

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Parts 3160 and 3170

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RIN 1004-AE79

Waste Prevention, Production Subject to Royalties, and Resource Conservation

AGENCY: Bureau of Land Management, Interior.

ACTION: Final rule.

SUMMARY: On November 30, 2022, the Department of the Interior, through the Bureau of Land Management (BLM), published in the **Federal Register** a proposed rule entitled “Waste Prevention, Production Subject to Royalties, and Resource Conservation.” This final rule aims to reduce the waste of natural gas from venting, flaring, and leaks during oil and gas production activities on Federal and Indian leases. The final rule also ensures that, when Federal or Indian gas is wasted, the public and Indian mineral owners are compensated for that wasted gas through royalty payments. This final rule will be codified in the Code of Federal Regulations and will replace the BLM’s current requirements governing venting and flaring, which are more than four decades old.

DATES: The final rule is effective on June 10, 2024. The incorporation by reference of certain material listed in this rule is approved by the Director of the Federal Register as of June 10, 2024.

FOR FURTHER INFORMATION CONTACT: Yvette M. Fields, Division Chief, Fluid Minerals Division, telephone: 240-712-8358, email: yfields@blm.gov, or by mail to Bureau of Land Management, 1849 C St. NW, Room 5633, Washington, DC 20240, for information regarding the substance of this final rule.

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. 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. For a summary of the final rule, please see the final rule summary document in docket BLM-2022-0003 on www.regulations.gov.

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I. List of Acronyms

AO = Authorized Officer

APD = Application for Permit to Drill

API = American Petroleum Institute

AVO = Audio, visual, and olfactory

BLM = Bureau of Land Management

CA = Communitization Agreement

CAA = Clean Air Act

CFR = Code of Federal Regulations

EA = Environmental Assessment

EPA = Environment Protection Agency

FLPMA = Federal Land Policy and

Management Act

FMP = Facility measurement point

FOGRMA = Federal Oil and Gas Royalty

Management Act

GAO = Government Accountability Office

GOR = Gas-to-oil ratio

IMDA = Indian Mineral Development Act of

1982

IRA = Inflation Reduction Act of 2022

LDAR = Leak detection and repair

Mcf = thousand cubic feet at standard

conditions

MLA = Mineral Leasing Act of 1920, as

amended

NTL = Notice to Lessees

NTL-4A = Notice to Lessees and Operators

of Onshore Federal and Indian Oil and Gas

Leases: Royalty or Compensation for Oil

and Gas Lost

OGI = Optical gas imaging

OGOR = Oil and Gas Operations Report

ONRR = Office of Natural Resources Revenue

RIA = Regulatory Impact Analysis

Unit PA = Unit participating area

WMP = Waste Minimization Plan

II. Executive Summary

On November 30, 2022, the Department of the Interior (DOI or “Department”), through the Bureau of Land Management (BLM), published in the **Federal Register** a proposed rule entitled, Waste Prevention, Production Subject to Royalties, and Resource Conservation. 87 FR 73588 (Nov. 30, 2022). The BLM has considered the public comments received on the proposed rule to develop this final rule.

This final rule 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. Venting is the intentional release of gas into the atmosphere during operations, such as liquids unloading. Gas that is combusted in a controlled manner is flared gas. Leaks are the unintentional release of gas into the atmosphere from production equipment. Although some losses of gas may be unavoidable, Federal law requires that operators take reasonable steps to prevent the waste of gas through venting, flaring and leaks. The final 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 final rule also ensures that, when Federal or Indian gas is avoidably wasted, the public and Indian mineral owners are compensated for the wasted gas through royalty payments.

The BLM administers 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 (IRA) Public Law 117-169, 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 below, the IRA 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 that is lost during emergency situations, used for the benefit of lease operations, or “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.”⁴ The BLM also regulates oil and gas operations on trust and restricted fee lands pursuant to the Indian Mineral Leasing Act, 25 U.S.C. 396a *et seq.*; the Act of March 3, 1909, 25 U.S.C. 396; and the Indian Mineral Development Act (IMDA), 25 U.S.C. 2101 *et seq.*

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.⁵ The Secretary’s management and regulation of Indian mineral interests carries with

¹ 30 U.S.C. 225.² 30 U.S.C. 187.³ 30 U.S.C. 1756.⁴ 43 U.S.C. 1732(b).⁵ Department of the Interior, Departmental Manual, 235 DM 1.1K.

it the duty to act as a trustee for the benefit of the Indian mineral owners.

This final rule replaces the BLM's current requirements governing natural gas 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).⁶ NTL-4A was issued more than 40 years ago, and its policies and requirements are 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 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.⁷ That rule was challenged in Federal court, and the BLM never fully implemented the rule due to the resulting litigation.⁸ In September 2018, the BLM issued a final rule effectively rescinding the 2016 Rule, and that rule was itself challenged in court.⁹ Eventually, the United States District Court for the Northern District of California vacated the 2018 rescission of the 2016 Rule on various grounds, including what the Court determined was the rule's failure to meet the BLM's statutory mandate to prevent waste.¹⁰ The U.S. District Court for the District of Wyoming then 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]." ¹¹ The result of these rulemakings and court decisions is that NTL-4A continues to govern venting and flaring from BLM-managed oil and gas leases.

Based on the lessons of prior rulemakings and court decisions, the BLM concludes that this final rule will reduce the waste of natural gas through improved regulatory requirements pertaining to venting, flaring, and leaks, as well as improve upon NTL-4A in a variety of significant ways while eschewing elements of the 2016 Rule criticized by the District Court.

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

- The final rule better implements the statutory requirement that the "lessee will . . . use all reasonable precautions to prevent the waste of oil or gas developed in the land," ¹² consistent with the BLM's authority to issue rules implementing that statutory requirement.¹³ The final rule requires operators to take reasonable measures to prevent waste as conditions of approval of an Application for Permit to Drill (APD). Then, after an APD is approved, the BLM may order an operator to implement, within a reasonable amount of 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, advances in technology and changes in industry practice.

- The final rule requires operators to submit either a Waste Minimization Plan (WMP) or a self-certification statement as one of five required attachments to their oil well applications for permit to drill.¹⁴ The WMP will provide the BLM with the following information: anticipated oil and associated-gas production and anticipated 3-year decline curves; certification that the operator has an executed, valid gas sales contract; and any other steps the operator commits to take to reduce or eliminate gas losses.

In lieu of a waste-minimization plan, the operator may choose to provide a self-certification statement. That statement would commit the operator to capturing 100 percent of the associated gas produced from an oil well and would obligate the operator to pay royalties on all lost gas except for gas lost through emergencies. With the addition of this new requirement to file a WMP or the described self-certification statement for oil-well APDs, operators must now provide five attachments with their completed Form 3160-3, including existing requirements for a drilling plan, a surface use plan of operations, and evidence of bond coverage. All five attachments must be

administratively and technically complete before the BLM approves the APD. If the application is not complete, the BLM will defer action on the APD, and the operator will have an opportunity to address BLM-identified deficiencies. In the case of a WMP or self-certification statement, the operator must address the identified deficiencies within 2 years of receiving notification from the BLM of the deficiencies or the BLM may disapprove the application.

- The final rule recognizes the IRA's provision that royalties are not owed on gas that is "unavoidably lost". The final rule clarifies which lost oil or gas will qualify as "unavoidably lost": lost oil or gas will qualify as "unavoidably lost" if, as stated in the final rule at § 3179.41, the operator has taken 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 loss is within the applicable time or volume limits. The final rule provides for several circumstances in which lost oil or gas will be considered "unavoidably lost," including during well completions, production testing, and emergencies. The final rule also establishes a volumetric threshold based on oil production 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 volumetric threshold is based on the total volume of gas flared in a month divided by the total net volume of oil produced in a month for each lease, unit PA, or CA. If an operator were to exceed the avoidable loss threshold, then royalties are due on the amount flared beyond the threshold.

- The final rule includes specific affirmative obligations that operators must take to avoid wasting oil or gas. In particular:

The final rule requires operators on Federal or Indian leases to maintain a leak detection and repair (LDAR) program designed to prevent the 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 final rule are explained in detail in sections III and IV that follow.

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

⁶ 44 FR 76600 (Dec. 27, 1979).

⁷ 81 FR 83008 (Nov. 18, 2016).

⁸ See *Wyoming v. U.S. Dep't of the Interior*, 493 F. Supp. 3d 1046, 1052–1057 (D. Wyo. 2020) (hereinafter, *Wyoming court*).

⁹ 83 FR 49184 (Sept. 28, 2018).

¹⁰ *California v. Bernhardt*, 472 F. Supp. 3d 573 (N.D. Cal. 2020).

¹¹ See *Wyoming court* at 1086–87.

¹² 30 U.S.C. 225.

¹³ See 30 U.S.C. 187.

¹⁴ See § 3162.3–1(d).

- Costs to industry of around \$19.3 million per year (annualized at 7 percent);
- Benefits to industry in recovered gas of \$1.8 million per year (annualized at 7 percent);
- Increases in royalty revenues from recovered and flared gas of \$51 million per year; and
- Ancillary effects society of \$17.9 million per year from reduced greenhouse gas emissions (using a 3 percent discount rate).

III. Background

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

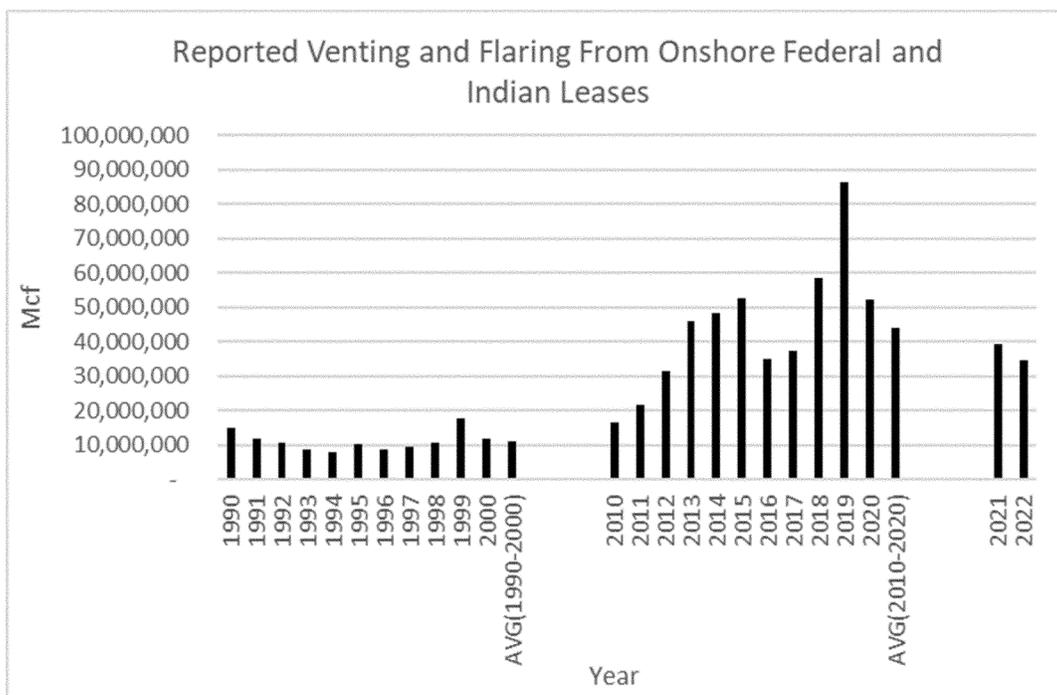
The BLM is responsible for managing more than 245 million surface acres of land and 700 million acres of subsurface mineral estate. The BLM maintains a program for leasing these lands for oil and gas development and regulates oil and gas production operations on Federal leases. While the BLM does not 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 significant contributor to the Nation’s oil and gas production. Domestic production from 88,887 Federal onshore oil and gas wells¹⁵ accounts for approximately 8 percent of the Nation’s natural gas supply and 9 percent of its oil.¹⁶ In Fiscal Year (FY) 2021, operators produced 473 million barrels of oil and 3.65 trillion cubic feet 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 shared 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.¹⁷

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. During oil and gas operations it is sometimes necessary to vent gas (the intentional release of natural gas into the atmosphere) or to flare gas (the combustion of unsold gas). 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. 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.¹⁸



Assuming a \$3 per thousand cubic feet (Mcf) price of gas,¹⁹ 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

¹⁵ 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>.

¹⁶ 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>.

¹⁷ Production and revenue number derived from data maintained by the Office of Natural Resources Revenue at <https://revenue.data.doi.gov/>.

¹⁸ The BLM analysis of ONRR Oil and Gas Operations Report part B (OGOR-B) data provided for 1990–2000 and 2010–2020. All venting and flaring data is nationwide and does not separate Federal and Indian data. For certain data points, separating Federal and Indian data would require

a manual review of thousands of venting and flaring sundry notices since the BLM does not have a database that tracks this distinction.

