 CFR 51.7 because, among other things, they would substantially reduce the volume of material published in the Federal Register; the standards are published, bound, numbered, and

organized; and the standards proposed for incorporation are readily available to the general public through purchase from the standards organization or through inspection at any BLM office with oil and gas administrative responsibilities. 1 CFR 51.7(a)(3) and (4). The language of incorporation in proposed 43 CFR 3179.11 meets the requirements of 1 CFR 51.9.

All of the GPA Midstream materials for which the BLM is seeking incorporation by reference are available for inspection at the Bureau of Land Management, Division of Fluid Minerals, 301 Dinosaur Trail, Santa Fe, NM 87505, telephone 505-954-2000; and at all BLM offices with jurisdiction over oil and gas activities.

The GPA materials are also available for inspection and purchase from GPA Midstream, 6060 American Plaza, Suite 700, Tulsa, OK 74135; telephone 918-493-3872.

The following describes the GPA standards that the BLM proposes to incorporate by reference into this rule:

GPA 2286-14, Method for the Extended Analysis for Natural Gas and Similar Gaseous Mixtures by Temperature Program Gas Chromatography, Revised 2014 ("GPA 2286"). This standard covers the methods for determination of natural gas chemical composition when specifics of heavier fractions up to C14 is needed or required.

GPA 2186-14, Method for the Extended Analysis of Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Temperature Programmed Gas Chromatography, Revised 2014 ("GPA 2186"). This standard covers the methods for determination of natural gas chemical composition when specifics of heavier fractions up to C10 is needed or required.

§ 3179.12 Reasonable precautions to prevent waste

Proposed § 3179.12 would further implement the BLM's authority to prevent waste. Paragraph (a) is a nearly verbatim recitation of the MLA's requirement that operators must use all reasonable precautions to prevent the waste of oil or gas developed

from the lease. See 30 U.S.C. 225. Paragraph (b) would reiterate the BLM's existing authority to specify certain reasonable precautions to prevent waste as conditions of approval (COA) of an APD. See 43 CFR 3162.3-1(h)(1). Paragraph (c) would authorize the Authorized Officer to order an operator to implement, within a reasonable time, other measures to prevent waste at ongoing operations. Finally, paragraph (d) would recognize that the reasonable precautions to prevent waste may evolve over time and would clarify that such reasonable precautions are not therefore limited to the waste prevention standards and requirements reflected elsewhere in the BLM's regulations. For example, under proposed § 3179.12, the BLM could impose a COA on an APD requiring the operator to use a particular instrument to detect leaks as part of its LDAR program if, due to technological advancements, changes in common industry practice, or other appropriate considerations, the failure to employ the specified instrument would constitute a failure to use all reasonable precautions to prevent waste. The BLM seeks comments on this section, specifically whether and to what extent the standards described in proposed paragraphs (c) and (d) provide the BLM with the appropriate flexibility to prevent waste.

FLARING AND VENTING GAS DURING DRILLING AND PRODUCTION OPERATIONS.

Section 3179.101 Well drilling.

This proposed section would address gas that is lost as a result of loss of well control. Gas lost as a result of a loss of well control during drilling would be classified as unavoidably lost and royalty-free, unless the loss of well control was due to operator negligence, in which case it would be avoidably lost and subject to royalties (see proposed § 3179.4(b)(1)). If there is a loss of well control, the BLM would determine whether it was due to operator negligence, and if so, the BLM would notify the operator in writing.

Section 3179.102 Well completion and related operations.

This proposed section would address gas that reaches the surface during well completions, post-completion and fluid recovery operations, and re-fracturing.

Proposed paragraph (a) provides that, for new completions, up to 10,000 Mcf of gas that reaches the surface may be flared royalty-free. This would cover the operations of well completion, post-completion, and fluid recovery operations.

Proposed paragraph (b) provides that, for refracturing of existing completions at a well connected to a pipeline, up to 5,000 Mcf of gas that reaches the surface may be flared royalty-free. This would cover the operations of well completion, post-completion, and fluid-recovery operations.

Under the 2016 Waste Prevention Rule, royalty-free flaring during well completions and related operations was limited to 20,000 Mcf or up to 30 days, whichever occurred first. Upon further investigation, including post-2016 consultation with certain operators, the BLM believes that prudent operators conducting new completion operations are likely able to capture gas production before flaring more than 10,000 Mcf of gas. Specifically, the BLM understands from its conversations with mid-size operators that the flowback process has changed considerably over the past few years, and that it is now standard practice to connect to a gas sales line as soon as possible. The BLM understands that many operators are not using temporary production equipment, but rather production is flowing directly to permanent production facilities after completion, thereby substantially reducing the need for flaring. In addition, the BLM believes that a lower volume limit is appropriate for refractured wells because, though those wells would have some need for flaring, they should already have an established and available means of capture (e.g., a pipeline to sales).

Section 3179.103 Initial production testing.

This proposed section would clarify the limits on royalty-free flaring during a well's initial production test. This section is essentially the same as the 2016 Waste Prevention Rule provision governing royalty-free flaring during initial production testing. The BLM is proposing to adopt these limits rather than retaining the more liberal limits reflected in NTL-4A and the 2018 Revision Rule (which set a 30-day or 50,000 Mcf limit, subject to extensions) because the BLM believes the proposed limits would accommodate any truly unavoidable flaring during production testing while better protecting the public's and Indian mineral owners' interests in obtaining royalties on the extracted gas. Based on consultations with BLM State and Field Offices regarding their experiences with production testing, the BLM believes that it would be rare for operators to exceed the royalty-free flaring limits proposed in this section.

Proposed paragraph (a) would provide that gas could be flared royalty-free during initial production testing for up to 30 days or 20,000 Mcf of flared gas, whichever occurs first. Volumes flared during well completion would count against the 20,000 Mcf limit. Additionally, royalty-free flaring would end when oil production begins, even if the 30-day or 20,000 Mcf limit had not been reached.

Paragraph (b) would allow the BLM to approve royalty-free flaring during a longer testing period of up to 60 additional days if there are testing delays due to well or equipment problems or a need for additional testing to develop adequate reservoir information.

Paragraph (c) would allow the BLM to increase the royalty-free flaring volume specified in paragraph (a)(2) by up to 30,000 additional Mcf if the well is an exploratory well in a remote location that would require additional testing related to the development of pipeline infrastructure.

Paragraph (d) would allow a 90-day (rather than 30-day) period for royalty-free flaring during the variable and time-intensive dewatering and initial evaluation of an

exploratory coalbed methane well. In addition, the BLM could approve up to two extensions of 90 days each to allow for more time to dewater and evaluate the coalbed methane well.

Paragraph (e) would clarify that the operator would have to transmit a request for a longer test period under paragraphs (b), (c), or (d) of this proposed section through a Sundry Notice.

Section 3179.104 Subsequent well tests.

The proposed requirement in this section is essentially the same as NTL-4A's requirement regarding subsequent well tests. It would limit royalty-free flaring during production tests after the initial production test to 24 hours, unless the BLM approves or requires a longer test period. The operator would be required to transmit its request for a longer test period through a Sundry Notice.

Section 3179.105 Emergencies.

Under proposed § 3179.4(b)(6), and consistent with IRA Section 50263, gas lost during an "emergency situation" would be royalty-free. Proposed § 3179.105 would serve to clearly define what constitutes "an emergency situation," specify circumstances that do *not* constitute an emergency situation, and place a time limit on royalty-free venting or flaring.

Proposed § 3179.105(a) would allow an operator to flare or, if flaring is not feasible due to the emergency situation, vent gas royalty-free under § 3179.4(b)(6) of this subpart for no longer than 48 hours during an emergency situation. IRA Section 50263 does not define what is an "emergency situation that poses a danger to human health, safety, and the environment." The BLM is proposing to implement the statute in a way that is reasonable in light of its longstanding authority under the MLA and FOGRMA and its experience implementing those authorities (and is also proposing to make the same provision governing emergency situations applicable on Indian lands). Specifically, §

3179.105(a) would define an "emergency situation" as a temporary, infrequent, and unavoidable situation in which the loss of gas is necessary to avoid a danger to human health, safety, or the environment. Although NTL-4A limited royalty-free losses to 24 hours per "emergency" incident (except where otherwise approved by the BLM), this rule would implement a 48-hour limit (not subject to discretionary extensions) to reflect the time constraint contained in Section 50263 of the IRA.

Proposed § 3179.105(b) would clarify that the following circumstances do not constitute "emergencies" for the purposes of royalty assessment: (1) recurring equipment failures; (2) the operator's failure to install appropriate equipment of a sufficient capacity to accommodate production conditions; (3) the failure to limit production when the production rate exceeds the capacity of the related equipment, pipeline, or gas plant, or exceeds sales contract volumes of oil or gas; (4) scheduled maintenance; and (5) operator negligence.

Proposed § 3179.105(c) would require an operator to file a report to the BLM for any emergency situation that requires the operator to vent or flare beyond the timeframe authorized under paragraph (a).

To be clear, proposed § 3179.105 would not prohibit an operator from engaging in venting or flaring when the operator deems it operationally necessary to do so. The BLM is not attempting to substitute its judgment for that of the operator with respect to the management of emergencies. Rather, the purpose of proposed § 3179.105 is to safeguard the public interest in royalty revenues by ensuring that a royalty-free flaring exception for "emergencies" is limited to events that are truly out of the operator's control and could not have been avoided through more careful management.

CONSERVATION OF GAS FROM EQUIPMENT, STORAGE VESSELS, AND DURING WELL MAINTENANCE OPERATIONS

Section 3179.201 Pneumatic controllers and pneumatic diaphragm pumps.

Under proposed § 3179.201, an operator of a lease, unit participating area (PA), or CA producing at least 120 Mcf of gas or 20 barrels of oil per month would be prohibited from using natural-gas-activated pneumatic controllers or pneumatic diaphragm pumps with a bleed rate that exceeds 6 scf/hour. In effect, this would require operators to use "low-bleed" pneumatic equipment or pneumatic equipment that does not bleed natural gas, such as air-activated pneumatic equipment.

Prudent operators should be expected to employ less wasteful technologies where it is economically feasible to do so. Thus, the proposed prohibition on the use of higher-bleed natural-gas-activated pneumatic equipment is limited to operations producing amounts of oil or gas that would render the adoption of these less wasteful technologies economically feasible. Specifically, the BLM chose production thresholds of oil and gas that would pay for the installation of a low-bleed pneumatic controller (estimated to be about $2,200) in a period of less than 1 year (around 10 months). The BLM understands that it is unlikely that an operator of a lease, unit, or CA producing only 120 Mcf of gas or 20 barrels of oil per month could re-direct the entirety of its revenues for 10 months towards paying for upgrading its pneumatic equipment. However, the BLM expects that the life of such a lease, unit, or CA would extend well beyond 10 months and that the cost of the required equipment could be financed over a longer period. The more a lease, unit, or CA is producing above 120 Mcf of gas or 20 barrels of oil per month, the more revenue will be available to subsidize the new equipment. In a prior rulemaking, the BLM found that low-bleed continuous pneumatic controllers are already very common in the petroleum and natural gas production sector, and that low-bleed continuous pneumatic controllers have the potential to generate revenue for operators as gas that would otherwise be vented is captured and sold. See 83 FR 49184, 49195 (Sept. 28, 2018).