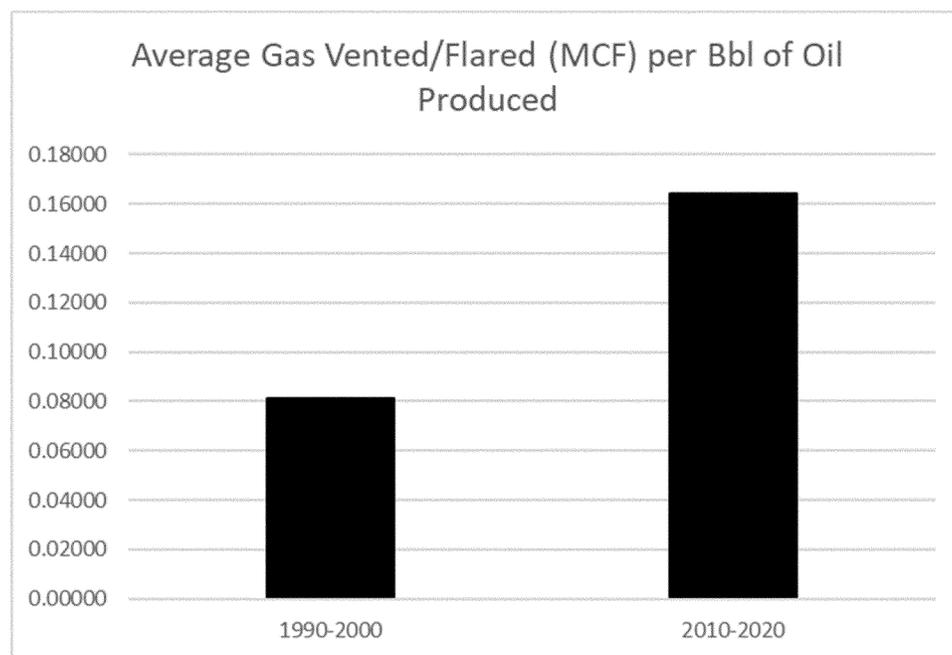
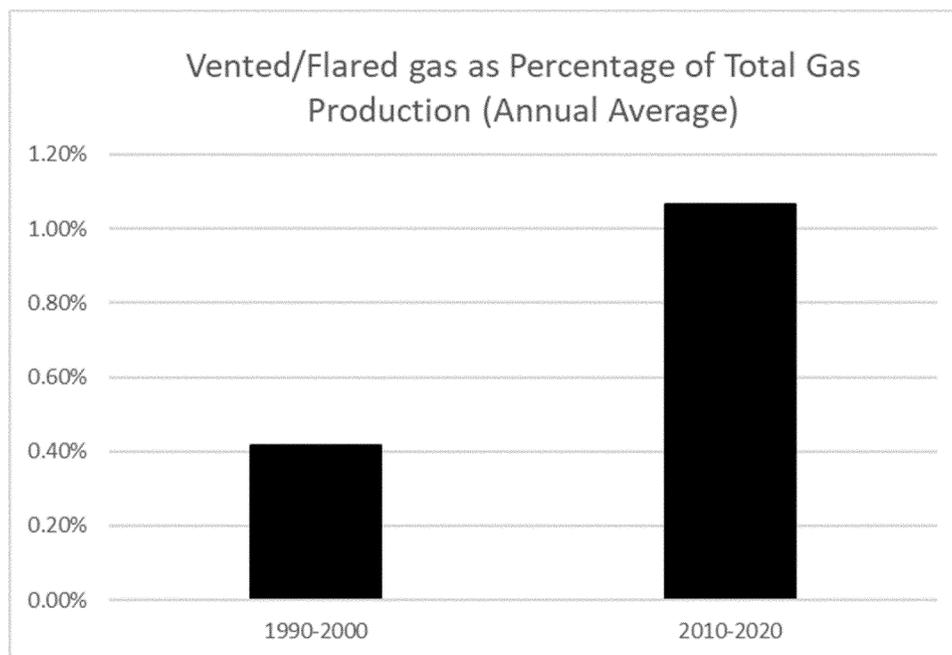
¹⁹ The average annual Henry Hub spot price for natural gas from 2010 through 2020 was \$3.19. U.S. Energy Information Administration (EIA), Henry Hub Natural Gas Spot Price, available at <https://www.eia.gov/dnav/ng/hist/rngwhhda.htm>.

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 to 2000; from 2010 to 2020, however, vented and flared gas averaged 1.07 percent of total gas production.

This metric reflects 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 (in Mcf) per barrel (bbl) of oil production was 0.0815 Mcf/bbl from 1990 to 2000, while it rose to 0.1642 Mcf/bbl from 2010 to 2020²⁰—a 102 percent increase

in the waste of gas per barrel of oil produced. Together, these trends demonstrate that the requirements established by NTL-4A are ineffective at limiting the amount of gas that is vented or flared from Federal and Indian lands.

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²⁰In the proposed rule, the BLM erroneously stated that the average amount of vented and flared gas in thousands of cubic feet (Mcf) per barrel (bbl) of oil production was 0.8148 Mcf/bbl from 1990 to 2000, which rose to 1.6418 Mcf/bbl from 2010 to

2020. The correct average amounts are 0.08148 Mcf/bbl of vented and flared gas from 1990 to 2000, which rose to 0.16418 Mcf/bbl from 2010 to 2020. The accompanying graph, which appeared in the proposed and final rules, is accurate and remains

unchanged. Accordingly, the BLM is revising the cited average amounts to reflect the information provided in the accompanying graph.

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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.²¹ The EPA estimates that, nationwide, 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 2019.²² 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 at the time to State or EPA (LDAR) requirements. Notably, leakage appears to be exacerbated in areas where there is insufficient infrastructure for natural gas gathering, processing, and transportation²³—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. Losses from pneumatic equipment, leaks, and storage tanks would be valued at \$53.7 million dollars (at \$3/Mcf) in 2019.

Apart from undue waste, excessive venting, flaring, and leaks by Federal oil and gas lessees also impose three additional harms. First, vented or leaked gas wastes valuable publicly or Indian owned resources that could be put to productive use, and deprives American taxpayers, Tribes, and States of substantial royalty revenues. Second, the wasted gas may harm local communities and surrounding areas through visual and noise impacts from flaring. And third, 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 to 36 times those of carbon dioxide (CO₂), if measured over a 100-year period, or 84 times those of CO₂ if measured over a 20-year period.²⁴

²¹ Alvarez, et al., “Assessment of methane emissions from the U.S. oil and gas supply chain,” *Science* 361 (2018); see also 81 FR 83008, 83015–17 (Nov. 18, 2016).

²² EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019 at 3–73 (2019).

²³ Zhang, et al., “Quantifying methane emissions from the largest oil-producing basin in the United States from space,” *Science Advances* 6 (2020).

²⁴ 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

Thus, regulatory measures that encourage operators to conserve gas and avoid waste could, as a purely incidental matter, have ancillary effects on public health and the environment.²⁵

Both the MLA and IRA distinguish an avoidable loss from an unavoidable loss. 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 an exploratory well in a new field, where gas pipelines have not yet been built due to a lack of information regarding expected gas production.²⁶ 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 some venting or flaring may be unavoidable (and thus not waste) under some circumstances, operators have an affirmative obligation under Federal law to use reasonable precautions to prevent the waste of oil or gas developed from a lease. As other technologies and practices on oil and gas operations have evolved (as evidenced by changes in State and Federal regulations, and in industry best practices), so too measures that are considered reasonable to prevent waste should progress 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 natural gas. Accordingly, natural-gas-capture

https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf.

²⁵ The BLM notes that the BLM did not rely on such ancillary effects in developing this final rule. Rather, with the exception of the safety provisions in § 3179.50 (which also promotes worker health), the requirements of this final rule are independently justified as reasonable measures to prevent waste that would be expected, regardless of ancillary effects on public health or the environment.

²⁶ 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 wells.

infrastructure—including pipelines—has been built out in those fields, and the BLM expects operators to 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 in NTL-4A as to whether a specific operational circumstance is an avoidable or unavoidable loss, an operator might conclude that the BLM would not make any avoidable loss determination if the operator were to flare, and thus waste associated gas to continue oil production—maximizing the operators’ short-term profits by providing immediate revenue from oil production, even accounting for the loss of gas revenue. But the latter course of action may often best serve the public’s interest by maximizing overall energy production (considering both production streams rather than producing oil and flaring gas) and royalty revenues.

Likewise, maximizing the recovery of gas by regularly inspecting for leaks may not always maximize the operator’s profits. It is in these circumstances—where an operator’s interest in maximizing short-term 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, as required by statute.

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, the IRA, FOGRMA, the FLPMA, the Indian Mineral Leasing Act of 1938, the IMDA, and the Act of March 3, 1909.²⁷ 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.²⁸

²⁷ 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.

²⁸ 30 U.S.C. 189 (MLA); 30 U.S.C. 359 (MLAAL); 30 U.S.C. 1751(a) (FOGRMA); 43 U.S.C. 1740

7. Authority Regarding the Waste of Natural Gas

The MLA rests on the fundamental principle that the public should benefit from mineral production on public lands.²⁹ 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 all oil and gas lessees be subject to the condition that lessees “use all reasonable precautions to prevent waste of oil or gas developed in the land”³⁰ The MLA requires oil and gas lessees to exercise “reasonable diligence, skill, and care” in their operations and to observe “such rules . . . for the prevention of undue waste as may be prescribed by [the] Secretary.”³¹ Lessees are not only responsible for taking measures to prevent waste, but also for making royalty payments on wasted oil and gas when waste occurs, in accordance with the MLA’s assessment of royalties on all “production removed or sold from the lease.”³² Furthermore, FOGRMA expressly makes 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.”³³

In addition, on August 16, 2022, President Biden signed the IRA into law. 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. This section further provides three exceptions to the general obligation to pay royalties on produced gas, namely on: “(1) gas 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 the area of

the lease, unit, or communitized area for the benefit of the lease, unit, or communitized area; or, (3) gas that is unavoidably lost.”³⁴

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.³⁵ 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 under a cooperative or unit plan.³⁶ 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.³⁷ 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.³⁸ 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”³⁹ 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 defined in FOGRMA as any lands or submerged lands, including the surface of a severed mineral estate, on which exploration for, or extraction or removal of, oil or gas is authorized pursuant to a lease.⁴⁰ 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.⁴¹

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.”⁴²

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,” including lease terms for purposes other than safeguarding the public resource of oil and gas.⁴³ The 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.⁴⁴ The MLA additionally requires oil and gas leases to contain “a provision that such rules for the safety and welfare of the miners

⁴¹ 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* 493 F. Supp. 3d at 1081–85.

⁴² 30 U.S.C. 226(g).

⁴³ See *Natural Resources Defense Council, Inc. v. Berkland*, 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 the 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 for environmental purposes. The one exception is § 3179.50, 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.

⁴⁴ 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).

³⁴ 30 U.S.C. 1727.

³⁵ 30 U.S.C. 226(m).

³⁶ *Id.*

³⁷ *Id.*

³⁸ 43 CFR 3186.1, ¶ 21.

³⁹ See “BLM Manual 3160–9–Communitization,” Appendix 1, ¶ 12.

⁴⁰ 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).

(FLPMA); 25 U.S.C. 396d (IMLA); 25 U.S.C. 2107 (IMDA); 25 U.S.C. 396.

²⁹ 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”).

³⁰ 30 U.S.C. 225.

³¹ 30 U.S.C. 187.

³² 30 U.S.C. 226(b)(1)(A).

³³ 30 U.S.C. 1756.

. . . as may be prescribed by the Secretary shall be observed.”⁴⁵ Accordingly, the Department’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 the health and safety of workers.⁴⁶

FLPMA authorizes the BLM to “regulate” the “use, occupancy, and development” of the public lands via “published rules.”⁴⁷ 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.”⁴⁸ In addition, section 102 of FLPMA declares a policy that the BLM should both protect the environment, as stated in paragraph 102(a)(8), and manage the land in such a manner as to provide for “domestic sources of minerals” and other resources, as stated in paragraph 102(a)(12).⁴⁹ With respect to protecting the environment, paragraph 102(a)(8) states the policy of the United States that lands be managed to “protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values”⁵⁰

FLPMA also requires the BLM to manage public lands under principles of multiple use and sustained yield.⁵¹ 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 generations for renewable and nonrenewable resources”⁵² “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”⁵³ 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.”⁵⁴

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.⁵⁵ Congress has directed the Secretary to “aggressively carry out [her] trust responsibility in the administration of Indian oil and gas.”⁵⁶ In furtherance of her trust obligations, the Secretary has delegated regulatory authority for administering operations on Indian oil and gas leases to the BLM,⁵⁷ 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.⁵⁸ 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.⁵⁹

C. Regulatory History

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.

8. 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.⁶⁰ 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.⁶¹

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.”⁶² 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.”⁶³ The regulations stated that “unavoidably lost” gas was not subject to royalty, though the regulations did not define “unavoidably lost.”⁶⁴

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).⁶⁵

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

⁴⁵ 30 U.S.C. 187.

⁴⁶ See 43 CFR 3162.5–1, 3162.5–3. The BLM promulgated those regulations in 1982. 47 FR 47765 (1982).

⁴⁷ 43 U.S.C. 1732(b).

⁴⁸ *Id.*

⁴⁹ 43 U.S.C. 1701; *Theodore Roosevelt Conservation P’ship v. Salazar*, 605 F. Supp. 2d 263, 281–82 (D.D.C. 2009).

⁵⁰ 43 U.S.C. 1701(a)(8); but see 43 U.S.C. 1701(b).

⁵¹ *Id.* at 1702(c), 1732(a).

⁵² 43 U.S.C. 1702(c).

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ See *Woods Petroleum Corp. v. Department of Interior*, 47 F.3d 1032, 1038 (10th Cir. 1995) (en banc).

⁵⁶ 30 U.S.C. 1701(a)(4).

⁵⁷ 235 DM 1.1.K.

⁵⁸ 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).

⁵⁹ See 25 CFR 211.3.

⁶⁰ 30 CFR 221.5(h) (1938).

⁶¹ *Id.* 221.27.

⁶² 30 CFR 221.6(n) (1942).

⁶³ *Id.* 221.35.

⁶⁴ *Id.* 221.44.

⁶⁵ See 44 FR 76600 (Dec. 27, 1979).

that is unavoidably lost or used in lease operations.⁶⁶

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”).⁶⁷ NTL-4A was issued by 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”⁶⁸ 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”⁶⁹

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 5.⁷⁰ Among other things, the CDM provided

guidance regarding applications to flare oil-well gas. Specifically, the CDM provided guidance for responding to a lessee’s contention “that reserves of casinghead gas are inadequate to support the installation of facilities for gas collection and sale”⁷¹ 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.”⁷² 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.”⁷³ Thus, the economic standard for obtaining approval to flare oil-well gas under NTL-4A was on its face 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 to work jointly for 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 provide an operator with an opportunity to demonstrate, after the fact, that capturing the gas was not economically justified. *See Ladd Petroleum Corp.*, 107 IBLA 5 (1989).

Even so, the number of applications for royalty-free flaring received by the BLM increased dramatically between 2005 and 2016: in 2005, the BLM received just 75 applications to vent or flare gas, while in 2015 it received 2,901

applications.⁷⁴ The following table shows the number of applications to vent or flare gas received by the BLM through 2021, but it does not reflect when the venting or flaring occurred.⁷⁵

Year	Number of applications received to vent or flare gas
2015	2,900
2016	2,637
2017	2,162
2018	2,095
2019	2,901
2020	2,386
2021	922

Both the 2016 Waste Prevention Rule and the 2018 Revision Rule would have dispensed with case-by-case flaring approvals, but because those rules were both struck down, post-2016 flaring application data does not provide a useful comparison between the 2016 Waste Prevention Rule and NTL-4A. In addition, there is no useful comparison because the 2016 Waste Prevention Rule was never in effect and the 2018 revision rule was in effect for less than 2 years. Most of the applications to flare royalty-free were submitted to the field offices in New Mexico, Montana, and the Dakotas, 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 (“2016 Waste Prevention Rule”).⁷⁶ The 2016 Waste Prevention Rule replaced NTL-4A and became effective on January 17, 2017. The BLM’s development of the 2016 Waste Prevention Rule was prompted by a

⁶⁶ *Marathon Oil Co. v. Andrus*, 452 F. Supp. 548, 553 (D. Wyo. 1978).