In order to temper the potentially disruptive effect of this new requirement on existing operations, proposed § 3179.201(b) would set a compliance deadline of 1 year after the

effective date of the final rule. The RIA estimates that operators would need to replace up to 53,213 pneumatic devices to meet the conditions of this rule. It is estimated that such replacements would conserve about 5.93 Bcf of gas a year. The proposed requirement is expected to cost operators up to $15.6 million dollars a year while generating $21 million in benefits from increased gas sales each year. Although the private benefits to industry would exceed the costs to industry—thereby indicating that operators should adopt this technology even in the absence of a regulation requiring them to do so—the BLM finds this requirement necessary because, in the BLM's experience, operators do not typically replace functional equipment, nor do they typically replace malfunctioning equipment unless the repair costs exceed the purchase price of new equipment. There would be an added benefit to society of $165 million a year in the value of reduced methane emissions. The BLM also notes that the reduced emissions of natural gas would reduce emissions of other pollutants (e.g., VOCs and hazardous air pollutants), though the BLM has not quantified or monetized the benefits to society associated with reducing those pollutants. The BLM requests comment on appropriate methodologies for quantifying and monetizing these benefits.

The BLM considered requiring the use of no-bleed, air-activated devices instead of gas-activated equipment, but based on the information at our disposal, the BLM currently proposes that the higher price of the air-activated equipment may not be consistent with our statutory focus on waste reduction, considering the marginal increase in gas capture relative to the lower cost and effective low-bleed devices.[98] The BLM also considered different production thresholds at which the requirements would be imposed but found the proposed thresholds to provide the best balance of gas conservation and economic feasibility. The BLM requests comment on the proposed approach to pneumatic

[98] See Section 7.11 of the RIA for detailed discussion of this analysis.

equipment on Federal and Indian leases, including the estimated costs and benefits, appropriate production thresholds for these requirements, and the economic and technical feasibility of alternative approaches (such as requiring no-bleed equipment).

Section 3179.203 Oil storage vessels.

Storage vessels or tanks are used on-site to store produced hydrocarbons and other fluids. In most cases, an operator will direct recovered fluids from the well to a separator, with the hydrocarbons then directed to the storage tanks. During storage, light hydrocarbons dissolved in the crude oil or condensate vaporize and collect in the space between the tank liquids and the tank roof. These vapors are often vented to the atmosphere when the liquid level in the tank subsequently fluctuates.

Proposed § 3179.203 would establish new requirements that would limit the loss of natural gas from oil storage vessels. Paragraph (a) would require the thief hatch on a storage tank to remain closed, except as necessary to conduct production and measurement operations. Paragraph (a) would require the BLM to issue a $1,000 immediate assessment upon discovering a thief hatch that has been left open and unattended.

Under proposed § 3179.203(b), all oil storage vessels would be required to be equipped with a vapor-recovery system or other mechanism that avoids the intentional loss of natural gas from the vessel, unless the operator is able to establish that it would be technically or economically infeasible. In order to temper the disruptive effect of this new requirement on existing operations, proposed § 3179.203(b) would set a compliance deadline of 1 year after the effective date of the final rule. The proposed rule does not contain a definition or formula for determining economic feasibility for the purposes of § 3179.203(b). The BLM oversees a wide variety of production scenarios—from multi-well facilities operated by large companies to individual "stripper wells" operated by very small companies—and recognizes that the economic feasibility (from a waste-prevention

perspective) of a vapor-recovery system will depend on a variety of factors, such as the oil gravity and the production rate. The BLM would, therefore, like to retain flexibility in making this determination. To be clear, flexibility does not indicate unrestrained discretion. Were the BLM to order an operator to install a vapor-recovery unit or other mechanism to capture gas from a storage vessel, traditional administrative law principles would require the BLM to explain why the "technically or economically infeasible" exemption does not apply. The BLM requests comment on this approach, and specifically requests comment on whether, and how, economic feasibility should be defined for this section.

Under proposed § 3179.203(c), where an operator has not equipped a storage vessel with a vapor-recovery system or other appropriate mechanism, the operator would be required to submit an annual compositional analysis of production flowing to the storage vessel. Proposed § 3179.203(c) would contain technical sampling and analysis requirements intended to ensure the accuracy of the compositional analysis submitted by the operator. The purpose of the compositional-analysis requirement would be to demonstrate that installing a vapor-recovery system (or other similar mechanism) is, in fact, technically or economically infeasible. The compositional analysis would allow the operator and the BLM to estimate the quantity and quality of natural gas emitted from the storage tank, which would in turn indicate the value and volume of the gas to be recovered, and therefore the economic feasibility of a vapor-recovery system. The BLM estimates that each annual compositional analysis report would cost approximately $500. The BLM requests comment on this approach to ensuring that operators take all reasonable measures to conserve natural gas from oil storage tanks, and the BLM invites comment on alternative approaches. Specifically, the BLM is interested in alternative standards for requiring vapor recovery, which might include using the tank's throughput

(the volume of oil stored in the tank over a period of time) as an indicator of when vapor recovery should be required.

Proposed § 3179.203(d) would generally require gas released from an oil storage vessel to be flared rather than vented. This paragraph would also make clear that an operator may commingle vapors from multiple storage vessels to a single flare without the need for prior BLM approval.

The RIA estimates that operators would need to install up to 2,774 vapor recovery units on existing storage tanks to meet the conditions of this rule. It is estimated that this would conserve about 9 Bcf of gas a year. The proposed requirement is expected to cost operators up to $93 million dollars a year while generating $33 million in benefits from increased gas sales each year. There would be an added benefit to society of $253 million per year in the value of reduced methane emissions. The BLM also notes that the reduced emissions of natural gas would reduce emissions of other pollutants (e.g., VOCs and hazardous air pollutants), though the BLM has not quantified or monetized the benefits to society associated with reducing those pollutants. The BLM requests comment on appropriate methodologies for quantifying and monetizing these benefits.

Section 3179.204 Downhole well maintenance and liquids unloading.

In producing gas wells, fluids may accumulate in the wellbore and impede the flow of gas, sometimes halting production itself. Gas wells generally have sufficient pressure to produce both formation fluids and gas early on, but, as production continues and reservoir pressure declines, the gas velocity in the production tubing may not be sufficient to lift the formation fluids. When this occurs, liquids (hydrocarbons and salinized water) may accumulate in the tubing, causing a further drop in pressure, slowed gas velocity, and raised pressure at the perforations. When the bottom-hole pressure becomes static, gas flow stops, and all liquids accumulate at the bottom of the tubing. In

order to return the flow of gas, operators will engage in "liquids unloading," which will often involve venting.

This proposed section would establish limits on royalty-free venting and flaring during downhole well maintenance and liquids unloading in order to prevent waste. This section would impose a 24-hour limit on royalty-free venting or flaring for each event, and the 24-hours of royalty-free venting or flaring would only be available if the operator employs best practices that prevent or minimize vented gas and the need for well venting. For wells equipped with a plunger lift system or an automated well control system, the operator would be required to optimize the operation of the system to prevent or minimize gas losses. During any liquids unloading by manual well purging, the person conducting the well purging would be required to be present on-site to minimize, to the maximum extent practicable, any venting to the atmosphere.

Section 3179.205 Size of production equipment.

This proposed section would state that the equipment used for production and processing would be required to be appropriately sized to handle the expected volumes produced at the lease site. For example, production equipment would be required to be sized to provide for the proper retention time of fluid flows, which has a direct impact on the gas-oil ratio of the fluid as it enters the storage tank. Under-sizing of the separator equipment can result in a higher quantity of gas remaining entrained in the fluid. That, in turn, can be the source of unnecessary losses of natural gas, since the gas will be released when the fluid weathers in the tank.

LEAK DETECTION AND REPAIR (LDAR)

This proposed rule would require operators on Federal and Indian leases to maintain LDAR programs in order to minimize the waste of Federal and Indian gas. The 2016 Waste Prevention Rule also contained LDAR requirements, though those requirements were more stringent, less flexible, and more costly for operators than the

requirements put forward in this proposed rule. Although the LDAR requirements of the 2016 Rule were expected to result in higher reductions in lost gas than the requirements proposed today, they were also heavily criticized by the court that vacated the 2016 Rule and contributed to that court's finding that the BLM had been arbitrary and capricious in promulgating the rule.[99] The 2016 Rule broadly imposed strict LDAR requirements and invited operators to seek reductions in their obligations based on site-specific economic circumstances. This proposed rule, in contrast, would establish some basic parameters (such as the time frame for repairs) while providing substantial flexibility for operators to tailor their LDAR programs to their operations. Simultaneously, operators would not be permitted to seek exemptions based on site-specific economic considerations. The BLM has concluded that even the operators of marginal wells could be expected to take reasonable measures to identify and repair leaks. The RIA estimates that this provision of the rule would only affect 2,178 well sites (or, around 2.2 percent of Federal well sites and 0.2 percent of the total well sites in the U.S.) due to existing State or EPA rules that meet or exceed the BLM's proposed standards. It is estimated that the proposed requirements would conserve about 0.3 Bcf of gas a year. It is expected to cost operators up to $2.8 million dollars a year while generating $.98 million per year in benefits from increased gas sales. There would also be an added benefit to society of $8.5 million a year in reduced methane emissions. The BLM also notes that the reduced emissions of natural gas would reduce emissions of other pollutants (e.g., VOCs and hazardous air pollutants), though the BLM has not quantified or monetized the benefits to society associated with reducing those pollutants. The BLM requests comment on appropriate methodologies for quantifying and monetizing these benefits. The LDAR requirements of the proposed rule are explained in more detail as follows.

Section 3179.301 Leak Detection and Repair Program.

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[99] *See Wyoming v. DOI*, 493 F. Supp. 3d 1046, 1075-77 (D. Wyo. 2020).