⁶⁷ 44 FR 76600 (Dec. 27, 1979).

⁶⁸ *Id.* at 76601 (Dec. 27, 1979).

⁶⁹ *Id.*

⁷⁰ Geological Survey Conservation Division Manual, Part 644 Producing Operations Chapter 5 Waste Prevention/Beneficial Use, 6-23-80 (Release No. 68).

⁷¹ *Id.* at 644.53F.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Following publication of the proposed rule, the BLM re-queried the Automated Fluid Minerals Support System (AFMSS) to obtain the number of venting and flaring sundry notices in the database. The number of sundry notices has been updated in the final rule to reflect the updated query.

⁷⁵ The BLM applies the venting and flaring rule that was in effect at the time the flaring occurred, not when the application was received, which may be later in time than the flaring, even years later. *See, e.g., Ladd Petroleum Corp.*, 107 IBLA 5 (1989). The application, therefore, does not provide for straightforward comparison of the effects of regulatory changes, particularly given recent court orders setting aside the BLM’s rules in this sphere.

⁷⁶ 81 FR 83008 (Nov. 18, 2016).

combination of factors, including the substantial increase in flaring over the previous decade, the growing number of applications to vent or 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).⁷⁷

The 2016 Waste Prevention Rule applied to all onshore Federal and Indian oil and gas leases, units, and communitized areas. The key components of the 2016 Waste Prevention Rule were:

- A requirement that APDs be accompanied by a WMP 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;
- 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.

In the 2016 Waste Prevention Rule, 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 (CAA). The BLM further recognized that those EPA requirements would have the effect of reducing the waste of gas from leases subject to those requirements. In order to avoid unnecessary duplication

or conflict between the BLM and EPA regulations, the 2016 Waste Prevention Rule allowed for operators to comply with the analogous EPA regulations as an alternative means of compliance with BLM’s requirements.⁷⁸

The capture percentage, pneumatic equipment, storage tanks, and LDAR requirements of the 2016 Rule 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.”⁷⁹ The BLM’s RIA for the 2016 Waste Prevention rule estimated that the rule would impose 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).⁸⁰

Certain States and operators filed petitions for judicial review of the Waste Prevention Rule in the U.S. District Court for the District of Wyoming.⁸¹ 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,⁸² 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

⁷⁸ See 81 FR 83008, 83018–19, 83085–89 (Nov. 18, 2016).

⁷⁹ See 81 FR 83082–88 (Nov. 18, 2016).

⁸⁰ BLM (2016). Regulatory Impact Analysis for: Revisions to 43 CFR 3100 (Onshore Oil and Gas Leasing) and 43 CFR 3600 (Onshore Oil and Gas Operations) Additions of 43 CFR 3178 (Royalty-Free Use of Lease Production) and 43 CFR 3179 (Waste Prevention and Resource Conservation). p. 4–5. Available at <https://www.regulations.gov/document/BLM-2016-0001-9127>.

⁸¹ *Wyoming v. DOI*, Case No. 2:16-cv-00285-SWS (D. Wyo.).

⁸² See *California v. BLM*, No. 3:17-CV-03804-EDL (N.D. Cal.); *Sierra Club v. Zinke*, No. 3:17-CV-03885-EDL (N.D. Cal.). On June 15, 2017, the BLM announced that it would postpone the January 17, 2018, compliance dates to phase-in certain parts of the 2016 Waste Prevention Rule. *Wyoming* at 1053. Several Intervenor-Respondents from the *Wyoming* litigation, as well as the Attorney Generals from the States of California and New Mexico challenged the BLM’s 2017 postponement decision in the aforementioned cases in the Northern District of California. *Id.* at 1053–54. This California district court held that the BLM’s 2017 postponement notice was invalid, thereby resulting in the reinstatement of the phase-in dates for certain parts of the 2016 Waste Prevention Rule. *Id.* at 1054.

revision of the 2016 Waste Prevention Rule.

4. 2018 Revision of Waste Prevention Rule

On September 28, 2018, the BLM issued a final rule substantially revising the 2016 Waste Prevention Rule (“2018 Revision Rule”).⁸³ In the 2018 Revision Rule, the BLM rescinded the WMP, gas capture percentage, pneumatic equipment, storage tank, and LDAR requirements of the 2016 Waste Prevention 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 2018 Revision Rule, the BLM concluded that the 2016 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 non-statutory “prudent operator” standard that some believed to have been implicitly incorporated into the MLA when it was adopted in 1920. The BLM also stated that the 2016 Waste Prevention Rule created a risk of premature shut-ins of marginal wells, reasoning that the compliance costs associated with the 2016 Waste Prevention 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 2018 Revision Rule that existing State flaring regulations provided sufficient assurance against excessive flaring.

The RIA for the 2018 Revision Rule found that the economic benefits of the 2018 Revision Rule (*i.e.*, reduced compliance costs) would significantly outweigh its economic costs (*i.e.*, forgone gas production and additional methane emissions).⁸⁴ This result was based in large part on the use of a narrowly defined “domestic” social cost of methane metric. That metric purported to capture domestic methane costs. However, because it focused on impacts within U.S. borders, it underestimated the full benefits of GHG mitigation accruing to U.S. citizens and residents and thus drastically reduced the monetized climate benefits of the 2016 Waste Prevention Rule relative to

⁸³ 83 FR 49184 (Sept. 28, 2018).

⁸⁴ BLM (2018). Regulatory Impact Analysis for the Final Rule to Rescind or Revise Certain Requirements of the 2016 Waste Prevention Rule. p. 2–4. Available at <https://www.regulations.gov/document/BLM-2018-0001-223607>.

⁷⁷ *Id.* at 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).

what had been estimated in the RIA for the 2016 Waste Prevention Rule.⁸⁵

5. Judicial Review of the Revision Rule

In September 2018, a coalition of organizations and the States of California and New Mexico filed lawsuits challenging the 2018 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 found that:

- The BLM's interpretation of its statutory authority in the 2018 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;
- The record did not support the BLM's claims that the 2016 Waste Prevention Rule posed excessive regulatory burdens and that its 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 2018 Revision Rule be vacated in its entirety.⁸⁶

6. Judicial Review of the 2016 Waste Prevention Rule

Following the decision in *California v. Bernhardt*, the Wyoming court lifted the stay on the litigation over the 2016 Waste Prevention Rule. In the briefing, the Department of the Interior 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 2016 Waste Prevention Rule. *Wyoming v. U.S. Dep't of the Interior*, 493 F. Supp. 3d 1046 (D. Wyo. 2020). Specifically, the court found that the 2016 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 CAA. 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 2016 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

On August 16, 2022, President Biden signed the IRA into law.⁸⁷ The IRA contains a suite of provisions addressing onshore and offshore oil and gas development under Federal leases. For example, section 50265, *inter alia*, requires 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."⁸⁸ Consistent with the MLA's assessment of royalties on all gas "removed or sold from the lease"⁸⁹ and FOGRMA's requirement that lessees pay royalties on lost or wasted gas,⁹⁰ 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 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.⁹¹

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, beneficial use, 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 United States' 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 below, this final rule addresses these questions in a manner that is consistent with the IRA's focus on (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. The Final Rule

The BLM has authority under the MLA to promulgate such rules and regulations as may be necessary "for the prevention of undue waste"⁹² and to ensure that lessees "use all reasonable precautions to prevent waste of oil or gas."⁹³ 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, before the IRA's enactment, courts disagreed about 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 have been seen as regulatory overreach by another court. Consistent with the approach outlined in the proposed rule, and in light of all the statutory

⁸⁵ See *California v. Bernhardt*, 472 F. Supp. 3d 573, 611 (N.D. Cal. 2020).

⁸⁶ However, the court stayed vacatur until October 13, 2020.

⁸⁷ Public Law 117–169.

⁸⁸ 30 U.S.C. 1727.

⁸⁹ 30 U.S.C. 226(b).

⁹⁰ 30 U.S.C. 1756.

⁹¹ 30 U.S.C. 1727.

⁹² 30 U.S.C. 187.

⁹³ 30 U.S.C. 225.

authorities including the IRA, 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 below and in Section IV, the Section-by-Section Discussion, this final rule makes substantial improvements in addressing the waste of Federal and Indian gas, while also addressing the *Wyoming* court's criticisms of the 2016 Waste Prevention Rule. First, the requirements unambiguously constitute reasonable waste prevention measures that should be expected of an operator. The requirements impose fewer overall costs than those of the 2016 Waste Prevention Rule and 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, to address the *Wyoming* court's ruling that the BLM's authority regarding unit and CA operations on non-Federal and non-Indian surface is limited, certain requirements in this final rule are narrower in scope than similar requirements in the 2016 Waste Prevention Rule. Specifically, the final rule's requirements pertaining to safety, storage tanks, and LDAR apply only to operations on Federal or Indian surface estates.

Third, the requirements are consistent with the “prudent operator” standard as that term has been applied in the oil and gas jurisprudence.

Fourth, the final rule has been 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 its decisions on 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 final rule serve straightforward waste prevention objectives by promoting gas conservation. To avoid situations where oil-well development outpaces the capacity of the available gas capture infrastructure, the BLM is requiring operators to submit either a WMP, including certification of a valid, executed contract to sell the associated

gas, or a self-certification of 100 percent capture of associated gas with oil-well APDs. 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 establishing appropriate time or volume limits on royalty-free venting or flaring. The BLM is addressing the problem of intermittent flaring due to pipeline capacity constraints by establishing a volume limit based on oil production for royalty-free flaring caused by inadequate capture infrastructure. Requiring royalty payments on venting and flaring that exceeds the established limits will both discourage waste and ensure that Federal and Indian royalty revenues are not reduced by an operator's wasteful practices. The BLM estimates that the royalty-free flaring limits of the final rule would generate \$51 million per year in additional royalties. See section 7.6 of the RIA for more information.

This final rule also contains LDAR provisions intended to reduce losses of natural gas. Unlike the 2016 Waste Prevention Rule—which extended these requirements to State and private surface estates in certain situations—the requirements in this final rule apply only to operations on the Federal or Indian surface estate, where the BLM has express authority and responsibility to regulate for safety, the prevention of waste, and the payment of Federal or Indian royalties. These requirements would not apply to operations that occur on State or private surface tracts committed to a Federal unit or CA. The BLM estimates that the requirements of this final rule regarding LDAR would result in the conservation of up to 0.5 Bcf of gas each year.

The BLM acknowledges that the contents of this final rule differ in some regards from the 2018 Revision Rule's narrower interpretation of the BLM's statutory authority.⁹⁴ Consistent with the BLM's understanding of its authority for decades prior to 2018, the BLM has reconsidered the relevant conclusions of the 2018 Revision Rule 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).⁹⁵ Consistent with this text, the BLM's longstanding policy governing venting and flaring 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 2018 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 focus of the final rule on *overall* ultimate resource recovery, not lessee profits vis-à-vis wasted gas, is consistent with the non-statutory “prudent operator” standard. While the prudent operator standard rests on an expectation of “mutually profitable development of the lease's mineral resources,”⁹⁶ 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.⁹⁷ And in the MLA, FOGMA, and the IRA, Congress enshrined the United States' interest, as a mineral lessor, in avoiding waste and maximizing royalty revenues.⁹⁸ 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

⁹⁵ 30 U.S.C. 187, 225. Indeed, such a requirement would imperil nearly all operational regulations.

⁹⁶ *Wyoming* at 1072.

⁹⁷ 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.”).

⁹⁸ 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.”).

⁹⁴ See 83 FR 49184, 49185–86 (Sept. 28, 2018).

longer 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 forecloses any Secretarial action that might marginally affect lessee profits.⁹⁹

In contrast to NTL-4A, this final rule does 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 approach. In the first instance, Federal law does not require the American taxpayers to forgo royalties on wasted gas due to an individual operator’s 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

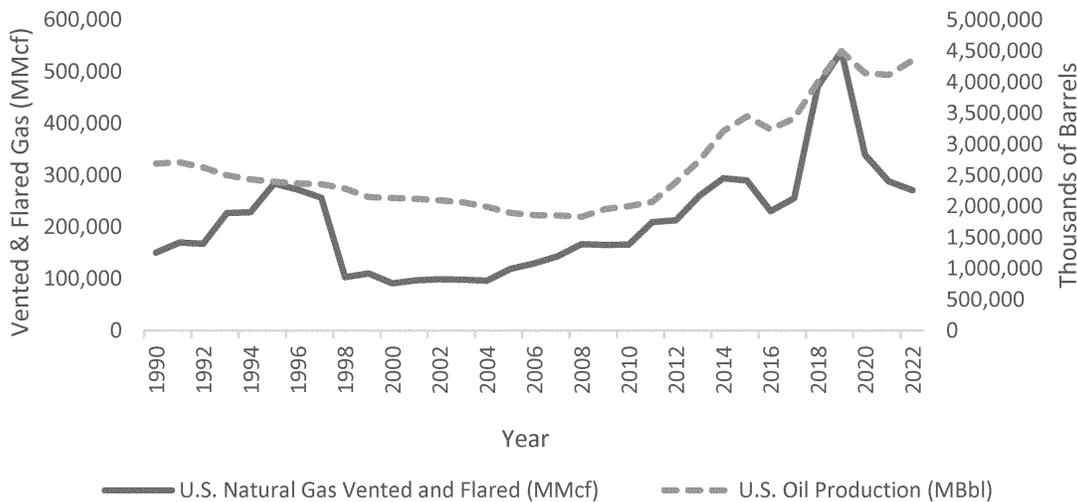
unconventional tight oil and gas resources over the past two decades” that has “brought online hydrocarbon resources that vary in their characteristics and proportions of natural gas, natural gas liquids and crude oil.”¹⁰⁰ Consistent with these developments, and as discussed in Section III.A, the BLM 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. Between 2010 and 2020, it quadrupled to an average of 44.2 Bcf per year, with a 157 percent increase in the amount of vented and flared gas as a percentage of gas production, and a 102 percent increase in the amount of vented and flared gas per barrel of oil produced. The upward trend in venting and flaring suggests it is likely to continue.

Based on EIA data from 1990 through 2022, U.S. vented and flared volumes continue an upward trend that tends to mirror U.S. oil production,¹⁰¹ which

raises a concern that new exploration and development is outpacing infrastructure construction. Oil production in 2019 reached a record high level of 4.5 billion barrels of oil despite a relatively low average annual spot price of \$57 per barrel. Operators may have increased oil production in 2019 to maintain revenues given the lower pricing. An increase in oil production to maintain revenues may have led to the very high flare volume in that year. While the vented and flared volume has decreased since 2019—likely due to unrepresentative production during the COVID 19 pandemic that resulted in reduced drilling and completions during this time—the data demonstrates that, generally, venting and flaring has continued to increase since 1990, particularly as compared to the production of oil. This rule will work toward reducing the waste from Federal and Indian mineral estates.¹⁰²

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U.S. Vented & Flared Gas and U.S. Oil Production

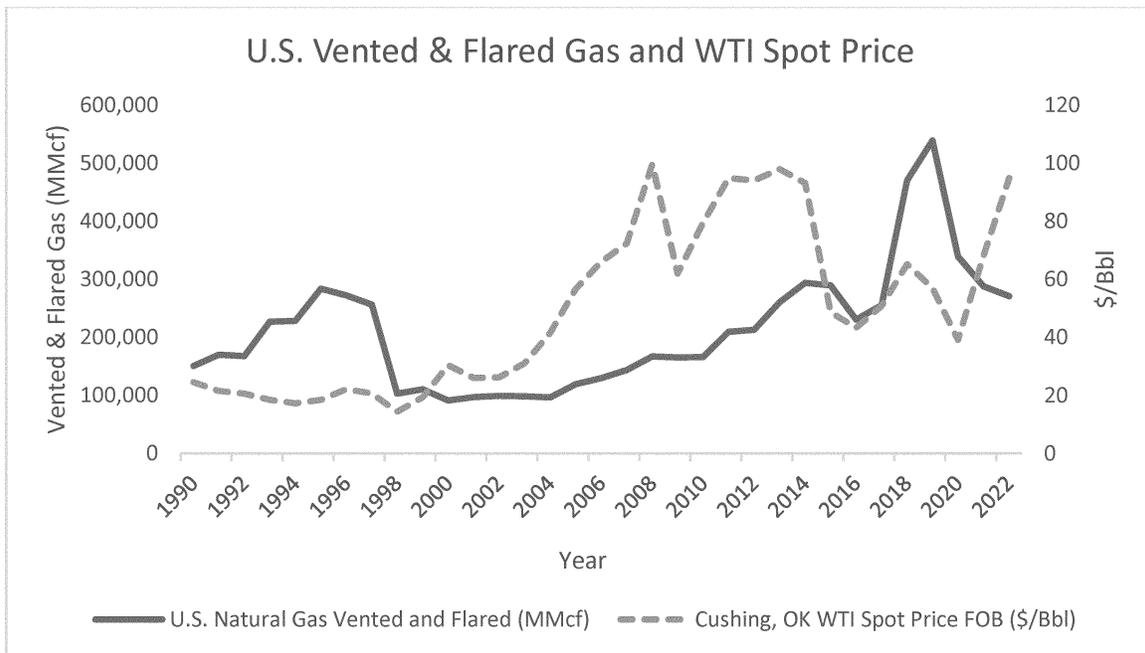
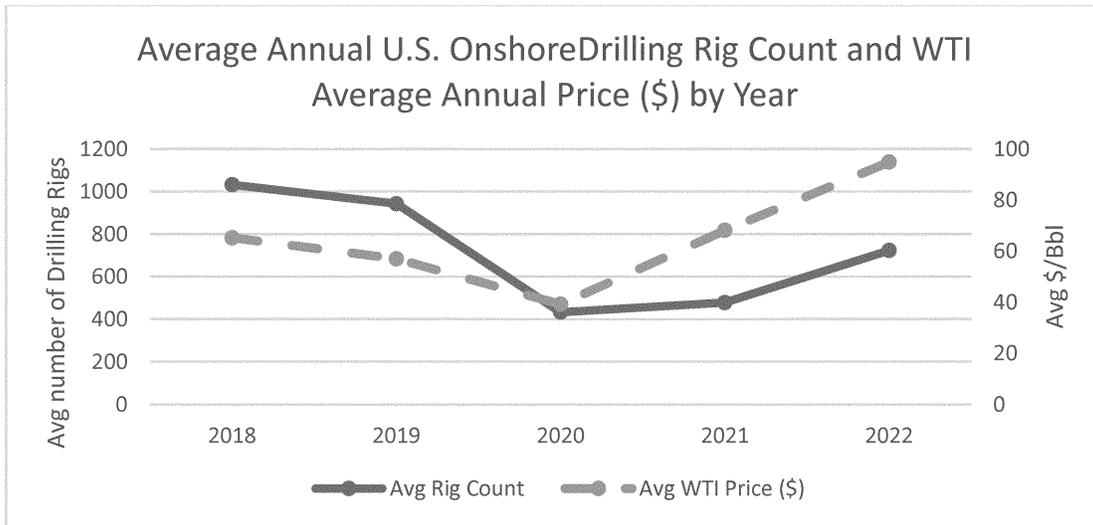


⁹⁹ Cf. *California v. Bernhardt*, 472 F. Supp. 3d 573, 596 (N.D. Cal. 2020) (“The statutory language demonstrates on its face that any consideration of waste management limited to the *economics* of individual well-operators would ignore express statutory mandates concerning BLM’s public welfare obligations.”).

¹⁰⁰ 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). <https://www.energy.gov/fecm/articles/natural-gas-flaring-and-venting-regulations-report>.

¹⁰¹ https://www.eia.gov/dnav/ng/ng_prod_sum_a_EPGO_VGV_mmcf_m.htm.

¹⁰² For the following tables, see <https://rigcount.bakerhughes.com/na-rig-count/>, <https://www.eia.gov/dnav/pet/hist/rwtcA.htm>.



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The related increase in the number of flaring applications—from 75 in 2005, to 922 in 2021 has created a significant administrative burden for the BLM.¹⁰³ It has also created an estimated information collection burden of approximately 23,228 total annual burden hours potentially incurred by operators and has led to significant uncertainty for operators as hundreds of applications wait to be processed.

Finally, the BLM notes that the bulk of the recent royalty-free flaring applications has concerned flaring from wells that are connected to pipeline infrastructure. The purpose of the economic inquiry under NTL-4A, by

contrast, was to determine whether the volumes of associated gas production would make the installation of gas-capture infrastructure economically viable. CDM 644.5.3E and F. Where the gas-capture infrastructure has already been built out, there is no need to consider the cost and value of its installation against the volume of associated gas production. The BLM understands that, as posited by a commenter, there may be instances where a gas pipeline connected to an oil well is not able to accept that well's gas for a time. In those circumstances, an operator may temporarily curtail production or shut in the well instead of wasting the gas. Oil and gas production should resume when the pipeline can accept the gas.

One of the primary concerns underlying the BLM's promulgation of the 2018 Revision Rule 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.¹⁰⁴ The court that vacated the 2016 Waste Prevention Rule faulted the BLM for failing to adequately assess the impact of that rule on marginal wells.¹⁰⁵ The court that vacated the 2018 Revision Rule, however, rejected that concern as unfounded.¹⁰⁶ The BLM does not wish to impose requirements that

¹⁰⁴ 83 FR 49184, 49187 (Sept 28, 2018).

¹⁰⁵ *Wyoming* 493 F. Supp. 3d at 1075-78.

¹⁰⁶ *California v. Bernhardt*, 472 F. Supp. 3d 573, 606 (N.D. Cal. 2020).

¹⁰³ See table in the Executive Summary.

inadvertently cause recoverable oil or gas resources to be stranded due to premature lease abandonment, but, as the MLA makes clear, any such considerations go to whether particular conservation measures are reasonable under the MLA, not whether marginal operations must take reasonable measures in the first instance. 30 U.S.C. 225. 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 rule. Under the final rule, an operator of a marginal gas well may vent gas during liquids unloading operations royalty-free for 24 hours. If the gas well is not put into production within 24 hours and maintenance operations must continue, the volume of gas vented is likely very small and the flowing pressure very low—otherwise, the operator would be returning the well to production. Thus, the marginal time that it takes an operator to continue liquids unloading beyond the initial 24 hours will not result in significant vented gas and corresponding royalty obligation. Furthermore, the BLM has provisions for royalty rate reductions in 43 CFR 3103.4–1 to encourage the greatest ultimate recovery of oil or gas. Therefore, in the unlikely event that compliance with the final rule would lead to an operator’s premature abandonment of a well, an operator may seek royalty relief to continue operations.

The BLM has developed this final rule to avoid excessive and unreasonable compliance burdens on marginal wells when balanced against the need to reduce waste. In the 2018 Revision Rule, 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 final rule, the requirements for LDAR only apply to Federal or Indian minerals produced from facilities located on a Federal or Indian surface estate, thereby limiting the number of operators to which the LDAR program applies. In addition, the BLM has not included in this final rule the provisions in the proposed rule regarding pneumatic controllers and diaphragm pumps.

The BLM acknowledges that, in the 2018 Revision Rule, it asserted that additional restrictions on flaring were unnecessary because the States with the most significant BLM-managed oil and gas production impose 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.”¹⁰⁷ This assertion directly contradicted the BLM’s prior findings during the promulgation of the 2016 Waste Prevention Rule, and a district court held that the BLM’s decision to rely on State flaring regulations was unjustified based on the record evidence.¹⁰⁸

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: Alaska, California, Colorado, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah, and Wyoming. Summaries of these regulations were collected 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.¹⁰⁹ And, importantly, many of the State flaring regulations reserve substantial discretion to the State agencies to authorize additional flaring.¹¹⁰ That discretion creates significant uncertainty about the extent to which the BLM can rely on those regulations to protect the interests of the United States and Indian mineral owners in minimizing waste and maximizing royalty revenues.

In its comments on the proposed rule, the Wyoming Oil and Gas Conservation Commission asserts that the BLM incorrectly characterizes Wyoming’s regulations regarding flaring and gas capture plan requirements. Specifically, Wyoming challenges language in the proposed rule that “Wyoming’s gas capture plan requirements are not triggered until after flaring becomes a problem at the well.”¹¹¹ Specifically, the State objects to the proposed rule’s

¹⁰⁷ 83 FR 49184, 49202 (Sept. 28, 2018).

¹⁰⁸ *California v. Bernhardt*, 472 F. Supp. 3d 573, 601–04 (N.D. Cal. 2020).

¹⁰⁹ 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.

¹¹⁰ These States are Wyoming, Utah, Montana, Texas, and Oklahoma.

¹¹¹ 87 FR 73588, 73598 (Nov. 30, 2022).

description of Wyoming regulations as triggering a plan only after a flaring “issue,” explaining that, in the Commission’s view, “[t]he operator must submit a gas capture plan, among other information . . . before flaring or it would need to limit flaring to 60 mcf/d or be in violation of the [applicable] rule.” But whether or not these contingencies are properly characterized as an “issue,” the BLM’s point—that it was deemed a plan to be useful when the APD is submitted—stands. State gas capture plan requirements, by themselves, do not provide the BLM, in its capacity as regulator and steward of the Federal mineral estate, with an opportunity to render its own determinations regarding potential waste when processing an APD.

North Dakota in its comments on the proposed rule takes issue with the way the BLM characterized the allowance for variances in North Dakota’s gas capture regulations. Specifically, the State asserted: “In its proposed rule publication, the BLM disingenuously criticizes North Dakota’s gas capture regulations for allowing variances, and then inconsistently proposes a rule that considers associated natural gas as unavoidably lost under the same circumstances as 9 out of 10 [North Dakota Industrial Commission] variance allowances. . . .” The BLM acknowledges North Dakota’s disagreement with the BLM’s characterization of North Dakota’s gas capture regulations. Nonetheless, as discussed in the proposed rule, the BLM found significant variance in the scope and stringency of State regulations. Flaring statistics show that State regulations, by themselves, have not been adequate to reduce waste from Federal oil wells, underscoring the need for uniformity with respect to Federal mineral interests. As discussed further in the section-by-section analysis below, according to EIA data from 2017 through 2022, North Dakota accounted for approximately 33 percent of the volume of gas flared nationwide but only 11 percent of the volume of oil produced nationwide. Wyoming accounted for approximately 11 percent of the average total flared gas onshore nationwide and 2 percent of the oil produced nationwide. State efforts to reduce venting and flaring, though important, do not displace the Secretary’s duty to prevent undue waste from Federal and Indian wells nationwide.¹¹² Consequently, the BLM’s

¹¹² https://www.eia.gov/dnav/ng/ng_prod_sum_a_EPGO_VGV_mmcf_a.htm, https://www.eia.gov/dnav/pet/pet_crd_crdpdn_adc_mbbbl_a.htm.

application of a uniform national standard ensures improved royalty collection and avoidance of waste. In addition, the Secretary, and not the States, is responsible for collecting Federal and Indian royalties. The Secretary can best do this by not requiring shifting Federal standards in response to any changes to State requirements.

The BLM also recognizes that the EPA has recently finalized regulations governing certain aspects of oil and gas production operations at 40 CFR part 60, subparts OOOOb and OOOOc, and that these regulations can have the incidental effect of reducing the waste of gas during production activities. Specifically, EPA's regulations¹¹³ require: (1) capture or flaring of gas that reaches the surface during well completion operations with hydraulic fracturing;¹¹⁴ (2) storage tanks with potential methane emissions of 20 tons or more per year to control those emissions (including through combustion);¹¹⁵ (3) process controllers to be zero emissions;¹¹⁶ (4) pumps to be zero emissions;¹¹⁷ and (5) operators of well sites to develop and implement a fugitive emissions monitoring plan.¹¹⁸

Although operator compliance with those EPA requirements can reduce the waste of natural gas from Federal and Indian leases, they do not supplant the need for BLM standards that are adopted pursuant to the BLM's independent statutory authority and duties. The BLM further notes that, under the CAA, States with one or more existing sources must develop and submit State plans to the EPA for approval. Under this statutory structure, State plans would implement the emissions guidelines for existing

sources. Also, EPA's requirements are not a substitute for BLM standards because EPA's requirements are focused on controlling GHG (in the form of 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 or assure payment of royalties to the United States or to Indian mineral owners. For example, an operator can comply with EPA's requirements for storage tanks by routing the emissions to combustion (*i.e.*, flaring) and therefore eliminating venting from the tanks altogether. That process results in the same loss of gas as venting the gas from the tank. Therefore, while that process reduces air pollution by prioritizing flaring over venting, it does not reduce waste or assure payment of royalties because in either scenario, the same amount of gas is lost.