This proposed section would require an operator to maintain an LDAR program designed to prevent the unreasonable and undue waste of Federal or Indian gas. The program would be required to include regular inspections of all oil and gas production, processing, treatment, storage, and measurement equipment on the lease site. Within 6 months of the effective date of the final rule, the operator of an existing lease would be required to submit a Sundry Notice to the BLM describing the operator's LDAR program. For leases issued after the effective date of the final rule, the operator would be required to submit the Sundry Notice within 6 months of the lease's issuance. The BLM would then review the operator's description of its LDAR program to determine whether the program is adequate to prevent the unreasonable and undue waste of gas, in light of all the circumstances at the lease site, including the variety of equipment at the lease site and the quantities of production that might support a more robust LDAR program. That is, a large, multi-well lease site with many pieces of equipment and substantial revenues from production might warrant a more vigorous LDAR program than a single marginal well for which additional regulatory burdens might risk a premature shut in. The LDAR program would need to provide for regular inspections (at least annually), and would not require any specific LDAR process or equipment to be used. The BLM would then notify the operator if the BLM deems the LDAR program to be inadequate. The notification would explain the basis for the BLM's determination, identify the plan's inadequacies, describe any additional measures necessary to address the inadequacies, and provide a reasonable time frame for the submission of a revised LDAR program. This proposed section would require that LDAR inspections occur at least annually. For existing operations, the first inspection would be required within 1 year of the effective date of the final rule. For future leases and operations, the operator would be required to conduct the initial inspection within 1 year of the commencement of operations. In developing the proposed rule, the BLM considered requiring semi-annual—rather than

annual—inspections, but this proposed rule finds, based on the information at our disposal as well as our judgment and assumptions about costs over time, that the additional compliance costs increased out of proportion with the additional gas to be saved by the more frequent inspections. This is based on evidence that leaks do not arise on a consistent basis such that twice as many inspections may not necessarily catch twice as many leaks or conserve twice as much leaked gas. So, while there is a risk of more leaks being undetected for longer, annual inspections appeared to be a more cost-effective (with respect to gas conservation) basic requirement than semi-annual inspections in the long run. To be clear, the BLM is judging the cost-effectiveness of the proposed requirements in terms of gas conservation only. The BLM recognizes that the EPA has set, and is in the process of promulgating, different (though not incompatible) LDAR standards based on a different view of cost-effectiveness.[100] Any divergence between the BLM and EPA on LDAR standards (or those pertaining to pneumatic equipment or storage vessels) is due to the fact that the BLM and the EPA regulate these matters under different statutory authorities and for different purposes.

The BLM requests comment on alternative approaches, including whether required LDAR inspections should be more frequent, in line with the requirements of some States and EPA, as well as data on likely costs and benefits over time.

The BLM notes that the proposed rule envisions operators submitting LDAR program documents on a lease-by-lease basis. The BLM requests comment on alternative approaches, such as allowing operators to submit a document detailing a program that would apply to its operations across multiple leases or even to all of its operations on BLM-managed lands.

Section 3179.302 Repairing leaks.

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[100] See 86 FR 63154.

This proposed section would require operators to repair any leak as soon as practicable, and no later than 30 calendar days after discovery of the leak, unless there is good cause for repair to take longer. This proposed section of the rule would require the operator to notify the BLM by Sundry Notice if there is good cause to delay the repairs beyond 30 days, and to complete the repair at the earliest opportunity, but in no event longer than 2 years after discovery. The operator would also be required to conduct a follow-up inspection within 30 days after the repair to verify the effectiveness of the repair, and to make additional repairs within 15 days if the previous repair was not effective. The operator would be required to follow this repair and follow-up process until the repair is effective.

Section 3179.303 Leak detection inspection recordkeeping and reporting

This proposed section would require operators to maintain records of LDAR inspections and repairs, including the date and location of required inspections, the methods used to identify leaks, the equipment where the leaks were found, the dates of repairs, and the dates of follow-up inspections. These records would be required to be made available to the BLM upon request. Audio, visual, or olfactory (AVO) inspections would only have to be documented if the operator finds a leak requiring repair. Paragraph (b) of the section would require operators to submit to the BLM, by March 31 of each calendar year, an annual summary report on the previous year's LDAR inspection activities. The BLM plans to make these reports available to the public, subject to any protections for confidential business information.

STATE OR TRIBAL VARIANCES

Section 3179.401 State or Tribal requests for variances from the requirements of this subpart.

Proposed § 3179.401 would reinstate the State or Tribal variance provision from the 2016 Waste Prevention Rule.[101] Under this section, States and Tribes would be able to request a variance under which analogous State or Tribal rules would apply in place of some or all of the requirements of subpart 3179. The State or Tribe's variance request would be required to: identify the subpart 3179 provision(s) for which the variance is requested; identify the State, local, or Tribal rules that would be applied instead; explain why the variance is needed; and, demonstrate how the State, local, or Tribal rules would be as effective as the subpart 3179 provisions in terms of reducing waste, reducing environmental impacts, assuring appropriate royalty payments, and ensuring the safe and responsible production of oil and gas. The BLM State Director would be authorized to approve the variance request or approve it subject to conditions, after considering all relevant factors. This decision would be entirely at the BLM's discretion and would not be subject to administrative appeals under 43 CFR part 4. If the BLM were to approve a variance, the State or Tribe that requested the variance would be obligated to notify the BLM of any substantive amendments, revisions, or other changes to the State, local, or Tribal rules to be applied under the variance. Finally, if the BLM were to approve a variance under this section, the BLM would be authorized to enforce the State, local, or Tribal rules applied under the variance as if they were contained in the BLM's regulations.

Before including a variance provision in the final rule, the BLM is seeking to confirm that such variances would be both useful and practical. Operators on Federal and Indian lands are already required to adhere to other applicable State, Tribal, and local

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[101] The BLM chose not to include a similar State variance provision in the 2018 Revision Rule, concluding that the provision in the 2016 Waste Prevention Rule was no longer necessary in light of the predominance State regulations in the Revision Rule. 83 FR 49197. This proposed rule would not defer to State regulations to the same extent as the Revision Rule, and so a variance provision—i.e., a provision providing for appropriate State and Tribal flexibility—is therefore a relevant consideration in this rulemaking. At the final rule stage, the BLM will assess whether the proposed variance provision is "too restrictive" in light of comments from States, Tribes, and other stakeholders.

laws and regulations, so applying for a variance on the basis that a State, Tribal, or local rule would provide increased protection for the taxpayer or lower levels of waste through, for example, lower allowable monthly flaring volumes, would be unnecessary and a burden for States and Tribes that would apply for the variance provision, and a potential source of confusion for operators. To put it another way, operators in States or on Tribal lands that have more stringent standards than those contained in this proposed rule would be required to conform to the more stringent State or Tribal standards in any event, regardless of whether the State or Tribe receives a variance under the provision of the proposed rule. Such situations routinely arise in the context of other BLM oil and gas operational regulations, which raises questions about the usefulness or need of the variance provision contained in this proposed rule. The BLM believes that alignment of data collection processes or other potential areas of regulatory duplication, such as through a common reporting form that could be submitted to both the State or Tribal regulatory agency and the BLM, could bring greater efficiencies for both operators and regulators, but believes that a memorandum of understanding (MOU) between the BLM and a State or Tribe could more efficiently achieve many of those goals without the need for a State or Tribal variance. The BLM requests that commenters provide specific examples of situations where the variance provision in proposed § 3179.401 would improve on existing practices and administrative tools, such as MOUs, in terms of providing better environmental protection, better protecting taxpayer and lessor interests, achieving better administrative efficiencies, and reducing burdens on operators.

V. Procedural Matters

A. Regulatory Planning and Review (E.O. 12866, E.O. 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB) will review all

significant rules. The OIRA has determined that this proposed rule is economically significant.

Executive Order 13563 reaffirms the principles of Executive Order 12866 while calling for improvements in the Nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The Executive Order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. Executive Order 13563 emphasizes further, that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

This proposed rule would replace the BLM's current rules governing venting and flaring, which are contained in NTL-4A. We have developed this proposed rule in a manner consistent with the requirements in Executive Order 12866 and Executive Order 13563.

The monetized costs and benefits of this rule can be seen on the following table along with the transfer payments this rule would provide in the form of increased royalties from increased gas sales. The total monetized Net Benefit on an annualized basis is $359 million at a 7 percent discount rate and $372 million at a 3 percent discount rate. Additional unquantified benefits from reduced emissions of VOCs and hazardous air pollutants are discussed further in the RIA. The BLM reiterates that, while it has included benefits associated with the social cost of greenhouse gases in this particular presentation of costs and benefits and in the RIA, this was done to respond to Executive Orders 12866 and 13563 and in order to present as complete a picture as possible of the total costs and benefits of the proposed rule for the public. Climate benefits derived from

foregone emissions were not a factor in the decision to propose any of the individual waste prevention requirements in this proposed rule.

Costs and Benefits Summary (2022-2031)				
	7% discount Rate		3% Discount Rate	
	NPV($MM)	Annualized($MM)	NPV($MM)	Annualized($MM)
Costs				
Measurements	$9.99	$1.42	$11.13	$1.31
Tanks	$657.75	$93.65	$716.74	$84.02
Pneumatics	$109.79	$15.63	$114.06	$13.37
LDAR	$20.16	$2.87	$24.48	$2.87
Administrative Burdens	$58.61	$8.34	$71.18	$8.34
Total Cost	**$856.30**	**$121.92**	**$937.59**	**$109.91**
Benefits				
Tanks	$2,386.70	$285.48	$2,438.33	$285.85
Pneumatics	$1,558.34	$186.40	$1,592.05	$186.64
LDAR	$79.37	$9.48	$80.94	$9.49
Total Benefits	**$4,024.41**	**$481.36**	**$4,111.32**	**$481.97**
Net Benefits	**$3,168.10**	**$359.44**	**$3,173.72**	**$372.06**
Transfer Payments	**$274.10**	**$39.03**	**$336.66**	**$39.47**

The BLM reviewed the requirements of the proposed rule and determined that it would not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities. For more detailed information, see the RIA prepared for this proposed rule. The RIA has been posted in the docket for the proposed rule on the Federal eRulemaking Portal: https://www.regulations.gov. In the Searchbox, enter "RIN 1004-AE79", click the "Search" button, open the Docket Folder, and look under Supporting Documents.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 et seq.) (RFA) requires that Federal agencies prepare a regulatory flexibility analysis for rules subject to the notice-and-comment rulemaking requirements under the Administrative Procedure Act (5 U.S.C. 500 *et seq*.), if the rule would have a significant economic impact, whether detrimental or beneficial, on a substantial number of small entities. See 5 U.S.C. 601 – 612. Congress enacted the RFA to ensure that government regulations do not unnecessarily or disproportionately burden small entities. Small entities include small businesses, small governmental jurisdictions, and small not-for-profit enterprises.

The BLM reviewed the Small Business Administration (SBA) size standards for small businesses and the number of entities fitting those size standards as reported by the U.S. Census Bureau in the Economic Census. The BLM concludes that the vast majority of entities operating in the relevant sectors are small businesses as defined by the SBA. As such, the proposed rule would likely affect a substantial number of small entities.

The BLM reviewed the proposed rule and has determined that, although the proposed rule would likely affect a substantial number of small entities, that effect would not be significant. The basis for this determination is explained in more detail in the RIA. In brief, the per-entity, annualized compliance costs associated with this proposed rule are estimated to represent only a small fraction of the annual net incomes of the companies likely to be impacted. Because the proposed rule would not have a "significant economic impact on a substantial number of small entities," as that phrase is used in 5 U.S.C. 605, an initial regulatory flexibility analysis is not required. Nonetheless, in an effort to be thorough and in recognition of the substantial number of "small entities" operating Federal and Indian oil and gas leases, the BLM conducted an initial regulatory flexibility analysis, which is detailed in the RIA. The Secretary of the

Interior certifies under 5 U.S.C. 605(b) that this rule would not have a significant economic impact on a substantial number of small entities.

C. Small Business Regulatory Enforcement Fairness Act

This proposed rule is a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act, because it is estimated that the rule would have an annual economic impact of $100 million or more. As noted earlier, the RIA that the BLM produced for this rule calculates that this rule would cost operators $122 million per year (using a 7 percent discount rate) for the next 10 years, while generating benefits to operators of approximately $54 million a year (using a 7 percent discount rate) in the form of 15.3 Bcf of additional captured gas. The reduced methane emissions associated with the proposed rule would provide a benefit to society of $427 million a year over the same time frame, leading to a net benefit from the rule of $359 million a year.

D. Unfunded Mandates Reform Act (UMRA)

The proposed rule would not have a significant or unique effect on State, local, or Tribal governments or the private sector. The proposed rule contains no requirements that would apply to State, local, or Tribal governments. The proposed rule would revise requirements that would otherwise apply to the private sector participating in a voluntary Federal program. The costs that the proposed rule would impose on the private sector are below the monetary threshold established at 2 U.S.C. 1532(a). A statement containing the information required by the Unfunded Mandates Reform Act (UMRA) (2 U.S.C. 1531 et seq.) is therefore not required for the proposed rule. This proposed rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments, because it contains no requirements that apply to such governments, nor does it impose obligations upon them.

E. Governmental Actions and Interference with Constitutionally Protected Property Right - Takings (Executive Order 12630)

This proposed rule would not affect a taking of private property or otherwise have taking implications under Executive Order 12630. A takings implication assessment is not required. The proposed rule would replace the BLM's current rules governing venting and flaring, which are contained in NTL-4A. Therefore, the proposed rule would impact some operational and administrative requirements on Federal and Indian lands. All such operations are subject to lease terms which expressly require that subsequent lease activities be conducted in compliance with subsequently adopted Federal laws and regulations.

This proposed rule conforms to the terms of those leases and applicable statutes and, as such, the rule is not a government action capable of interfering with constitutionally protected property rights. Therefore, the BLM has determined that the rule would not cause a taking of private property or require further discussion of takings implications under Executive Order 12630.

F. Federalism (Executive Order 13132)

Under the criteria in section 1 of Executive Order 13132, this proposed rule does not have sufficient federalism implications to warrant the preparation of a federalism summary impact statement. A federalism impact statement is not required.

The proposed rule would not have a substantial direct effect on the States, on the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the levels of government. It would not apply to States or local governments or State or local governmental entities. The rule would affect the relationship between operators, lessees, and the BLM, but it would not directly impact the States. Therefore, in accordance with Executive Order 13132, the BLM has determined

that this proposed rule would not have sufficient federalism implications to warrant preparation of a Federalism Assessment.

G. Civil Justice Reform (Executive Order 12988)

This proposed rule complies with the requirements of Executive Order 12988. More specifically, this proposed rule meets the criteria of section 3(a), which requires agencies to review all regulations to eliminate errors and ambiguity and to write all regulations to minimize litigation. This proposed rule also meets the criteria of section 3(b)(2), which requires agencies to write all regulations in clear language with clear legal standards.

H. Consultation and Coordination with Indian Tribal Governments (Executive Order 13175 and Departmental Policy)

The Department strives to strengthen its government-to-government relationship with Indian Tribes through a commitment to consultation with Indian Tribes and recognition of their right to self-governance and Tribal sovereignty.

The BLM evaluated this proposed rule under the Department's consultation policy and under the criteria in Executive Order 13175 to identify possible effects of the rule on federally recognized Indian Tribes. Since the BLM approves proposed operations on all Indian (except Osage Tribe) onshore oil and gas leases, the proposed rule has the potential to affect Indian Tribes.

In August of 2021, the BLM sent a letter to each registered Tribe informing them of certain rulemaking efforts, including the development of this proposed rule. The letter offered Tribes the opportunity for individual government-to-government consultation regarding the proposed rule. The opportunity for Tribal consultation will remain open throughout the rulemaking process.

I. Paperwork Reduction Act

1. Overview:

The Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501 *et seq*.) generally provides that an agency may not conduct or sponsor a collection of information, and, notwithstanding any other provision of law, a person is not required to respond to collection of information unless it has been approved by the Office of Management and Budget (OMB) and displays a currently valid OMB Control Number. The existing information collections requirements contained in 43 CFR Parts 3160, and 3170 have been approved by OMB under OMB Control Numbers 1004-0137 and 1004-0211.

This proposed rule contains new information collection (IC) requirements for BLM regulations, and a submission to OMB for review under the PRA as outlined in the PRA implementing regulations at 5 CFR 1320.11. The IC requirements are necessary to assist the BLM in preventing venting, flaring, and leaks that waste the public's resources and assets. Respondents are holders of Federal and Indian oil and gas leases. The information collection requirements are outlined in the BLM's waste prevention standards as well as on BLM Form 3160-5 (*Sundry Notices and Reports on Wells*). Form 3160-5 is used broadly for onshore oil and gas operations and production purposes under 43 CFR parts 3160 and 3170 and is approved under OMB control number 1004-0137. This proposed rule would not introduce any changes to Form 3160-5 and the form will continue to be approved under OMB control number 1004-0137; however, this information collection request (ICR) seeks to include burdens specific to the use of Form 3160-5 in regard to the proposed waste prevention standard subject to this proposed rule. The proposed rule contains the following new and revised IC requirements.

2. Effects on Existing Information Collections Requirements:

Existing § 3162.3-1 Drilling applications and plans (Application for Permit to Drill Oil Well and Waste Minimization Plan).

Currently, the BLM does not have a mechanism whereby to factor waste into the decision-making process on an APD. As with the 2016 Waste Prevention Rule, operators

would be required to submit a "waste minimization plan" with an APD for an oil well. The waste minimization plan would disclose anticipated gas production and the capacity of the extant infrastructure to capture the gas. The BLM's onshore oil and gas operations and production regulations (43 CFR 3162.3-1(a) through (i)) currently provide that each well shall be drilled in conformity with an acceptable well-spacing program and that the operator shall submit to the authorized officer for approval an APD for each well. The APD is currently approved under OMB control number 1004-0137. This proposed would not introduce any changes to this requirement.

This proposed rule would, however, add § 3162.3-1(j), which would require that when submitting an APD for an oil well, the operator must also submit a plan to minimize waste of natural gas from that well. The waste minimization plan would need to demonstrate how the operator plans to capture associated gas upon the start of oil production, or as soon thereafter as reasonably possible, including an explanation of why any delay in the capture of the associated gas would be necessary.

Request for Approval for Royalty-Free Uses On-Lease or Off-Lease (43 CFR 3178.5, 3178.7, 3178.8, and 3178.9).

Sections 3178.5, 3178.7, 3178.8, and 3178.9 of the BLM's current regulations require submission of a Sundry Notice (Form 3160-5) to request prior written BLM approval for use of gas royalty-free for operations and production purposes on the lease, unit or communitized area. This proposed rule would not change this existing requirement.

3. New Information Collection Requirements:

This proposed rule would add a new subpart to the BLM's waste prevention standards. The proposed new subpart 3179 would add new information collection requirements as discussed later. The purpose of this subpart would be to implement and carry out the purposes of statutes relating to prevention of waste from covered Federal

and Indian oil and gas leases by enhancing conservation of surface resources, particularly in regard to flaring and venting of produced gas, unavoidably and avoidably lost gas, and waste prevention.

Proposed § 3179.4 Determining when the loss of oil or gas is avoidable or unavoidable (Notifying BLM prior to flaring)

Proposed § 3179.4(b)(13) would require that an operator notify the BLM through a Sundry Notice (Form 3160-5) prior to the flaring of gas from which at least 50 percent of NGLs have been removed and captured for market, if the operator wishes such flaring to qualify for royalty-free treatment.

Proposed § 3179.9 Measuring and reporting volumes of gas vented and flared.

Proposed § 3179.9(a) of this proposed rule would require operators to measure or estimate all volumes of gas vented or flared from wells, facilities, and equipment on a lease, unit, or CA and report those volumes to ONRR. The burden associated with the reporting of volumes of gas vented or flared is accounted for under ONRR's OMB control number 1012-0004, *30 CFR Parts 1210 and 1212, Royalty and Production Reporting*, using Form ONRR-4054, *Oil and Gas Operations Report*. This proposed rule would not change this existing reporting requirement. Section 3179.9(b) of the proposed rule would introduce inspection and measurement requirements for all high-pressure flares flaring 1,050 Mcf per month or more. Furthermore, as applicable, the orifice plate for the meter must be pulled and inspected at least once a year and the meter must be verified at least once a year.

Proposed § 3179.103 Initial production testing and § 3179.104 Subsequent well tests (Requests for longer test period or increase limit).

This proposed rule would allow royalty-free flaring during initial production testing until one of the following occurs: (1) the operator determines that it has obtained adequate reservoir information; (2) 30 days have passed since beginning of the

production test; (3) 20,000 Mcf of gas have been flared; or (4) oil production begins. Proposed § 3179.103 would allow an operator to flare gas for 30 days since the beginning of the production test under certain conditions and specified limits. Proposed § 3179.104 would permit an operator to flare gas for no more than 24 hours during well tests subsequent to the initial production test. An operator would be required to submit its request for a longer test periods or increased limits using a Sundry Notice.

Proposed § 3179.105 Emergencies (Reporting volumes flared or vented beyond timeframes).

This proposed rule would allow for royalty-free flaring during an emergency situation that poses a danger to human health, safety, or the environment. This proposed rule defines "emergency situation" in a manner that emphasizes its temporary and unavoidable nature. This proposed rule would place a 48-hour limit on the royalty-free emergency flaring and specify circumstances that would not constitute an emergency. Proposed § 3179.105 would allow an operator to flare or, if flaring is not feasible given the emergency situation, vent gas royalty-free under proposed § 3179.4(b)(6) of this subpart during an emergency. Within 45 days of the start of the emergency situation, the operator would be required to estimate and report to the BLM on a Sundry Notice the volumes flared or vented beyond the timeframes specified in proposed § 3179.105(b).

Proposed § 3179.203 Oil storage vessels (Composition analysis).

Proposed § 3179.203(b) would require tanks to be equipped with a vapor recovery system or other mechanism that avoids the intentional loss of gas from the tank unless it is technically or economically infeasible. If an operator does not equip a tank with vapor recovery, the operator would be required to submit an annual compositional analysis based on samples of production flowing to the tank. The purpose of the compositional analysis would be to show whether installation of vapor recovery is feasible. These requirements would only apply to operations on Federal or Indian lands. Additionally,

this section of this proposed rule would require that the compositional analysis be based on pressurized samples and that the compositional analysis must show the expected emissions from the storage vessel at 60 degrees Fahrenheit and 14.73 psia.