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.¹¹⁹ The BLM cannot rely on a patchwork of State and EPA regulations to ensure that operators of Federal oil and gas leases consistently meet the waste prevention mandates of the MLA, that the American public receive 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, a change shown to be necessary by the vast increase in flaring in recent decades, which demonstrates the ineffectiveness of NTL-4A in controlling the waste of gas through venting and flaring. In addition, establishing a uniform

standard in lieu of case-by-case avoidable and unavoidable loss determinations reduces the administrative burden on the BLM's limited resources; avoids inconsistent application across the States; and simplifies Federal and Indian enforcement.

The RIA for this final rule calculates that this rule would cost operators \$19.3 million per year, using a 7 percent discount rate, for the next 10 years (\$19.2 million per year using a 3 percent discount rate), while generating benefits to operators of approximately \$1.8 million per year, using a 7 percent discount rate, in the form of 0.45 Bcf of additional captured gas.¹²⁰ The RIA estimates that this final rule would generate \$51 million per year in additional royalties. The BLM acknowledges that the estimated costs of this rule to operators will outweigh the benefits in terms of the estimated monetized market value of the gas conserved. However, these benefits do not take into account the increase in royalties that will be received by the American taxpayer or Indian mineral owners, or include any increase in production that could possibly be received from changes in behavior due to the avoidable loss threshold, which would also lead to an increase in benefits. 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.

Separately, the reduced methane emissions associated with the final rule provide a monetized benefit to society (in the form of avoided climate damages) of \$17.9 million per year over the same time frame, leading to an overall net monetized benefit from the rule of \$360,000 to \$441,000 a year, as well as additional unquantified benefits. (See Appendix A 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 Appendix A of the RIA. To be clear, although the BLM is reporting its estimates of the social benefits of reduced methane emissions here 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 rule for the public's awareness. The BLM considered but did not rely on climate-related costs and

¹¹³ 40 CFR part 60 subpart OOOOb regulates greenhouse gases (in the form of limitations on methane) and VOCs from various new, modified, and reconstructed emission sources across the Crude Oil and Natural Gas source category for which construction, reconstruction, or modification commenced after December 6, 2022. 40 CFR part 60 subpart OOOOc includes presumptive standards for greenhouse gases (in the form of limitations on methane, a designated pollutant), for certain existing emission sources prior to December 6, 2022, across the Crude Oil and Natural Gas source category.

¹¹⁴ See 40 CFR part 60 subpart OOOOb at § 60.5375b.

¹¹⁵ See 40 CFR part 60 subpart OOOOb at § 60.5395b and 40 CFR part 60 subpart OOOOc at § 60.5396c.

¹¹⁶ See 40 CFR part 60 subpart OOOOb at § 60.5370b and 40 CFR part 60 subpart OOOOc at § 60.5362c(c), § 60.5370c and Table 1.

¹¹⁷ See 40 CFR part 60 subpart OOOOb at § 60.5370b and 40 CFR part 60 subpart OOOOc at § 60.5362c(c), § 60.5370c and Table 1.

¹¹⁸ See 40 CFR part 60 subpart OOOOb at § 60.5370b, and § 60.5397b and 40 CFR part 60 subpart OOOOc at § 60.5362c(c), § 60.5370c, Table 1, and § 60.5397c.

¹¹⁹ The BLM acknowledges that the *Wyoming* court questioned what it described as the BLM's authority to "hijack" the cooperative federalism framework of the CAA "under the guise of waste management." *Wyoming* 493 F. Supp. 3d at 1066. However, as noted elsewhere, this final 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 *Id.* 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 inapplicable to this final rule, which does not seek to improve air quality and does not rely on EPA's CAA regulations.

¹²⁰ 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.

benefits when reaching the policy decisions in this rule. The requirements of this final rule reflect reasonable measures to avoid waste, regardless of any impacts with respect to climate change.

IV. Discussion of Public Comments on the Proposed Rule

This section of the preamble summarizes the major categories of the public comments that the BLM received in response to the proposed rule, as well as the BLM's responses. Detailed discussion regarding the substantive comments on the proposed rule that the BLM received, the BLM's responses to those comments, and changes that the BLM made in the final rule are provided in Section V (Section-by-Section Discussion) of this preamble.

The public comment period for the proposed rule ended on January 30, 2023. During the 60-day public comment period, the BLM received 3,323 total comments submitted from Federal, State, local governments, local agencies, Tribal organizations, industry representatives, individuals, and other external stakeholders. Of the 3,323 comment letter submissions, 2,892 were template form letters from seven different organizations, leaving 134 additional unique commenters. From these 141 unique commenters, the BLM identified 1,123 unique comments on the proposed rule.

Several commenters requested that the BLM hold meetings to take public input on the proposed rule before the comment period ended. The BLM held additional meetings with the Santa Rosa Rancheria Tachi-Yokut Tribe on December 1, 2022; the Mandan, Hidatsa and Arikara Nation (MHA Nation) on December 6, 2022, and February 13, 2023; and the Southern Ute Indian Tribe on April 10, 2023, May 25, 2023, and June 8, 2023.

All relevant comments are posted at the Federal eRulemaking portal: <http://www.regulations.gov>. To access the comments at that website, enter 1004-AE79 in the Searchbox.

Comments on Federalism Implications

Summary of Comments: Several commenters suggested that the BLM withdraw the proposed rule on the grounds that it exceeds Federal statutory authority or, in the alternative, revise the proposed rule to reflect a federalism framework to affirm the States' authority over State and local mineral resources within the State's boundaries. To that end, the commenters stated that the final rule has sufficient federalism implications to warrant the preparation of a federalism summary impact

statement. In support of this position, the commenters claimed that this rule unlawfully focuses on air quality emissions rather than waste, and that this focus violates the cooperative federalism framework under the CAA. The commenters referenced the BLM's purported preference for flaring over venting and claimed that this preference for flaring is unsupported because the BLM's regulatory authority is limited to waste prevention and does not include safety as a guise to regulate air quality.

Response: The BLM disagrees with the commenters. The BLM developed this rule based on its statutory authority to prevent and reduce the waste of natural gas produced from Federal and Indian (not State) land through improved regulatory requirements pertaining to venting, flaring, and leaks, while ensuring a fair return to the American public.¹²¹ It does not override the States' or Tribes' more stringent requirements for flaring and gas capture or waste prevention measures on State or Indian lands. Operators with leases on Federal lands must comply with the Department's regulations and with State requirements to the extent that they do not conflict with the Department's regulations. As stated in the Federalism section of this rule, below, although the final rule will affect the relationship between operators, lessees, and the BLM, it will not directly impact States. Accordingly, a federalism summary impact statement is not warranted.

Any claim that this rule violates the cooperative federalism framework under the CAA is likewise unfounded. As discussed below, the waste prevention rule is intended to prevent the waste of gas from Federal oil and gas leases and is, therefore, not an air quality emissions rule. As noted in the preamble to the proposed rule, the *Wyoming* court questioned the BLM's authority to—in the court's view—preempt cooperative federalism under the CAA, using a pretext of waste prevention. But as consistently explained throughout this preamble, this final rule is authorized by the BLM's independent statutory authority to prevent waste of natural gas and is not focused on achieving any ancillary effects on air quality or climate change. As such, cooperative federalism requirements under the CAA do not apply to this final rule.¹²² Moreover, the Department'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. See 43 CFR 3162.5–1 and 3162.5–3. As the BLM stated in the proposed rule and reiterated in the § 3179.50 Safety discussion in this final preamble, combusting gas rather than venting it into the surrounding air is safer *for operations* due to the gas' explosiveness and the risk to workers from hypoxia and exposure to various associated pollutants.

Comments on State or Tribal Variances

Summary of Comments: At least one commenter said that, as a sovereign regulatory authority over the State and private minerals located within the State's boundaries, it objected to the requirement that the State and private mineral holders must seek variances from the waste prevention requirements. This commenter also concluded that the variance provision was improper because, according to the commenter, the rule is an air quality emissions rule.

Response: The BLM decided not to include the provisions for State or Tribal requests for variances that were found in the proposed rule at 43 CFR 3179.401 in part because it concluded that the proposed variance provision could lead to regulatory uncertainty. As stated above in response to comments regarding federalism implications, the final rule does not preempt more stringent requirements for flaring, gas capture, or waste prevention under State or Tribal law, as appropriate. Operators with oil and gas leases on Federal lands must comply with the Department's regulations and with State requirements, to the extent that they do not conflict with the Department's regulations, and similarly operators of Tribal leases must comply with both Tribal and Departmental regulations. Moreover, the waste prevention rule is intended to prevent the waste of gas from Federal and Indian oil and gas leases and is, therefore, not an air quality emissions rule, as further discussed below.

Comments on Air Quality

Summary of Comments: Some commenters claimed that this rule seeks to address air quality rather than waste prevention and that the BLM should defer to the Environmental Protection Agency (EPA) or State agencies to regulate air quality under the CAA and other authorities.

Response: The BLM disagrees. As discussed above, the rule responds to the BLM's statutory obligation to prevent waste. The MLA requires the BLM to subject all oil and gas leases to the condition that the lessee "use all

¹²¹ 30 U.S.C. 187.

¹²² We have found no statutory support for the argument that any regulation that has ancillary effects on air quality is per se preempted by the CAA.

reasonable precautions to prevent the waste of oil or gas developed in the land” and underscores that “[v]iolations of the provisions of this section shall constitute grounds for the forfeiture of the lease.”¹²³ The Act also provides the Secretary with authority to subject leases to “such rules . . . for the prevention of undue waste as may be prescribed by [the] Secretary.”¹²⁴ Even the *Wyoming* court—which vacated portions of the 2016 Rule after the court found it was primarily justified by air quality benefits—recognized that the BLM does in fact have authority to promulgate and impose rules designed to reduce waste, provided such rules are “independently justified as waste prevention measures pursuant to [the BLM’s] MLA authority.” 493 F. Supp. 3d at 1067. As explained below, the waste prevention provisions of the final rule are independently justified, and the air quality comments from oil-and-gas industry representatives do not demonstrate otherwise.

Notwithstanding this authority, a commenter opposed to much of the proposed rule stated that the BLM should avoid conflict or duplication with EPA’s and the States’ exercise of their “exclusive authority” over air quality. The commenter added that CAA regulation and enforcement fall within other Federal and State agencies’ “exclusive jurisdiction.” The commenter also referred to what it described as the “exclusive air quality purview” of EPA and the States, while arguing that the BLM should not “assume” such authority.

The BLM is not regulating air quality in this rule. The BLM is regulating to prevent waste and to assure payment of royalties pursuant to independent and express statutory authority. The ability of EPA and the States to regulate air pollution does not bar the BLM from fulfilling its statutory obligation to regulate waste. Addressing waste may have some effects on air pollution and its connection to human health and welfare, which is the primary responsibility of the EPA, States, and local governments.¹²⁵ But the possibility that a BLM rule might have incidental effects on air quality does not strip the BLM from exercising its clear, express statutory authority under the MLA to prevent or reduce waste of gas. *Cf. Wyoming*, 493 F. Supp. 3d at 1063 (acknowledging that “a regulation that prevents wasteful losses of natural gas from venting and flaring necessarily

reduces emissions of that gas”). The MLA is designed to encourage diligent development of Federal oil and gas resources, avoid waste, and generate revenue, *see* Public Law 66–145, sections 15, 16, 26, 27, while the CAA seeks to reduce air pollution to protect the public health and welfare. 42 U.S.C. 7401(a)(2), (b)(1). The EPA’s regulation of methane emissions does not excuse the BLM from its obligation to prevent waste of and generate revenue from Federal oil and gas resources. In the proposed and final rules, the BLM has explained why it is implementing certain measures for waste prevention or other matters attendant to BLM authority (*e.g.*, safety and royalty measurement).

Another comment expressed concern about conflicts between the MLA and various air quality regulations and statutes. The commenter specified that the rule should not “create potential conflicts or duplication with EPA and State requirements promulgated pursuant to the CAA and State authorities.” Another comment expressed concern about a “potentially conflicting and duplicative BLM regulatory overlay” on existing and forthcoming regulations on methane and VOC emissions. As noted, the CAA and the MLA pursue different statutory goals, which may, as a general matter, reduce the possibility of conflict among specific regulations promulgated by the BLM and EPA. The successful prevention of the waste of gas may also lead to air quality effects. Nonetheless, we have examined the EPA’s methane-related regulations and the EPA’s OOOO series rules¹²⁶ and have avoided conflict by focusing on the BLM’s waste prevention and royalty measurement mandates, while acknowledging ancillary effects to air quality from this final rule. We have found no provision of the final rule that prevents compliance with EPA’s regulations.

Enactment of the CAA did not repeal any section of the MLA or any of the BLM’s other statutory authorities. Thus, neither the CAA, nor the programs of the EPA, States, or Tribes relieve the BLM of its statutory obligations to prevent waste and to assure royalty accountability. Similarly, nothing in this final rule interferes with any air quality regulation of EPA, the States, or Tribes.

In sum, we conclude that the final rule is a proper exercise of the agency’s authority under the MLA and other statutes (discussed above) to promulgate

regulations for the prevention of waste. Its ancillary effects on air quality are not disqualifying and, despite commenters’ suggestions to the contrary, do not defeat the provisions of the MLA discussed above, as reinforced by the IRA.

Commenters also suggested that the BLM’s proposed rule implicates a “major question” as that term is used in *West Virginia v. EPA*, 142 S. Ct. 2587 (2022). In that case, the Supreme Court vacated an EPA rulemaking because, according to the Court, EPA “claimed to discover in a long-extant statute an unheralded power representing a transformative expansion in its regulatory authority,” “located that newfound power in the vague language of an ancillary provision of the Act,” and “adopted a regulatory program that Congress had conspicuously and repeatedly declined to enact itself.” *Id.* At 2610. The Supreme Court went on to hold that, in such circumstances, colorable congressional authorization was insufficient; the agency must instead point to “clear congressional authorization” for its actions. *Id.* At 2614.

The final rule is not the type of “extraordinary” Rule that implicates a major question. *See Id.* At 2609. The BLM has not claimed to discover any novel authority in the MLA. Rather, a lessor’s legal capacity to prevent waste extends back at least to the common law prudent operator standard. Congress codified the Secretary’s authority and obligation to prevent waste in 1920, when it drafted the MLA to provide that “[e]ach lease shall contain . . . a provision that such rules . . . for the prevention of undue waste as may be prescribed by said Secretary shall be observed.”¹²⁷ Congress affirmed the BLM’s authority and obligations in 2022, when, in the IRA, it required the BLM to charge royalties on gas that was not “unavoidably lost” but did not otherwise define that term.¹²⁸ By the same token, the MLA provisions at issue here are not “ancillary:” they have been squarely and explicitly relied upon for decades in efforts to reduce waste. In short, the Department’s authority to regulate waste is—and always has been—a component of its authority to lease.