Proposed § 3179.301 Leak detection and repair (LDAR) program.

This proposed rule would require an operator to maintain an LDAR program designed to prevent the unreasonable and undue waste of Federal or Indian gas. The LDAR program would have to provide for regular (at least annual) inspections of all oil and gas production, processing, treatment, storage, and measurement equipment on the lease site. Operators would submit their LDAR programs for BLM review, and the BLM would notify the operator if its program was determined to be inadequate. Operators would be required to submit an annual report on inspections and repairs. Proposed § 3179.301(b) would require that the operator of a Federal or Indian lease must submit a Sundry Notice to the BLM describing the operator's leak detection and repair program for the lease site, including the frequency of inspections and any instruments to be used for leak detection.

Proposed § 3179.302 Repairing leaks (Notifying the BLM for delaying a leak repair).

Proposed § 3179.302(b) would require that if there is good cause for delaying the repair beyond 30 calendar days, the operator must notify the BLM of the cause by Sundry Notice.

Proposed § 3179.303 Leak detection inspection recordkeeping and reporting.

Operators would be required to keep records of inspections and repairs and submit those records to the BLM upon request and to maintain such records for the period required under 43 CFR 3162.4-1(d).

Proposed § 3179.401 State or Tribal requests for variances from the requirements of this subpart.

This proposed rule would include the State or Tribal variances provision from the 2016 Rule. In essence, this provision would allow States and Tribes to submit a request to the BLM to have analogous State or Tribal regulations apply in place of the BLM's. Section 3179.401(e) of the proposed rule would require that if the BLM approves a variance under this section, the State or Tribe that requested the variance must notify the BLM in writing in a timely manner of any substantive amendments, revisions, or other changes to the State, local or Tribal regulation(s) or rule(s) to be applied under the variance. The purpose of this section and the associated information collection requirements is to reduce regulatory burden and duplication where a State or Tribal government has implemented regulations that are demonstrated to be at least as effective as the BLM's regulatory waste prevention requirements. The information collection requirements of this section are intended to assist the BLM in making appropriate determinations regarding the variances contemplated in proposed § 3179.401.

In order to comply with the proposed information collection requirements, the BLM believes that some operators may need to purchase and install new equipment in order to collect, maintain, and report the required information. These one-time cost burdens for operators that may need to install new orifice meters and/or vapor recovery systems would be a result of the proposed rule.

D. Public Information Collection Burdens by Information Collection:

Currently, there are 50 respondents, 50 responses, 400 annual burden hours, and $0 non-hour cost burdens approved under OMB Control Number 1004-0211. These burdens pertain to a Request for Approval for Royalty-Free Uses On-Lease or Off-Lease (43 CFR 3178.5, 3178.7, 3178.8, and 3178.9) which is not addressed in this proposed rule. The BLM projects that the information collections as contained in this proposed rule would result in the following additional new burdens: 552 new respondents; 48,337 new annual responses; 117,410 new burden hours and $1,050,000 new non-hour cost burden. The

new total estimated burdens for the existing information collection and for the proposed new information collections under this OMB Control Number are listed as follows.

Title: Waste Prevention, Production Subject to Royalties, and Resource Conservation (43 CFR Parts 3160, 3170, and 3179).

OMB Control Number: 1004–0211.

Form Number: 3160-5 (OMB Control Number 1004-0137).

Type of Review: Revision of a currently approved collection.

Description of Respondents: Federal and Indian leases, as well as State and private tracts committed to a federally approved lease, unit, or communitized area.

Estimated Number of Respondents: 602.

Estimated Number of Annual Responses: 48,337.

Estimated Completion Time per Response: Varies from 1 hour to 8 hours depending on activity.

Estimated Total Annual Burden Hours: 117,410.

Respondents' Obligation: Required to obtain or retain a benefit.

Frequency of Collection: On occasion, Annually, Monthly, or one-time depending on activity.

Estimated Total Non-Hour Cost: $1,050,000.

As part of our continuing effort to reduce paperwork and respondent burdens, we invite the public and other Federal agencies to comment on any aspect of this information collection, including:

(1) Whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility;

(2) The accuracy of our estimate of the burden for this collection of information, including the validity of the methodology and assumptions used;

(3) Ways to enhance the quality, utility, and clarity of the information to be collected; and

(4) Ways to minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of response.

In accordance with the PRA and the PRA implementing regulations at 5 CFR 1320.11, the BLM has submitted an ICR to OMB for the new and revised ICs in this proposed rule. If you wish to comment on the IC requirements in this proposed rule, please see the "DATES" and "ADDRESSES" sections earlier.

J. National Environmental Policy Act

The BLM has prepared a draft EA to determine whether this proposed rule would have a significant impact on the quality of the human environment under the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*). The draft EA will be shared with the public during the public comment period on the proposed rule. The BLM will respond to substantive comments on the EA. If the final EA supports the issuance of a Finding of No Significant Impact for the rule, the preparation of an environmental impact statement pursuant to the NEPA would not be required.

The draft EA has been placed in the file for the BLM's Administrative Record for the rule at the address specified in the "ADDRESSES" section. The EA has also been posted in the docket for the rule on the Federal eRulemaking Portal: https://www.regulations.gov. In the Searchbox, enter "RIN 1004-AE79", click the "Search" button, open the Docket Folder, and look under Supporting Documents. The BLM invites the public to review the draft EA and suggests that anyone wishing to submit comments on the EA should do so in accordance with the instructions contained in the "Public Comment Procedures" section earlier.

K. Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use (Executive Order 13211)

Under Executive Order 13211, agencies are required to prepare and submit to OMB a Statement of Energy Effects for significant energy actions. This statement is to include a detailed statement of "any adverse effects on energy supply, distribution, or use (including a shortfall in supply, price increases, and increase use of foreign supplies)" for the action and reasonable alternatives and their effects.

Section 4(b) of Executive Order 13211 defines a "significant energy action" as "any action by an agency (normally published in the Federal Register) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) that is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of (OIRA) as a significant energy action."

Since the compliance costs for this rule would represent a small fraction of company net incomes, the BLM has concluded that the rule is unlikely to impact the investment decisions of firms. See Section 9 of the BLM's RIA. Also, any incremental production of gas estimated to result from the rule's enactment would constitute a small fraction of total U.S. gas production, and any potential and temporary deferred production of oil would likewise constitute a small fraction of total U.S. oil production. For these reasons, we do not expect that the proposed rule would significantly impact the supply, distribution, or use of energy. As such, the rulemaking is not a "significant energy action" as defined in Executive Order 13211.

L. Clarity of this Regulation (Executive Orders 12866, 12988, and 13563)

We are required by Executive Orders 12866 (section 1(b)(12)), 12988 (section

3(b)(1)(B)), and 13563 (section 1(a)), and by the Presidential Memorandum of June 1, 1988, to write all rules in plain language. This means that each rule must:

(a) Be logically organized;

(b) Use the active voice to address readers directly;

(c) Use common, everyday words and clear language rather than jargon;

(d) Be divided into short sections and sentences; and

(e) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the "ADDRESSES" section. To better help the BLM revise the proposed rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that you find unclear, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Authors

The principal authors of this final rule are: Amanda Eagle, Petroleum Engineer, Santa Fe, NM; Beth Poindexter, Petroleum Engineer, Santa Fe, NM (now retired); and Christopher Rhymes, Attorney Advisor, Office of the Solicitor, Department of the Interior. Technical support provided by: Tyson Sackett, Economist, Cheyenne, WY; Scott Rickard, Economist, Billings, MT; Janna Simonsen, Senior Natural Resources Specialist, Santa Fe, NM; and Barbara Sterling, Senior Natural Resources Specialist, BLM Colorado State Office (now retired). Assisted by: Stormy Phillips, Petroleum Engineer, Tulsa, OK (Contractor); Casey Hodges, Petroleum Engineer, Granby, CO (Contractor); and Senior Regulatory Analysts Faith Bremner and Darrin King of the BLM Washington Office.

List of Subjects

43 CFR Part 3160

Administrative practice and procedure, Government contracts, Indians-lands, Mineral royalties, Oil and gas exploration, Penalties, Public lands-mineral resources, Reporting and recordkeeping requirements.

43 CFR Part 3170

Administrative practice and procedure, Flaring, Immediate assessments, Incorporation by reference, Indians-lands, Mineral royalties, Oil and gas exploration, Oil and gas measurement, Public lands--mineral resources, Reporting and record keeping requirements, Royalty-free use, Venting.

For the reasons set out in the preamble, the Bureau of Land Management proposes to amend 43 CFR parts 3160 and 3170 as follows:

PART 3160 – ONSHORE OIL AND GAS OPERATIONS

1. The authority citation for part 3160 continues to read as follows:

Authority 25 U.S.C. 396d and 2107; 30 U.S.C. 189, 306, 359, and 1751; 43 U.S.C. 1732(b), 1733, 1740; and Sec. 107, Pub. L. 114-74, 129 Stat. 599, unless otherwise noted.

2. Amend § 3162.3-1 by adding paragraphs (j) and (k) to read as follows:

§ 3162.3-1 Drilling applications and plans.

* * * * *

(j) When submitting an Application for Permit to Drill an oil well, the operator must also submit a plan to minimize waste of natural gas from that well. The waste minimization plan must demonstrate how the operator plans to capture associated gas upon the start of oil production, or as soon thereafter as reasonably possible, including an explanation of why any delay in capture of the associated gas would be necessary. The BLM may deny an Application for Permit to Drill if the operator fails to submit a complete and adequate

waste minimization plan. The waste minimization plan must include the following information:

(1) The anticipated completion date of the proposed well(s);

(2) A description of anticipated production, including:

(i) The anticipated date of first production;

(ii) The expected oil and gas production rates and duration from the proposed well. If the proposed well is on a multi-well pad, the plan must include the total expected production for all wells being completed;

(iii) The expected production decline curve of both oil and gas from the proposed well; and

(iv) The expected Btu value for gas production from the proposed well.

(3) Certification that the operator has provided one or more midstream processing companies with information about the operator's production plans, including the anticipated completion dates and gas-production rates of the proposed well or wells;

(4) Identification of a gas pipeline to which the operator plans to connect that has sufficient capacity to accommodate the anticipated production of the proposed well(s), and information on the pipeline, including, to the extent that the operator can obtain it, the following information:

(i) Maximum current daily capacity of the pipeline;

(ii) Current throughput of the pipeline;

(iii) Anticipated daily capacity of the pipeline at the anticipated date of first gas sales from the proposed well;

(iv) Anticipated throughput of the pipeline at the anticipated date of first gas sales from the proposed well; and

(v) Any plans known to the operator for expansion of pipeline capacity for the area that includes the proposed well;

(5) If an operator cannot identify a gas pipeline with sufficient capacity to accommodate the anticipated production of the proposed well(s), the waste minimization plan must also include:

(i) A gas-pipeline-system location map of sufficient detail, size, and scale to show the field in which the proposed well will be located, and all existing gas trunklines within 20 miles of the well. The map must also contain:

(A) The name and location of the gas processing plant(s) closest to the proposed well(s), and the name and location of the intended destination processing plant, if different;

(B) The name and location of the operator of each gas trunkline within 20 miles of the proposed well;

(C) The proposed route and tie-in point that connects or could connect the subject well to an existing gas trunkline;

(ii) The total volume of produced gas, and percentage of total produced gas, that the operator is currently flaring or venting from wells in the same field and any wells within a 20-mile radius of that field; and

(iii) A detailed evaluation, including estimates of costs and returns, of opportunities for on-site capture approaches, such as compression or liquefaction of natural gas, removal of natural gas liquids, or generation of electricity from gas.

(6) Any other information demonstrating the operator's plans to avoid the waste of gas production from any source, including, as appropriate, from pneumatic equipment, storage tanks, and leaks.

(k) Where the available information indicates that drilling an oil well could result in the unreasonable and undue waste of Federal or Indian gas (as defined in § 3179.4), the BLM may take one of the following actions:

(1) Approve the application subject to conditions for gas capture and/or royalty payments on vented or flared gas; or

(2) Defer action on the permit in the interest of preventing waste. The BLM will notify the applicant that its application, if approved, could result in unreasonable and undue waste of Federal or Indian gas and specify any steps the applicant could take for the permit to be issued. If the applicant does not address the potential for unreasonable and undue waste to the BLM's satisfaction within 2 years of the applicant's receipt of the BLM's initial notice under this paragraph, the BLM may deny the permit.

PART 3170 – ONSHORE OIL AND GAS PRODUCTION

3. The authority citation for part 3170 continues to read as follows:

Authority: 25 U.S.C. 396d and 2107; 30 U.S.C. 189, 306, 359, and 1751; and 43 U.S.C. 1732(b), 1733, and 1740.

4. Revise subpart 3179 to read as follows:

Subpart 3179 – Waste Prevention and Resource Conservation

Secs.

3179.1 Purpose.

3179.2 Scope.

3179.3 Definitions and acronyms.

3179.4 Determining when the loss of oil or gas is avoidable or unavoidable.

3179.5 When lost production is subject to royalty.

3179.6 Safety.

3179.7 Gas-well gas.

3179.8 Oil-well gas.

3179.9 Measuring and reporting volumes of gas vented and flared.

3179.10 Determinations regarding royalty-free flaring.

3179.11 Incorporation by Reference (IBR)

3179.12 Reasonable precautions to prevent waste

FLARING AND VENTING GAS DURING DRILLING AND PRODUCTION OPERATIONS

3179.101 Well drilling.

3179.102 Well completion and related operations.

3179.103 Initial production testing.

3179.104 Subsequent well tests.

3179.105 Emergencies.

GAS FLARED OR VENTED FROM EQUIPMENT AND DURING WELL MAINTENANCE OPERATIONS

3179.201 Pneumatic controllers and pneumatic diaphragm pumps.

3179.203 Oil storage vessels.

3179.204 Downhole well maintenance and liquids unloading.

3179.205 Size of production equipment.

LEAK DETECTION AND REPAIR (LDAR)

3179.301 Leak detection and repair program.

3179.302 Repairing leaks.

3179.303 Leak detection inspection recordkeeping and reporting.

STATE OR TRIBAL VARIANCES

3179.401 State or Tribal requests for variances from the requirements of this subpart.

Subpart 3179 – Waste Prevention and Resource Conservation

§ 3179.1 Purpose.

The purpose of this subpart is to implement and carry out the purposes of statutes relating to prevention of waste from Federal and Indian (other than Osage Tribe) oil and gas leases, conservation of surface resources, and management of the public lands for multiple use and sustained yield. This subpart supersedes those portions of Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases, Royalty or

Compensation for Oil and Gas Lost (NTL-4A) pertaining to, among other things, flaring and venting of produced gas, unavoidably and avoidably lost gas, and waste prevention.

§ 3179.2 Scope.

(a) Except as provided in provided in paragraph (b), this subpart applies to:

(1) All onshore Federal and Indian (other than Osage Tribe) oil and gas leases, units, and communitized areas;

(2) Indian Mineral Development Act (IMDA) agreements, unless specifically excluded in the agreement or unless the relevant provisions of this subpart are inconsistent with the agreement;

(3) Leases and other business agreements and contracts for the development of Tribal energy resources under a Tribal Energy Resource Agreement (TERA) entered into with the Secretary, unless specifically excluded in the lease, other business agreement, or TERA;

(4) Wells, equipment, and operations on State or private tracts that are committed to a federally approved unit or communitization agreement defined by or established under 43 CFR subpart 3105 or 43 CFR part 3180.

(b) Sections 3179.6, 3179.201, 3179.203, and 3179.301-.303 of this subpart apply only to operations and production equipment located on a Federal or Indian oil and gas lease. They do not apply to operations and production equipment on State or private tracts, even where those tracts are committed to a federally approved unit or communitization agreement.

(c) For purposes of this subpart, the term "lease" also includes IMDA agreements.

§ 3179.3 Definitions and acronyms.

As used in this subpart, the term:

<u>Automatic ignition system</u> means an automatic ignitor and, where needed to ensure continuous combustion, a continuous pilot flame.

Capture means the physical containment of natural gas for transportation to market or productive use of natural gas and includes reinjection and royalty-free on-site uses pursuant to subpart 3178.

Compressor station means any permanent combination of one or more compressors that move natural gas at increased pressure through gathering or transmission pipelines, or into or out of storage. This includes, but is not limited to, gathering and boosting stations and transmission compressor stations. The combination of one or more compressors located at a well site, or located at an onshore natural gas processing plant, is not a compressor station.

Gas-to-oil ratio (GOR) means the ratio of gas to oil in the production stream expressed in standard cubic feet of gas per barrel of oil.

Gas well means a well for which the energy equivalent of the gas produced, including its entrained liquefiable hydrocarbons, exceeds the energy equivalent of the oil produced. Unless more specific British thermal unit (Btu) values are available, a well with a gas-to-oil ratio greater than 6,000 standard cubic feet (scf) of gas per barrel of oil is a gas well.

High-pressure flare means an open-air flare stack or flare pit designed for the combustion of natural gas leaving a pressurized production vessel (such as a separator or heater-treater) that is not a storage vessel.

Leak means a release of natural gas from a component that is not associated with normal operation of the component, when such release is:

(1) A hydrocarbon emission detected by use of an optical-gas-imaging instrument;

(2) At least 500 ppm of hydrocarbon detected using a portable analyzer or other instrument that can measure the quantity of the release; or

(3) A hydrocarbon emission detected via visible bubbles detected using soap solution. Releases due to normal operation of equipment intended to vent as part of normal operations, such as gas-driven pneumatic controllers and safety-release devices, are not

considered leaks unless the releases exceed the quantities and frequencies expected during normal operations. Releases due to operator errors or equipment malfunctions or from control equipment at levels that exceed applicable regulatory requirements, such as releases from a thief hatch left open, a leaking vapor recovery unit, or an improperly sized combustor, are considered leaks.

Liquids unloading means the removal of an accumulation of liquid hydrocarbons or water from the wellbore of a completed gas well.

Lost oil or lost gas means produced oil or gas that escapes containment, either intentionally or unintentionally, or is flared before being removed from the lease, unit, or communitized area, and cannot be recovered.

Low-pressure flare means any flare that does not meet the definition of high-pressure flare.

Pneumatic controller means an automated instrument used for maintaining a process condition, such as liquid level, pressure, delta-pressure, or temperature.

Storage vessel means a tank or other vessel that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water, and that is constructed primarily of non-earthen materials (such as wood, concrete, steel, fiberglass, or plastic) that provides structural support. A well-completion vessel that receives recovered liquids from a well after startup of production following flowback, for a period that exceeds 60 days, is considered a storage vessel under this subpart, unless the storage of the recovered liquids in the vessel is governed by § 3162.3-3 of this title. For purposes of this subpart, the following are not considered storage vessels:

(1) Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be located at a site for less than 180 consecutive days. This exclusion does not apply to well-completion vessels or to storage vessels that are located at a site for at least 180 consecutive days.

(2) Process vessels, such as surge-control vessels, bottoms receivers, or knockout vessels.

(3) Pressure vessels designed to operate in excess of 15 psig and without emissions to the atmosphere.

(4) Tanks holding hydraulic-fracturing fluid prior to implementation of an approved permanent disposal plan under Onshore Oil and Gas Order No.7.

Unreasonable and undue waste of gas means a frequent or ongoing loss of gas that could be avoided without causing an ultimately greater loss of equivalent total energy than would occur if the loss of gas were to continue unabated.

§ 3179.4 Determining when the loss of oil or gas is avoidable or unavoidable.

For purposes of this subpart:

(a) Lost oil is "unavoidably lost" if the operator has not been negligent; the operator has taken prudent and reasonable steps to avoid waste; and the operator has complied fully with applicable laws, lease terms, regulations, provisions of a previously approved operating plan, and other written orders of the BLM.

(b) Lost gas is "unavoidably lost" if the operator has not been negligent; the operator has taken prudent and reasonable steps to avoid waste; the operator has complied fully with applicable laws, lease terms, regulations, provisions of a previously approved operating plan, and other written orders of the BLM; and the gas is lost from the following operations or sources:

(1) Well drilling;

(2) Well completion and related operations, subject to the limitations in § 3179.102;

(3) Initial production tests, subject to the limitations in § 3179.103;

(4) Subsequent well tests, subject to the limitations in § 3179.104;

(5) Exploratory coalbed methane well dewatering;

(6) Emergency situations, subject to the limitations in § 3179.105;

(7) Normal operating losses from a natural-gas-activated pneumatic controller or pump;

(8) Normal operating losses from a storage vessel or other low-pressure production vessel that is in compliance with § 3179.203 and § 3174.5(b);

(9) Well venting in the course of downhole well maintenance and/or liquids unloading performed in compliance with § 3179.204;

(10) Leaks, when the operator has complied with the leak detection and repair requirements in §§ 3179.301 and 302;

(11) Facility and pipeline maintenance, such as when an operator must blow-down and depressurize equipment to perform maintenance or repairs;

(12) Pipeline capacity constraints, midstream processing failures, or other similar events that prevent oil-well gas from being transported through the connected pipeline, subject to the limitations in § 3179.8;

(13) Flaring of gas from which at least 50 percent of natural gas liquids have been removed and captured for market, if the operator has notified the BLM through a Sundry Notices and Report on Wells, Form 3160-5 (Sundry Notice) that the operator is conducting such capture and the inlet of the equipment used to remove the natural gas liquids will be an FMP;

(14) Flaring of gas from a well that is not connected to a gas pipeline, to the extent that such flaring was authorized by the BLM in the approval of the Application for Permit to Drill.

(c) Lost oil or gas that is not "unavoidably lost" as defined in paragraphs (a) and (b) of this section is "avoidably lost."