Beyond this longstanding authority, the BLM’s rule is narrower than the

¹²³ See 30 U.S.C. 187).

¹²⁸ As previously stated in the preamble, the IRA 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 that is lost during emergency situations, used for the benefit of lease operations, or “unavoidably lost.”

¹²³ 30 U.S.C. 225.

¹²⁴ 30 U.S.C. 187.

¹²⁵ *Bell v. Cheswick Generating Station*, 734 F.3d 188, 190 (3d Cir. 2013) (emphasis added).

¹²⁶ 77 FR 49490, 49542 (Aug. 16, 2012); 81 FR 35824, 35898 (June 3, 2016); 86 FR 63110 (Nov. 15, 2021).

Supreme Court's characterization of the rule in *West Virginia*. That rule, according to the Court, "balance[d] the many vital considerations of national policy implicated in deciding how Americans will get their energy." 142 S. Ct. at 2612. *Accord Biden v. Nebraska*, 143 S. Ct. 2355, 2372 (2023) (striking down student loan forgiveness program on the grounds that "no regulation premised on [the ostensibly authorizing statute] has even begun to approach the size or scope of the Secretary's program"). Here, the BLM is changing its regulations to marginally adjust waste prevention—merely one component of oil and gas production—under the MLA and the Indian minerals statutes. Those statutes, in turn, reflect merely one component of the nation's total oil and gas production, which itself is merely one component of the nation's total energy mix.

Nor has Congress considered and rejected the measures in this final rule. Commenters did not provide evidence showing that the most significant portions of this rule—new requirements for APDs, clarification of the term "avoidably lost", and leak detection—have been the subject of congressional debate. Ultimately, "common sense" indicates that the MLA and the IRA reflect precisely "the manner in which Congress [would have been] likely to delegate" the technical and discrete issue of waste prevention vis-à-vis public minerals. *West Virginia* at 2609. The BLM therefore did not make changes based on these comments.

Comments on Ways To Minimize Waste of Natural Gas During the Leasing Stage

Summary of Comments: The BLM requested public comment on how it can improve its processes pertaining to the leasing stage of development to minimize the waste of natural gas during later stages of development. Some commenters recommended that the BLM require WMPs at the land use planning stage or when an operator nominates parcels of land for leasing under an Expression of Interest. Although at least one commenter recommended that the BLM require a WMP during the leasing stage, at least one other commenter objected to that proposal. At least one commenter objected to the BLM's proposed requirement that an APD include a WMP and specifically protested what it claimed to be vague standards for approval or denial of the plan. The commenter further stated that this proposed provision potentially duplicates a State's gas capture plans and may delay or cause the State permit to expire if the rule required the

operator to submit information that conflicts with the State's requirements. Another commenter requested that the BLM remove any requirement for the operator to provide confidential business information or otherwise unavailable information in the WMP because the operator does not possess this information and it is not helpful for the specific purpose it is intended.

Response: As discussed further in the Section-by-Section discussion, the BLM in this final rule has retained the requirement to submit a WMP with a Federal or Indian oil and gas APD, or, in the alternative, submit a self-certification statement that would commit the operator to capturing 100 percent of the associated gas produced from an oil well and would obligate the operator to pay royalties on all lost gas except for gas lost through emergencies. The BLM has reviewed the comments and changed the provisions for a WMP. Under the final rule, the operator may submit either: (1) a self-certification statement committing the operator to capture 100 percent of the associated gas less any on-lease use of associated gas pursuant to subpart 3178; or (2) a WMP that includes, among other requirements, a certification that the operator has a valid, executed gas sales contract for the associated gas. A WMP is subject to the avoidable loss flaring limit established in final § 3179.70, while self-certification is a statement that the operator will be able to capture, as defined in final § 3179.10, 100 percent of the associated gas. In the case of self-certification, 100 percent of the oil-well flared gas has a royalty obligation from the date of first production until the well is plugged and abandoned, less any on-lease use of associated gas pursuant to subpart 3178.

The BLM has added the self-certification option to the final rule in response to comments that the waste prevention plan requirement is overly burdensome for industry and provides little benefit to the BLM. The self-certification option serves the dual purposes of providing operators with a less burdensome alternative, while simultaneously reducing waste through the encouragement of capture, a term defined in the proposed rule and unchanged in the final rule. The updated requirement provides the operator with the flexibility to secure a valid, executed gas sales contract or elect to expedite approval of the APD with a self-certification statement. In making this decision, operators may consider, e.g., the time to secure a gas sales contract, the desired date of the oil well completion, or the flaring royalty

obligation associated with either a WMP or self-certification.

The BLM disagrees with a commenter's belief that the WMP potentially duplicates a State's gas capture plans or would delay or cause a State permit to expire if the rule requires the operator to provide confidential or otherwise unavailable information. In any State or on any Tribal lands with essentially the same requirements as this final rule, this rule has no additional substantive burden on operators. As previously stated, the final rule does not preempt any State's or Tribe's requirements that are more stringent with respect to flaring and gas capture requirements or for waste prevention. There is nothing unique about this rule's interaction with State or Tribal law; those laws have always applied to operations regulated by the BLM, except on the rare occasion in which they prevent compliance with BLM regulations. More stringent State or Tribal regulations apply of their own force. Operators with leases on Federal lands must comply with both the Department's regulations and with State or Tribal requirements, to the extent that the non-Federal requirements do not conflict with the Department's regulations. None of the commenters have shown that any portion of the rule would interfere with the States' or Tribes' ability to regulate oil and gas operations on Federal lands or that the operator cannot comply with both the final rule and State or Tribal regulations.

After carefully considering the comments received concerning confidential information that may be included in the WMP, as well as information that is not within the operator's purview, the BLM has revised the required information in the WMP to align with the BLM's waste prevention objectives more closely. For example, the BLM is not finalizing the proposal for operators to identify in the WMP the anticipated daily capacity of the pipeline at the anticipated date of first gas sales from the proposed well, or the proposal to include any plans known to the operator for expansion of pipeline capacity for the area that includes the proposed well. Commenters indicated that this information could be confidential and proprietary information that belongs to midstream companies and that oil and gas operator are obligated to keep confidential. We agree.

Comments on Definition of
“Unreasonable and Undue Waste of
Gas” in the Loss of Oil or Gas,
Avoidable or Unavoidable
Determination, and the Prudent
Operator Standard

“Unreasonable and undue waste of gas,” avoidable or unavoidable determination, and the prudent operator standard are interrelated and warrant a combined discussion. Accordingly, the following summary of comments and the BLM’s response will cover these three concepts.

Summary of Comments: In the proposed rule, the BLM requested public comment on the definition of “unreasonable and undue waste of gas,” which the BLM considers when determining whether the loss of oil or gas is avoidable or unavoidable. Commenters suggested that the definition include an express reference to economic feasibility because, according to the commenters, the rule will become unwieldy and difficult for the BLM to administer without this economic consideration. Commenters expressed concern that the proposed avoidable loss threshold ignores whether the lessee is acting reasonably and prudently without any evaluation of the operator’s actual economic circumstances, and that flaring is not automatically “waste.”

Response: We disagree with the commenters’ suggestion that the rule should accommodate economic feasibility for individual flaring cases. In the proposed rule, the BLM explained that “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.” 87 FR 73597. The lessor has an interest in collecting royalties on production and in conserving gas for future disposition. The proposed rule also explained that the prudent operator standard looks to the operation of a lease as a whole and considers the interests of both the lessees and the lessors in conserving and developing the Federal mineral resource. However, with the final rule, the BLM has decided to not carry forward the proposed definition of “unreasonable and undue waste of gas” and removed the term from § 3179.10 and references to the definition in §§ 3179.100 and 3179.70(b). The BLM has determined that the definition might create unnecessary confusion and is not relevant for purpose of carrying out §§ 3179.100 and 3179.70(b).

Several commenters objected to the BLM’s discussion of the prudent operator standard, which focuses on the

lease as a whole, and argued that the prudent operator standard forecloses the BLM from imposing measures for waste prevention that may, in some situations, require an operator to spend more than the value of potentially wasted gas. That is, the commenters did not contend that the BLM’s rule would render leases unprofitable on the whole, but merely that the prevention of marginal waste might not, from the individual operator’s perspective (and particularly for low volume producers) pay for itself.

In support of this reading, the commenters cited the BLM’s regulatory definition of waste as:

any act or failure to act by the operator that is not sanctioned by the authorized officer as *necessary* for proper development and production and which results in: (1) A reduction in the quantity or quality of oil and gas ultimately producible from a reservoir under prudent and proper operations; or (2) avoidable surface loss of oil or gas.

43 CFR 3160.0–5 (emphasis added). The definitions in 43 CFR 3160.0–5 explicitly apply to part 3160 only, and the BLM notes that most of the regulations in this final rule appear in part 3170. In any event, there is no conceptual inconsistency between the regulations in that part and the definitions in part 3160. The definition of “waste” in part 3160 indicates that gas is wasted where, *inter alia*, loss is avoidable, and the final definitions in part 3170 explain when loss is avoidable and, separately, what subset of “waste” is “undue.” To avoid confusion, the final rule has deleted the word “prudent” where it had occurred in the proposed rule. See § 3179.41(a) and (b).

It is unclear precisely why commenters believe this provision is inconsistent with a fair reading of the non-statutory prudent operator standard and why they believe that standard requires a narrower reading. It is true, as commenters note (and as discussed elsewhere in this rule), that NTL–4A and IBLA caselaw have previously recognized “unavoidably lost” gas—the waste implicitly contemplated by 43 CFR 3160.0–5(1)—as excluding those cases where, in a case-by-case determination, “the Supervisor determines that said loss resulted from . . . the failure of the lessee or operator to take all reasonable measures to prevent and/or control the loss.” NTL–4A. II.A. For the reasons explained elsewhere in this preamble, such case-by-case determinations are no longer sufficient for the BLM’s fulfillment of its obligations to prevent waste. Here, we explain why the authorities cited by some commenters do not *require* individualized determinations.

Thus, for example, commenters’ frequent citations to court decisions and to the IBLA decisions in *Ladd Petroleum Corporation and Rife Oil Properties* are misplaced. *Ladd* did not address the meaning of the prudent operator standard or avoidably lost gas at all, and instead held that, where the BLM had *chosen* to issue certain guidance detailing case-by-case feasibility determinations, the substance of that guidance should govern in pending administrative appeals. 107 IBLA 5 (1989). *Rife Oil*, meanwhile, stands for the proposition that NTL–4A provided for case-by-case waste determinations, not that the MLA and FOGRMA require such determinations. 131 IBLA 357, 373–75 (1994).¹²⁹ The same is true for the cases cited by *Ladd* and *Rife Oil*. See *Lomax Exploration Co.*, 105 IBLA 1 (1988) (concluding that NTL–4A applied to certain venting or flaring without passing on the BLM’s discretion to modify or depart from NTLA–4A); *Mallon Oil Co.*, 107 IBLA 150, 156 (1989) (same); *Maxus Exploration Co.*, 122 IBLA 190, 198 n.1 (1992) (“As the word ‘economic’ is used in NTL–4A, it relates to a lessee’s argument that conservation of the gas is not viable from an economic standpoint”) (emphasis added).

Some commenters also concluded that the IRA essentially codified NTL–4A’s definitions of “avoidable” and “unavoidable,” reasoning that Congress must have been aware of the BLM’s pre-2016 definitions of those terms. The IRA, however, did not provide a statutory definition of “avoidable” or “unavoidable,” and did not prohibit the Secretary of the Interior from promulgating a rule to define and implement those terms under her existing statutory authorities. See, e.g., 30 U.S.C. 189.¹³⁰ The IRA did not amend the MLA to require the type of case-by-case evaluations the commenters seek, and commenters have

¹²⁹ In dicta, the *Rife Oil* decision considered a possible “read[ing] [of] NTL–4A as barring the venting of gas . . . without regard to whether it was avoidably lost” within the meaning of NTL–4A, 131 IBLA at 374, hypothesizing that such a reading “would lead to potential waste of oil where production of oil was marginally economic but production of gas was not economic and the requirement to market the gas caused a premature abandonment of the well.” *Id.* at 374 n.6 (emphasis added). This abstract hypothetical says nothing regarding the United States’ general authority as lessor to balance by regulation the waste from potential loss of gas against the waste from potential loss of oil, much less does it evaluate the specific balancing the BLM has performed throughout in this rule.

¹³⁰ “The Secretary of the Interior is authorized to prescribe necessary and proper rules and regulations and to do any and all things necessary to carry out and accomplish the purposes of [the MLA].”

not provided “the sort of overwhelming evidence of [congressional] acquiescence” to NTL–4A’s definitions “necessary to support [their] argument in the face of Congress’s failure to amend.” *Sackett v. EPA*, 143 S. Ct. 1322, 1343 (2023).¹³¹

Commenters also cited FOGRMA’s provision that lessees are liable for royalties when “waste is due to negligence . . . or . . . failure to comply with *any rule or regulation* . . . under any mineral leasing law.” 30 U.S.C. 1756 (emphasis added). This provision says nothing of the prudent operator standard and imposes royalty for failure to comply with any applicable regulations, including the regulations at issue in this rule. Some commenters attempted to downplay this language by characterizing FOGRMA as requiring compliance only with “specific regulatory requirement[s],” but the relevant statute does not include the word “specific,” and the commenters provided no explanation as to how that concept, even if somehow embodied in FOGRMA, would operate to exclude from royalty obligations those regulations—like this final rule—designed to conserve the Federal and Indian mineral estates.

Commenters also cited to the District of Wyoming’s decision addressing the merits of the 2016 Rule, but that decision likewise does not compel the commenters’ preferred reading of the prudent operator standard or elevate it to a statutory limit on the Secretary’s rulemaking authority. The relevant portion of the decision began by reciting the history of the BLM’s case-by-case evaluation of feasibility, citing *Rife Oil* and the IBLA’s *Ladd Petroleum* decision. See *Wyoming*, 493 F. Supp. 3d at 1073–74.¹³² The *Wyoming* court then concluded that although the “MLA’s waste provisions leave room for interpretation,” the BLM’s 2016 construction of those provisions was

unlawful because the BLM had “primarily” sought to “benefit the environment and improve air quality,” as reflected in the BLM’s reliance on the 2016 Rule’s ancillary effects. *Id.*

In both its proposed and final rules, however, the BLM is exclusively focused on addressing waste and royalty payments, along with certain safety provisions, and has disavowed in form and substance any effort to regulate air quality in a manner entrusted to EPA and that agency’s State and Tribal partners, including by eschewing any reliance on ancillary effects on the atmosphere. Instead, the BLM has promulgated this rule purely to curb the excessive, accelerating, and nationwide waste of Federal and Indian gas and to curb localized hazards to human health and safety from operations. As it did in the 2016 Rule, the BLM has acknowledged its “decades-long practice of factoring in operator economics on a case-by-case basis when determining whether a loss was avoidable,” explaining in this rulemaking why the MLA’s waste provisions—which “leave room for interpretation”—now justify a suite of nationwide standards and important flexibilities for specific operators and leases. *Id.* Therefore, the final rule does not conflict with the Wyoming court’s decision.