§ 3179.5 When lost production is subject to royalty.

(a) Royalty is due on all avoidably lost oil or gas.

(b) Royalty is not due on any unavoidably lost oil or gas.

§ 3179.6 Safety.

(a) The operator must flare, rather than vent, any gas that is not captured, except:

(1) When flaring the gas is technically infeasible, such as when volumes are too small to flare;

(2) Under emergency conditions, when the loss of gas is uncontrollable or venting is necessary for safety;

(3) When the gas is vented through normal operation of a natural-gas-activated pneumatic controller or pump;

(4) When the gas is vented from a storage vessel, provided that § 3179.203 does not require the capture or flaring of the gas;

(5) When the gas is vented during downhole well maintenance or liquids unloading activities performed in compliance with § 3179.204;

(6) When the gas is vented through a leak;

(7) When venting is necessary to allow non-routine facility and pipeline maintenance, such as when an operator must, upon occasion, blow-down and depressurize equipment to perform maintenance or repairs; or

(8) When a release of gas is necessary and flaring is prohibited by Federal, State, local, or Tribal law or regulation, or enforceable permit term.

(b) All flares or combustion devices must be equipped with an automatic ignition system. Upon discovery of a flare that is not lit, the BLM may subject the operator to an immediate assessment of $1,000 per violation.

(c) The flare must be placed a sufficient distance from the tank battery containment area and any other significant structures or objects so that the flare does not create a safety hazard. The prevailing wind direction must be taken into consideration when locating the flare.

§ 3179.7 Gas-well gas.

Gas well gas may not be flared or vented, except where it is unavoidably lost pursuant to § 3179.4(b).

§ 3179.8 Oil-well gas.

(a) Where oil-well gas must be flared due to pipeline capacity constraints, midstream processing failures, or other similar events that prevent produced gas from being transported through the connected pipeline, up to 1,050 Mcf per month, per lease, unit, or CA, of such flared gas will be considered "unavoidably lost" for the purposes of §§ 3179.4(b)(12) and 3179.5.

(b) Where substantial volumes of oil-well gas are flared, resulting in the unreasonable and undue waste of Federal or Indian gas, the BLM may order the operator to curtail or shut-in production as necessary to avoid the unreasonable and undue waste of Federal or Indian gas. The BLM will not issue a shut-in or curtailment order under this paragraph unless the operator has reported flaring in excess of 4,000 Mcf per month for 3 consecutive months and the BLM confirms that flaring is ongoing.

(c) If a BLM order under paragraph (b) of this section would adversely affect production of oil or gas from non-Federal and non-Indian mineral interests (e.g., production allocated to a mix of Federal, State, Indian, and private leases under a unit agreement), the BLM may issue such an order only to the extent that the BLM is authorized to regulate the rate of production under the governing unit or communitization agreement. In the absence of such authorization, the BLM will contact the State regulatory authority having jurisdiction over the oil and gas production from the non-Federal and non-Indian interests and request that that entity take appropriate action to limit the waste of gas.

§ 3179.9 Measuring and reporting volumes of gas vented and flared.

(a) The operator must measure or estimate all volumes of gas vented or flared from wells, facilities, and equipment on a lease, unit PA, or communitized area and report those volumes under applicable Office of Natural Resources Revenue (ONRR) reporting requirements (see the ONRR *Minerals Revenue Reporter Handbook* for details on reporting vented and flared volumes).

(b) The following requirements apply to all high-pressure flares flaring 1,050 Mcf per month or more:

(1) Flaring from all high-pressured flares must be measured by orifice meters. Starting on [DATE 6 MONTHS AFTER THE EFFECTIVE DATE OF THE FINAL RULE], an appropriate meter must be installed at all high-pressure flares.

(2) The orifice plate for the meter must be pulled and inspected at least once a year.

(3) The meter must be verified at least once a year.

(4) The quality of the flared gas must be determined at least once a year.

(A) A C_6+ analysis must be performed for any gas samples used in determining the quality of the flared gas.

(B) The gas sample must be taken from one of the following locations:

(i) At the flare meter;

(ii) At the gas FMP, if there is a gas FMP at the well site and the gas composition is the same as that of the flare-meter gas; or

(iii) At another location approved by the BLM.

(5) Measurement at the high-pressure flare must achieve an overall measurement uncertainty within ±5 percent.

(6) The operator must take radiant heat from the flare into consideration when determining the placement of the flare meter.

(7) Except as otherwise specified in this paragraph, measurement from high-pressure flares must meet the measurement requirements for a low-volume FMP under subpart 3175 of this part.

(c) For all other flares, the operator must:

(1) Measure flared volumes in accordance with paragraph (b) of this section;

(2) Estimate flared volumes utilizing sampling and compositional analysis conducted pursuant to, or consistent with, § 3179.203(c); or

(3) Estimate flared volumes using another method approved by the BLM.

(d) If a flare is combusting gas that is combined across multiple leases, unit PAs, or communitized areas, the operator may measure or estimate the gas at a single point at the flare but must use an allocation method approved by the BLM to allocate the quantities of flared gas to each lease, unit PA, or communitized area.

(e) Measurement points for flared volumes are not FMPs for the purposes of subpart 3175 of this part.

§ 3179.10 Determinations regarding royalty-free flaring.

(a) Approvals to flare royalty free, which are in effect as of the effective date of this rule, will continue in effect until [DATE 6 MONTHS AFTER THE EFFECTIVE DATE OF THE FINAL RULE]. From this date forward, the royalty-bearing status of all flaring will be determined according to the provisions of this subpart.

(b) The provisions of this subpart do not affect any determination made by the BLM before or after [EFFECTIVE DATE OF THE FINAL RULE], with respect to the royalty-bearing status of flaring that occurred prior to [EFFECTIVE DATE OF THE FINAL RULE].

§ 3179.11 Incorporation by Reference (IBR)

Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the BLM must publish a rule in the *Federal Register*, and the material must be reasonably available to the public. All approved incorporation by reference (IBR) material is available for inspection at the Bureau of Land Management (BLM) and at the National Archives and Records Administration (NARA). Contact Amanda Eagle with the BLM at: Division of Fluid Minerals, 301 Dinosaur Trail, Santa Fe, NM 87505, telephone 505-954-2016; email aeagle@blm.gov; https://www.blm.gov/programs/energy-and-minerals/oil-and-gas . The

approved material is also available for inspection at all BLM offices with jurisdiction over oil and gas activities. For information on inspecting this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following source:

(a) GPA Midstream Association (GPA), 6060 American Plaza, Suite 700, Tulsa, OK 74135; telephone 918-493-3872.

(1) GPA Midstream Standard 2286-14, Method for the Extended Analysis for Natural Gas and Similar Gaseous Mixtures by Temperature Program Gas Chromatography, Revised 2014 ("GPA 2286"), IBR approved for § 3179.203(c).

(2) GPA Midstream Standard 2186-14, Method for the Extended Analysis of Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Temperature Programmed Gas Chromatography, Revised 2014 ("GPA 2186"), IBR approved for § 3179.203(c).

(b) [Reserved]

§ 3179.12 Reasonable precautions to prevent waste

(a) Operators must use all reasonable precautions to prevent the waste of oil or gas developed from the lease.

(b) The Authorized Officer may specify reasonable measures to prevent waste as conditions of approval of an Application for Permit to Drill.

(c) After an Application for Permit to Drill is approved, the Authorized Officer may order an operator to implement, within a reasonable time, additional reasonable measures to prevent waste at ongoing exploration and production operations.

(d) Reasonable measures to prevent waste may reflect factors including but not limited to relevant advances in technology and changes in industry practice.

FLARING AND VENTING GAS DURING DRILLING AND PRODUCTION OPERATIONS.

§ 3179.101 Well drilling.

If, during drilling, gas is lost as a result of loss of well control, the BLM will make a determination as to whether the loss of well control was due to operator negligence. Such gas is avoidably lost if the BLM determines that the loss of well control was due to operator negligence. The BLM will notify the operator in writing when it makes a determination that gas was lost due to operator negligence.

§ 3179.102 Well completion and related operations.

(a) When a new completion is in the process of being hydraulically fractured, up to 10,000 Mcf of gas that reaches the surface during well completion, post-completion, and fluid recovery operations may be flared royalty-free.

(b) When an existing completion is refractured and the well is connected to a gas pipeline, up to 5,000 Mcf of gas that reaches the surface during well completion, post-completion, and fluid recovery operations may be flared royalty-free.

§ 3179.103 Initial production testing.

(a) Gas flared during a well's initial production test is royalty-free under §§ 3179.4(b)(3) and 3179.5(b) of this subpart until one of the following occurs:

(1) The operator determines that it has obtained adequate reservoir information for the well;

(2) 30 days have passed since the beginning of the production test, except as provided in paragraphs (b) and (d) of this section;

(3) The operator has flared 20,000 Mcf of gas, including volumes flared under § 3179.102(a), except as provided in paragraph (c) of this section; or

(4) Oil production begins.

(b) The BLM may extend the period specified in paragraph (a)(2) of this section, not to exceed an additional 60 days, based on testing delays caused by well or equipment problems or if there is a need for further testing to develop adequate reservoir information.

(c) The BLM may increase the limit specified in paragraph (a)(3) of this section by up to an additional 30,000 Mcf of gas for exploratory oil wells in remote locations where additional testing is needed in advance of development of pipeline infrastructure.

(d) During the dewatering and initial evaluation of an exploratory coalbed methane well, the 30-day period specified in paragraph (a)(2) of this section is extended to 90 days. The BLM may approve up to two extensions of this evaluation period, of up to 90 days each.

(e) The operator must submit its request for a longer test period or increased limit under paragraphs (b), (c), or (d) of this section using a Sundry Notice.

§ 3179.104 Subsequent well tests.

During well tests subsequent to the initial production test, the operator may flare gas royalty free under § 3179.4(b)(4) for no more than 24 hours, unless the BLM approves or requires a longer period. The operator must submit any request for a longer period under this section using a Sundry Notice.

§ 3179.105 Emergencies.

(a) An operator may flare or, if flaring is not feasible due to the emergency situation, vent gas royalty-free under § 3179.4(b)(6) of this subpart for no longer than 48 hours during an emergency situation. For purposes of this subpart, an "emergency situation" is a temporary, infrequent, and unavoidable situation in which the loss of gas is necessary to avoid a danger to human health, safety, or the environment.

(b) The following examples do not constitute emergency situations for the purposes of royalty assessment:

(1) Recurring failures within a single piece of equipment;

(2) The operator's failure to install appropriate equipment of a sufficient capacity to accommodate the production conditions;

(3) Failure to limit production when the production rate exceeds the capacity of the related equipment, pipeline, or gas plant, or exceeds sales contract volumes of oil or gas;

(4) Scheduled maintenance; or

(5) A situation caused by operator negligence.

(c) Within 45 days of the start of the emergency, the operator must estimate and report to the BLM on a Sundry Notice the volumes flared or vented beyond the timeframe specified in paragraph (a) of this section.

GAS FLARED OR VENTED FROM EQUIPMENT AND DURING WELL MAINTENANCE OPERATIONS

§ 3179.201 Pneumatic controllers and pneumatic diaphragm pumps.

(a) Where a lease, unit PA, or CA is producing at least 120 Mcf of gas or 20 barrels of oil per month, the operator may not use a natural-gas-activated pneumatic controller or pneumatic diaphragm pump with a bleed rate that exceeds 6 scf per hour.

(b) Operators must comply with paragraph (a) of this section beginning on [DATE 1 YEAR AFTER THE EFFECTIVE DATE OF THE FINAL RULE].

§ 3179.203 Oil storage vessels.

(a) The thief hatch on a storage vessel may be open only to the extent necessary to conduct production and measurement operations. Upon discovery of a thief hatch that has been left open and unattended, the BLM will impose an immediate assessment of $1,000 on the operator.

(b) Beginning on [DATE 1 YEAR AFTER THE EFFECTIVE DATE OF THE FINAL RULE], all oil storage vessels must be equipped with a vapor-recovery system or other mechanism that avoids the intentional loss of natural gas from the vessel, unless the operator determines that equipping the storage vessel with a vapor-recovery system or other appropriate mechanism is technically or economically infeasible.

(c) Where an operator has not equipped a storage vessel with a vapor recovery system or other appropriate mechanism under paragraph (b) of this section, the operator, using a Sundry Notice, must submit an annual compositional analysis of production flowing to the storage vessel.

(1) The compositional analysis must be based on pressurized samples taken downstream of the last pressurized vessel and upstream of the last pressure reduction (e.g., a valve) prior to the oil flowing into the storage vessel.

(2) The compositional analysis must show the expected emissions from the storage vessel at 60 degrees Fahrenheit and 14.73 psia.

(3) The following sampling requirements apply:

(i) Samples must be collected from a sample probe located downstream of the last pressurized vessel at least 2 feet below the gas-liquid interface of the vessel on the oil discharge, and upstream of the last pressure reduction prior to oil flowing into the storage vessel.

(ii) Samples must be collected in constant pressure (CP) cylinders.

(iii) Samples must be collected at a rate between 100 ml/minute and 60 ml/minute.

(iv) Samples must be collected within 30 minutes of the well cycle completion for intermittent flow.

(v) Samples must indicate the pressure and temperature at the sample probe at the time of sampling. The equipment used to measure pressure and temperature must be certified to NIST within ±0.5 psi and ±1 degree Fahrenheit.

(4) The following analysis requirements apply:

(i) Flash-gas compositional analysis must be consistent with GPA 2286 (incorporated by reference, see § 3179.11).

(ii) Dead oil composition analysis must be consistent with GPA 2186 (incorporated by reference, see § 3179.11).

(d) Where practical and safe, gas released from an oil storage vessel must be flared rather than vented. An operator may commingle vapors from multiple storage vessels to a single flare without prior approval from the BLM.

§ 3179.204 Downhole well maintenance and liquids unloading.

(a) Gas vented or flared during downhole well maintenance and well purging is royalty free for a period not to exceed 24 hours per event, provided that the requirements of paragraphs (b) through (d) of this section are met. Gas vented or flared from a plunger lift system and/or an automated well control system is royalty free, provided the requirements of paragraphs (b) and (c) of this section are met.

(b) The operator must minimize the loss of gas associated with downhole well maintenance and liquids unloading, consistent with safe operations.

(c) For wells equipped with a plunger lift system and/or an automated well control system, minimizing gas loss under paragraph (b) of this section includes optimizing the operation of the system to minimize gas losses to the extent possible, consistent with removing liquids that would inhibit proper function of the well.

(d) For any liquids unloading by manual well purging, the operator must ensure that the person conducting the well purging remains present on-site throughout the event to end the event as soon as practical, thereby minimizing to the maximum extent practicable any venting to the atmosphere.

(e) For purposes of this section, “well purging” means blowing accumulated liquids out of a wellbore by reservoir gas pressure, whether manually or by an automatic control system that relies on real-time pressure or flow, timers, or other well data, where the gas is vented to the atmosphere, and it does not apply to wells equipped with a plunger lift system.

§ 3179.205 Size of production equipment.

Production and processing equipment must be of sufficient size to accommodate the volumes of production expected to occur at the lease site.

LEAK DETECTION AND REPAIR (LDAR)

§ 3179.301 Leak detection and repair program.

(a) Pursuant to paragraph (b) of this section, the operator must maintain a leak detection and repair (LDAR) program designed to prevent the unreasonable and undue waste of Federal or Indian gas. The LDAR program must provide for regular inspections of all oil and gas production, processing, treatment, storage, and measurement equipment on the lease site.

(b) The operator of a Federal or Indian lease must submit a Sundry Notice to the BLM describing the operator's LDAR program for the lease site, including the frequency of inspections and any instruments to be used for leak detection. The BLM will review the operator's LDAR program and notify the operator if the BLM deems the program to be inadequate. The notification will explain the basis for the BLM's determination, identify the plan's inadequacies, describe any additional measures that could address the inadequacies, and provide a reasonable time frame in which the operator must submit a revised LDAR program to the BLM for review. For leases in effect on [EFFECTIVE DATE OF THE FINAL RULE], the operator must submit the Sundry Notice describing the operator's LDAR program no later than [6 MONTHS AFTER THE EFFECTIVE DATE OF THE FINAL RULE]. For leases issued after [EFFECTIVE DATE OF THE FINAL RULE], the operator must submit the Sundry Notice describing the operator's LDAR program within six months of the lease's issuance.

(c) LDAR inspections must occur on an annual basis, if not more frequently. For leases in effect on [EFFECTIVE DATE OF THE FINAL RULE] and on which operations have commenced, the operator must conduct an initial inspection within 1 year of

[EFFECTIVE DATE OF THE FINAL RULE]. For other leases, the operator must conduct an initial inspection within one year of the commencement of operations.

§ 3179.302 Repairing leaks.

(a) The operator must repair any leak as soon as practicable, and in no event later than 30 calendar days after discovery, unless good cause exists to delay the repair for a longer period. Good cause for delay of repair exists if the repair (including replacement) is technically infeasible (including unavailability of parts that have been ordered), would require a pipeline blowdown, a compressor station shutdown, or a well shut-in, or would be unsafe to conduct during operation of the unit.

(b) If there is good cause for delaying the repair beyond 30 calendar days, the operator must notify the BLM of the cause by Sundry Notice and must complete the repair at the earliest opportunity, such as during the next compressor station shutdown, well shut-in, or pipeline blowdown. In no case will the BLM approve a delay of more than 2 years.

(c) Not later than 30 calendar days after completion of a repair, the operator must verify the effectiveness of the repair by conducting a follow-up inspection using an appropriate instrument or a soap bubble test under Section 8.3.3 of EPA Method 21 – Determination of Volatile Organic Compound Leaks (40 CFR Appendix A-7 to part 60).

(d) If the repair is not effective, the operator must complete additional repairs within 15 calendar days and conduct follow-up inspections and repairs until the leak is repaired.

§ 3179.303 Leak detection inspection recordkeeping and reporting.

(a) The operator must maintain the following records for the period required under § 3162.4-1(d) of this title and make them available to the BLM upon request:

(1) For each inspection required under § 3179.301 of this subpart, documentation of:

(i) The date of the inspection; and

(ii) The site where the inspection was conducted;

(2) The monitoring method(s) used to determine the presence of leaks;

(3) A list of leak components on which leaks were found;

(4) The date each leak was repaired; and

(5) The date and result of the follow-up inspection(s) required under § 3179.302(c) of this subpart.

(b) By March 31 of each calendar year, the operator must provide to the BLM an annual summary report on the previous year's inspection activities that includes:

(1) The number of sites inspected;

(2) The total number of leaks identified, categorized by the type of component;

(3) The total number of leaks repaired;

(4) The total number of leaks that were not repaired as of December 31 of the previous calendar year due to good cause and an estimated date of repair for each leak.

(c) Audio/visual/olfactory (AVO) checks are not required to be documented unless they find a leak requiring repair.

STATE OR TRIBAL VARIANCES

§ 3179.401 State or Tribal requests for variances from the requirements of this subpart.

(a)(1) At the request of a State (for Federal land) or a Tribe (for Indian lands), the BLM State Director may grant a variance, from any provision(s) of this subpart, that would apply to all Federal leases, units, or communitized areas within a State or to all Tribal leases, IMDAs, units, or communitized areas within the Tribe's lands, or to specific fields or basins within the State or Tribe's lands, if the BLM finds that the variance would meet the criteria in paragraph (b) of this section.

(2) A State or Tribal variance request must:

(i) Identify the provision(s) of this subpart from which the State or Tribe is requesting the variance;

(ii) Identify the State, local, or Tribal regulation(s) or rule(s) that would be applied in place of the provision(s) of this subpart;

(iii) Explain why the variance is needed; and

(iv) Demonstrate how the State, local, or Tribal regulation(s) or rule(s) would perform at least equally well to reduce waste of oil and gas, reduce environmental impacts from venting and/or flaring of gas, assure appropriate royalty payments to the United States or to the beneficial Indian owners, and ensure the safe and responsible production of oil and gas, compared to the particular regulatory provision(s) from which the State or Tribe is requesting the variance.

(b) The BLM State Director, after considering all relevant factors, may approve the request for a variance, or approve it with one or more conditions, only if the BLM determines that the State, local or Tribal regulation(s) or rule(s) would perform at least equally well in terms of reducing waste of oil and gas, reducing environmental impacts from venting and/or flaring of gas, assuring appropriate royalty payments to the United States or to the beneficial Indian owners, and ensuring the safe and responsible production of oil and gas, compared to the particular regulatory provision(s) from which the State or Tribe is requesting the variance, and would be consistent with the terms of the affected Federal or Indian leases and applicable statutes. The BLM's decision to grant or deny the variance will be in writing and is discretionary. The decision on a variance request is not subject to administrative appeals under 43 CFR part 4.

(c) A variance from any particular regulatory requirement of this subpart does not constitute a variance from provisions of any other regulations, laws, or orders.

(d) The BLM reserves the right to rescind a variance or modify any condition of approval, in which case the BLM will provide notice to the affected State or Tribe.

(e) If the BLM approves a variance under this section, the State or Tribe that requested the variance must notify the BLM in writing and in a timely manner of any substantive

amendments, revisions, or other changes to the State, local or Tribal regulation(s) or rule(s) to be applied under the variance.

(f) If the BLM approves a variance under this section, the State, local or Tribal regulation(s) or rule(s) to be applied under the variance, including any changes to the regulation(s) or rule(s) described in paragraph (e) of this section, may be enforced by the BLM as if the regulation(s) or rule(s) were provided for in this subpart. The State, locality, or Tribes' own authority to enforce its regulation(s) or rule(s) to be applied under the variance is not to be affected by the BLM's approval of a variance.

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