In dicta, the *Wyoming* court also discussed the prudent operator standard without reference to considerations like the social cost of methane. *Id.* The District Court cited caselaw and the MLA for the general proposition that “[o]il and gas leases—including those issued by the Federal Government and its lessees—are intended to ensure mutually profitable development of the lease’s mineral resources.” *Id.* (emphasis added). Indeed, the cases cited by the *Wyoming* court stand for the proposition that a mineral lease is fundamentally different from “a business into which [the lessee] puts property, money, and labor exclusively his own, the profits and losses in which are of concern only to him, and the conduct of which may be according to his own judgment” *Brewster v. Lanyon Zinc Co.*, 140 F. 801, 814 (8th Cir. 1905). Instead, the “interest in the subject of the lease . . . make the extent to which . . . the operations are prosecuted of immediate concern to the lessor.” *Id.* As the BLM noted in the proposed rule and reaffirms here, these general propositions do not specify precisely *how* the United States, as manager of the Federal mineral estate, must perform its statutory duty of preventing waste, and, specifically, whether it must do so on a case-by-case

basis or elevate an operator’s profit maximization over the United States’ duties to the taxpayers and to Indian mineral owners.

As discussed in *Brewster*, one way the lessor may elect to enforce this interest is by seeking *expedited* production, so that the lessee’s failure to develop the lease does not “exhaust” the oil and gas “through the operation of wells on adjoining lands.” *Id.* See also *Gerson v. Anderson-Prichard Prod. Corp.*, 149 F.2d 444, 446 10th Cir. 1945 (“A lease of this kind contains an implied covenant that the lessee will exercise reasonable diligence in the development of the leasehold and *in the protection of it from undue drainage through wells on adjacent lands.*”) (emphasis added). The prudent operator standard chiefly applies to these drainage cases, in which it protects the operator from overbroad allegations of a “breach of the covenant for the exercise of reasonable diligence.” *Brewster*, 140 F. at 814–15 (emphasis added). Given the significant cost of drilling a new well¹³³ “and the fact that the lessee must bear the loss if the operations are not successful,” the standard shields the lessee from demands to drill unprofitable wells “even if some benefit to the lessor will result” from less drainage. *Brewster*, 140 F. at 814 (emphasis added). See also *Olsen v. Sinclair Oil & Gas Co.*, 212 F. Supp. 332, 333 (D. Wyo. 1963) (“the ‘prudent operator’ rule . . . is to the effect that the lessee has no implied duty to drill an offset well if reasonably prudent operators would not drill it”).

In other words, the prudent operator standard originally arose in and chiefly applies to drainage, but the principles underlying the standard equally enable the lessor to exercise its “immediate concern” in the lease by requiring conservation of the mineral estate. *Brewster* at 814. The policy concerns ordinarily animating application of the prudent operator standard are not as salient in the latter case, where there is materially less risk that the lessor will seek to reap a profit by asking the lessee to shoulder a significant net loss. A lessor requiring the lessee to conserve marginally more resources generally does not, for example, seek royalties from significant capital expenses, borne by the lessee, “incident to the work of exploration,” *Id.*, or to “drill[ing] an

¹³¹ In the context of drainage (the original problem addressed by the prudent operator standard) the BLM has promulgated regulations detailing a lessee’s obligations to avoid uncompensated drainage or to pay compensatory royalties. 43 CFR 3162.2–2 to 3162.2–15. Thus, as in this final rule, the BLM by regulation specifies the duties of lessees without reliance upon common law standards, including the prudent operator standard.

¹³² In the Wyoming decision, the court characterized the IBLA’s *Ladd* holding as “remanding BLM decision that flared gas was avoidably lost for determination of ‘whether in fact it was economically feasible to market the gas’ and explaining that interpretation of NTL–4A giving operator opportunity to show gas was not marketable ‘is consistent with the intent of the underlying statutory and regulatory authority.’” This statement is a quote from a headnote in IBLA’s decision, not the decision itself. *Ladd Petroleum Corp.*, 107 IBLA 5 (1989).

¹³³ According to a 2016 report by the Energy Information Agency: “Total capital costs per well in the onshore regions considered in the study [ranged] from \$4.9 million to \$8.3 million, including average completion costs that generally fell in the range of \$ 2.9 million to \$ 5.6 million per well. However, there is considerable cost variability between individual wells.” Trends in U.S. Oil and Natural Gas Upstream Costs, p.2 (U.S. E.I.A. March 2016).

offset well.” *Gerson*, 149 F.2d at 446.¹³⁴ Congress essentially codified that understanding in the MLA, commanding the Secretary of the Interior to “obtain for the public a reasonable financial return on assets that ‘belong’ to the public,” while requiring only “some incentive” for development. *Cal. Co. v. Udall*, F.2d 384, 388 (D.C. Cir. 1961).

In all events—and contrary to the commenters’ arguments in support of individualized economic analyses—any application of the prudent operator standard considers the profitability of the entire lease, not whether individual volumes of potentially wasted gas are themselves profitable for the lessee. See *Gerson*, 149 F.2d at 446 (“the lessee does not bear an implied obligation . . . unless, taking into consideration all existing facts and circumstances, it would probably produce oil in sufficient quantity to repay the whole sum required to be expended, including the cost of drilling, equipping, and operating the well, and also pay a reasonable profit on the entire outlay”). For the reasons discussed in this preamble, the BLM has reached reasonable determinations, with respect to each of its waste prevention measures, that the marginal restrictions in the final rule will not render a lease unprofitable.

On this score, some commenters argued that the draft RIA shows that the costs of the proposed rule exceed the benefits, and therefore the rule is arbitrary and capricious and/or is in tension with the prudent operator standard. The BLM disagrees. The RIA for the final rule provides estimates of the monetized costs and benefits under the accounting rules in OMB Circular A–4, p.38 (2003), and acknowledges that not all costs and benefits can be monetized. Comparison of monetized benefits to monetized costs provides useful but not complete analysis, and thus is not determinative with respect to the non-statutory prudent operator standard. The final rule requires operators to incur some expenses from which they may derive revenue (selling the gas), or may not gain revenue (paying royalties on flared gas or curtailing oil production to limit flaring). For example, the RIA treats royalties as “transfer payments.”

¹³⁴ *Accord* Parker A. Lee, Ming Lei, Dominique J. Torsiello, “Reasonably Prudent Operator or Good and Workmanlike Manner: Does Your Contract Have the Right Standard of Care?” McDermott Will & Emery, *The National Law Review*, XIII, Number 27 (“Under the reasonably prudent operator standard, the lessee or operator is obligated to make reasonable efforts to develop the interest for the common advantage of both the lessor and lessee.”) (emphasis added).

Transfer payments do not increase or decrease the wealth of society as a whole, and thus are not counted as benefits of the final rule under the OMB Circular. For the Federal taxpayers and Indian mineral owners, though, royalty payments are income, and as such are benefits to which they are entitled under statute, regulations, and the terms of leases. We also note that some industry commenters point out that some of the costs of the proposed rule projected in the draft RIA are for tasks that are already required by the EPA in New Source Performance Standards subpart OOOOa. The BLM acknowledges that some projected costs are for tasks now required in the final EPA New Source Performance Standards subparts OOOOa, OOOOb, and OOOOc rules, as addressed in the RIA.

Comments on Banning Routine Flaring and Requiring Gas Capture

Summary of Comments: Some commenters requested that the BLM’s final rule include a prohibition on “routine flaring” and that the final rule should “require capture of flared gas where it is both technologically and economically feasible.” The commenters also assert that the BLM is “legally required to reduce waste, not just charge royalties on it.” They note that reducing the waste of avoidably lost gas through capture requirements will also benefit “individual taxpayers and Tribes and will have the added co-benefits of protecting frontline communities and the climate from the effects of wasted gas.” Some commenters specifically noted the impacts of oil and gas operations and venting and flaring on environmental justice communities and asserted that charging royalties on flaring of associated gas and requiring WMPs will not significantly reduce venting and flaring without a prohibition on routine flaring.

Response: The BLM disagrees with those commenters in part. The MLA does not mandate capture of all gas as such or place a ban on venting or flaring as such, but instead requires operators to “use *all reasonable diligence* to prevent the waste of oil or gas developed in the land.”¹³⁵ As commenters note, the MLA also requires that all leases include “a provision that such rules for . . . the prevention of *undue* waste as may be prescribed by said Secretary shall be observed.”¹³⁶

Those statutory provisions accommodate instances where waste is

¹³⁵ 30 U.S.C. 225 (emphasis added).

¹³⁶ 30 U.S.C. 187 (emphasis added).

not preventable, even when operators employ all reasonable diligence. Likewise, section 50263 of the IRA does not mandate capture of gas or place a ban on venting or flaring as such, but instead requires, subject to exceptions, the payment of royalties on gas that is consumed or lost by venting, flaring, or negligent releases through any equipment during upstream operations.¹³⁷ In short, Congress could have banned venting and flaring as such in the MLA or IRA, but did not.

The final rule implements the requirement in section 50263 of the IRA to assess royalties on gas that is lost by venting and flaring. Although the BLM believes that the royalty obligation for flared gas provides some marginal incentive for operators to make investments to sell the gas rather than to pay royalties on flared gas, we agree with the commenters that the statutory requirement for operators to use all reasonable diligence to prevent waste is a separate though related mandate—one that the final rule achieves through such requirements as a WMP.

Some commenters assert that to meet the MLA’s requirements, the BLM must: (1) adopt a definition of “unreasonable and undue waste” that clarifies that routine flaring constitutes avoidable loss; (2) ban routine flaring, as some States have done; and (3) include only narrow exceptions where there is no alternative to venting or flaring. The BLM agrees that much of the historical flaring was avoidable, and as discussed below, the final rule includes provisions that impose limits on what would otherwise be “routine flaring,” including the definition of “unavoidably lost” in § 3179.41(b). We disagree, though, that the MLA requires that all routine flaring be defined as “avoidable” loss. The MLA requires operators to use “reasonable diligence” to avoid waste, and thus “reasonable diligence” to prevent undue waste; the statute does not prohibit all venting and flaring. Contrary at least one commenter’s views, therefore, the final rule is not based on maximizing operators’ internal profit—that is not the

¹³⁷ (a) IN GENERAL.—For all leases issued after the date of enactment of this Act, except as provided in subsection (b), royalties paid for gas produced from Federal land and on the outer Continental Shelf shall be assessed on all gas produced, including all gas that is consumed or lost by venting, flaring, or negligent releases through any equipment during upstream operations.

(b) EXCEPTION.—Subsection (a) shall not apply with respect to—(1) gas 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 the area of the lease, unit, or communitized area for the benefit of the lease, unit, or communitized area; or (3) gas that is unavoidably lost. 30 U.S.C. 1727.

test for “reasonable diligence,” and the final rule may require some operators to incur some costs of compliance. Other operators may design and operate their facilities to capture and sell virtually all oil-well gas at a profit, but that is merely sufficient—not necessary—for compliance with the relevant portions of the rule. Although the MLA does not authorize the BLM to prohibit all flaring, State laws or regulations prohibiting routine flaring apply to operations on Federal lands.

Some commenters argue that FLPMA requires the BLM to protect the quality of the air and atmospheric resources, citing 43 U.S.C. 1701(a)(8). Section 1701(a)(8) states it is the “policy of the United States” that “the public lands be managed in a manner that will protect the quality of [various ecologic values, including] air and atmospheric” values. That statement, however, is “effective only as specific statutory authority for [its] implementation is enacted by [FLPMA] or by subsequent legislation and shall then be construed as supplemental to and not in derogation of the purposes for which public lands are administered under other provisions of law.”¹³⁸ Here, the BLM’s authority for its waste prevention and safety measures is established in the MLA, FOGPMA, and the IRA. The purposes of the final rule are waste prevention and royalty accountability, not air quality control. The BLM also addresses impacts on air quality in the EA for the final rule, as required by statute.

Commenters cited evidence that continued fossil fuel production is inconsistent with meeting goals of limiting climate change and that communities living near oil and gas operations suffer disproportionately high rates of adverse health effects. Those include several environmental justice communities near oil and gas operations on the public lands. Those issues are discussed in the NEPA compliance document and the RIA. However, ending fossil fuel production is outside the scope of this rulemaking, the purpose of which is to update the waste prevention requirements for oil and gas development on public lands. Like several other oil and gas regulations, the final rule may have some incidental public health and climate effects, but the BLM does not have authority to regulate air emissions for the benefit of public health or the climate, and the final rule is designed to address waste prevention and royalty accountability.

A commenter advocated greater enforcement by the BLM. The BLM

regularly reviews its enforcement programs for effective deployment of its resources. Enforcement plans, however, are outside the scope of this rulemaking.

A commenter asserted that the BLM underestimated historical venting and flaring. The BLM has used the best available data. That data show that the current regulation at NTL-4A has failed to control venting and flaring, particularly over the last two decades. Thus, we agree with the commenter that a more effective regulation is needed to assure that operators exercise reasonable diligence to prevent waste.

The BLM also recognizes the benefits of gas capture, and the final rule encourages greater capture and sale of gas from oil wells. In part in response to these comments, the BLM included in § 3162.3-1 of the final rule an option for operators to self-certify that they will capture 100 percent of oil-well gas produced by an oil well as an alternative to submitting a waste management plan. If a self-certifying operator flares gas other than in response to a defined emergency, the loss is “avoidable” and fully royalty bearing. Although the BLM has no firm estimates for the number of operators who will self-certify, the option should both prevent waste and prove attractive for the reasons set forth elsewhere in this preamble.

Comments on Impact of the Rule on Indian Leases

Summary of Comments: Noting that the proposed rule was generally intended to apply in equal measure to Federal leases and Indian leases, one commenter criticized the rule for not addressing how flaring limitations and other features of the rule—given their potential to cause premature shut-in or curtailment of oil and gas production—may disproportionately impact Indian lessors who rely on production revenues and may not be as willing as the Federal Government to curtail or shut-in production in order to avoid what the commenter characterized as “relatively minor” losses of revenue resulting from venting or flaring. The commenter also contended that, under the various Indian leasing statutes—including the IMDA (25 U.S.C. 2101 *et seq.*)—the BLM must assure that the lands are developed in a manner that maximizes the “best economic interests” of Indian lessors.

Response: The BLM’s regulations apply to oil and gas operations on Indian trust and restricted fee lands as provided by 25 CFR 221.1(c), 212.1(d), 225.1(c), and the BLM is the bureau tasked with regulating oil and gas operations on those lands by delegations

to the BLM from the Secretary of the Interior. The purposes of the regulations of mineral development on Indian lands are to maximize the best economic interest of the Indian mineral owner and to minimize any adverse environmental or cultural impact. 25 CFR 221.1(a) (Tribal leases), 212.1(a) (allotted leases), 225.1(a) (IMDA). “In considering whether it is ‘in the best interest of the Indian mineral owner’ to take a certain action . . . , the Secretary shall consider any relevant factor, including, but not limited to: economic considerations, such as date of lease expiration; probable financial effect on the Indian mineral owner; leasability of land concerned; need for change in the terms of the existing lease; marketability; and potential environmental, social, and cultural effects.” 25 CFR 211.3, 212.3, 225.3. *Accord, e.g.*, 25 U.S.C. 2103(b) (IMDA). Thus, economic considerations, such as immediate production of oil, are relevant factors, but they are not the sole factors; the regulations promulgated in accordance with the BLM’s statutory authority give the Secretary broad discretion. The Secretary thus has discretion to require operators producing Indian oil to take reasonable measures to reduce waste of Indian resources, to define avoidably lost gas, and to require payment of royalties to the Indian lessors on avoidably wasted gas.

Since the final rule will apply equally on Indian lands as it does on Federal lands, there will be no disproportionate impact on Indian leasing or development. It might be that on some leases at some times, Indian royalty payments would temporarily decrease as oil production is curtailed while the operator complies with the final rule. We have no reason to believe that total long-term revenues from such leases would suffer, rather we believe they will increase as the operators pay royalties on the gas as well as on the oil. Indeed, for many leases there is likely to be no decrease in royalty payments, and most likely there will be increases in royalty payments because operators will pay royalties on captured or flared gas with little or no interruption of oil sales.

We do not believe that the final rule will cause premature plugging and abandonment of otherwise profitable wells. Every day, oil wells on Indian lands, as on Federal lands and elsewhere, are produced at capacity, curtailed, shut in, or plugged and abandoned based on a variety of factors, including production quantity and quality, costs of production, availability of transportation, and commodity prices. Although it is possible that

¹³⁸ 43 U.S.C. 1701(b).

compliance with the final rule may increase net costs for some operators, it would be only one of many business costs for operators and is likely not as determinative for continuing operations as are the changes in prices for the oil or gas, either positive or negative. There is nothing improper in the final rule's requirements to reduce waste of Indian gas and to pay royalties to the Indian mineral owners on gas that would otherwise be wasted. The final rule has not been changed in response to the comment.

Comments on the RIA

In preparing the final rule, the BLM updated the numbers in the proposed RIA. The updated RIA indicates that the final rule would cost \$19.3 million per year (using a 7 percent discount rate to annualize capital costs), while generating private costs savings benefits of around \$1.8 million per year and ancillary effects on society from reduced methane emissions of around \$17.9 million per year, with total benefits averaging around \$19.7 million per year. The updated RIA estimates that the final rule would generate \$51 million per year in royalties. The projected costs changed from the RIA for the proposed rule to the RIA for the final rule because the final rule does not include certain requirements from the proposed rule, such as pneumatic control devices, thereby reducing the rule's costs.

The BLM received a comment stating that the BLM's estimated burden hours for operators to prepare a WMP was too

low. In response, the BLM notes that there are significantly fewer requirements for a WMP in the final rule as compared with the proposed rule. Therefore, we believe that our estimate of 1 hour is appropriate.

One commenter disagreed with the BLM's estimate regarding the projected number of orifice meters that would be installed the first year. The intent of the comment is not entirely clear because it only indicates the commenter's view that an estimated installation of 968 meters appears to be inaccurate but does not specify the nature of the inaccuracy or how the inaccuracy is a burden to operators. In the final RIA, the BLM estimates that there would be a total of 902 meters installed and explains that it uses the 1,050 Mcf threshold to determine the number of meters installed because the final rule requires all high-pressure flares with more than 1,050 Mcf of flaring per month to measure flaring.

The BLM received a comment expressing concern with the administrative burden resulting from the proposed rule. The BLM addresses administrative burdens in the RIA and the accompanying supporting statement under the Paperwork Reduction Act. In the RIA for the final rule, the BLM estimates that the total annual administrative burden of the final rule will be about \$8.9 million. The BLM notes that the requirements for a WMP have been significantly reduced in the final rule. In the final rule, the WMP only requires information operators

would have readily available when submitting an APD. The information collection activity associated with the WMP required for this rule is 1 hour of additional time to complete an APD. Further, operators have the option of self-certifying that they will commit to capture 100 percent of the gas and thus avoid the administrative cost of preparing a WMP. The information collection activity associated with either preparing and submitting the WMP or the self-certification is 1 hour of administrative time. The BLM believes operators submitting APDs for multiple wells on a single well pad will be able to simply copy and paste the WMP from one well's APD into the next well's APD. This copying and pasting for a multi-well pad also has an information collection burden of 1 hour, which most likely overestimates the time it will take operators to copy and paste the information from one document into another. And the final rule does not require "complete and adequate" information in a WMP as proposed, but does require the WMP to be technically and administratively complete. The phrase "technically and administratively complete" is further explained in the preamble discussion for § 3162.3-1.

V. Section-by-Section Discussion

The following table is provided to aid the reader in understanding the changes from the proposed rule section numbers and names to the final rule sections.

TABLE 1 TO IV—SECTION-BY-SECTION CHANGES MADE FROM THE PROPOSED TO THE FINAL RULE

Proposed rule section	Final rule section
3162.3-1 Drilling applications and plans	3162.3-1 Drilling applications and plans.
3179.1 Purpose	3179.1 Purpose.
3179.2 Scope	3179.2 Scope.
3179.3 Definitions and acronyms	3179.10 Definitions and acronyms.
.....	3179.11 Severability.
.....	3179.30 Incorporation by reference (IBR).
3179.4 Determining when the loss of oil or gas is avoidable or un-avoidable.	3179.40 Reasonable precautions to prevent waste.
3179.5 When lost production is subject to royalty	3179.41 Determining when a loss of oil or gas is avoidable or un-avoidable.
.....	3179.42 When lost production is subject to royalty.
3179.6 Safety	3179.43 Data submission and notification requirements.
3179.7 Gas-well gas	3179.50 Safety.
3179.8 Oil-well gas	3179.60 Gas-well gas.
3179.9 Measuring and reporting volumes of gas vented and flared	3179.70 Oil-well gas.
.....	3179.71 Measurement of flared oil-well gas volume.
3179.10 Determinations regarding royalty-free flaring	3179.72 Reporting and recordkeeping of vented and flared gas volumes.
3179.11 Incorporation by reference (IBR)	3179.73 Prior determinations regarding royalty-free flaring.
3179.12 Reasonable precautions to prevent waste	<i>Renumbered to 3179.30.</i>
	<i>Renumbered to 3179.41.</i>

Flaring and Venting Gas During Drilling and Production Operations

3179.101 Well drilling	3179.80 Loss of well control while drilling.
3179.102 Well completion and related operations	3179.81 Well completion and recompletion flaring allowance.
3179.103 Initial production testing	<i>Removed.</i>
3179.104 Subsequent well tests	3179.82 Subsequent well test for an existing completion.

TABLE 1 TO IV—SECTION-BY-SECTION CHANGES MADE FROM THE PROPOSED TO THE FINAL RULE—Continued

Proposed rule section	Final rule section
3179.105 Emergencies Gas Flared or Vented from Equipment and During Well Maintenance Operations.	3179.83 Emergencies.
3179.201 Pneumatic controllers and pneumatic diaphragm pumps	<i>Removed.</i>
3179.203 Oil storage vessels	3179.90 Oil storage tank vapors.
3179.204 Downhole well maintenance and liquids unloading	3179.91 Downhole well maintenance and liquids unloading.
3179.205 Size of production equipment	3179.92 Size of production equipment.
Leak Detection and Repair (LDAR)	
3179.301 Leak detection and repair program	3179.100 Leak detection and repair program.
3179.302 Repairing leaks	3179.101 Repairing leaks.
3179.303 Leak detection inspection recordkeeping and reporting	3179.102 Leak detection inspection recordkeeping and reporting.
State or Tribal Variance	
3179.401 State or Tribal requests for variances from the requirements of this subpart.	<i>Removed.</i>
Immediate Assessments	

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 for the operator to submit an APD prior to conducting any drilling operations on a Federal or Indian oil and gas lease. Drilling may only commence following the BLM’s approval of the APD. The proposed rule would have added two new paragraphs to § 3162.3–1, intended to help operators and the BLM avoid situations where substantial volumes of associated gas are flared from oil wells due to inadequate gas capture infrastructure.

Proposed § 3162.3–1(j) would have required an operator to provide a WMP with its APD for an oil well, demonstrating how the operator intended to address the capture of associated gas from an oil well when production begins. The purpose of the proposed WMP was to help the BLM understand how much associated gas could be wasted as a result of the approval of an APD. The proposed WMP required the inclusion of the following information with an oil-well APD: the anticipated completion date of the oil 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 was not able to identify a gas pipeline with sufficient capacity to accommodate the anticipated associated gas production, the WMP would have

been required to also include the following information: 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 methods, such as compression of the gas, removal of Natural Gas Liquids (NGL), or other capture means. Finally, the operator would have been 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 purpose of the proposed WMP was for the operator to provide the BLM with information necessary to understand how much associated gas would be lost to flaring if the BLM were to approve the oil-well APD and whether the loss of that gas would be reasonable under the circumstances. If the WMP were to demonstrate that approving an otherwise administratively and technically complete APD could result in undue waste of Federal or Indian gas, the proposed § 3162.3–1(k) would have authorized the BLM to take one of the following actions: the BLM could have approved the APD subject to conditions for gas capture and/or royalty payments on vented and flared gas; or the BLM could have deferred action on the APD in the interest of preventing waste. If the potential for undue waste had not been addressed within 2 years of the applicant’s receipt of the notice of the deferred action,

under the proposed rule the BLM would have denied the APD.

The BLM received numerous comments on the proposed WMP. Based on those comments, we believe there was some confusion about when a WMP would be required. For both the proposed and final rules, a WMP is required when a Federal or Indian APD is required. In both the proposed and final rules, only wells that are being drilled to target oil production—in other words Federal or Indian oil-well APDs—will require a WMP. The BLM assumes that if an operator is drilling a gas well, there is a predetermined market for the gas or a plan to shut in wells until gas infrastructure is built. For this reason, if a well is being drilled to a known gas formation and will be producing primarily gas, the Federal or Indian APD does not require a WMP.

Based on public comment, the BLM has revised the content of the proposed WMP in this final rule. Many commenters said the waste minimization requirements were overly burdensome for both the BLM and operators. In addition, commenters read the requirements as calling for operators to provide proprietary, confidential information belonging to midstream companies that operators are unable to provide. Commenters were also concerned about how the BLM would evaluate an operator’s WMP, pointing to subjective language in proposed § 3162.3–1(j) indicating that the BLM could deny an APD if the operator failed to submit a complete and “adequate” WMP. Many commenters said the proposed required information for the WMP failed to meet the BLM’s stated objectives of understanding associated

gas capture and reducing waste through flaring prior to approval of a Federal or Indian APD.

After evaluating the primary objective of the WMP, which is to ensure operators have adequately planned to reduce associated gas waste prior to drilling an oil well, the BLM agrees with commenters that the rule can be effective without requiring all the information in the proposed rule. The proposed rule required 19 pieces of information for the WMP for the operator to demonstrate to the BLM that it had sufficiently planned for the capture or sale of associated gas from an oil well. After careful consideration of the comments and the purpose of a WMP, the BLM in the final rule is reducing the information required to 4 pieces in a WMP: (1) initial oil production estimates and decline, (2) initial gas production estimates and decline, (3) certification that the operator has an executed gas sales contract to sell 100 percent of the produced oil-well gas, and (4) any other information demonstrating the operator's plans to avoid the waste of gas.

The BLM agrees with the commenters that BLM's objective—determining if an operator has a plan to capture the produced gas—can be accomplished with less information. And as mentioned above, the BLM intends to eschew collection of information that could be proprietary or confidential. The final rule also provides operators with an alternative to the submission of a WMP with their APDs by allowing operators to instead submit a self-certification statement that the operator will be able to capture, as defined in final § 3179.10, 100 percent of the oil-well gas that the oil well produces.

The BLM has required the anticipated initial production rate and 3 years of production decline because the BLM has concluded that 3 years of data will sufficiently cover the ordinarily steep decline for production for unconventional reservoirs and the associated establishment of the reservoir's production decline curve. This information provides the BLM with an estimate of how much associated gas could be flared, the size of production equipment required at initial production, and the size of production equipment required when production has leveled off. The WMP information is relevant to understand not only the volume at risk for flaring, but also how the sizing of the production equipment affects tank vapors. (If the production equipment is undersized or there is insufficient separation upstream of the production tanks, there will be more gas

wasted as tank vapors.) Approved APDs with a WMP will be subject to the flaring limitations identified in final § 3179.70 once the well begins producing. The BLM believes the revised waste minimization requirements reduce the burden on operators, reduce the review time for the BLM, eliminate any concern of providing proprietary or confidential information, and increase the BLM's understanding of the disposition of the associated gas from an oil well to ensure the public receives a fair return for its oil and gas.

As an alternative to the submission of a WMP with the APD, § 3162.3–1(d)(4) of the final rule allows operators to submit a self-certification. Section 3162.3–1(k) provides that a self-certification is a statement by the operator that it will be able to capture, as defined in final § 3179.10, 100 percent of the oil-well gas that the oil well produces. If the operator elects to self-certify, all flared oil-well gas, except for gas flared under emergencies as identified in § 3179.83, is an avoidable loss with a royalty obligation and is not subject to the unavoidable loss threshold in § 3179.70(a). In the case of self-certification, 100 percent of the oil-well non-emergency flared gas has a royalty obligation from the date of first production until the well is plugged and abandoned. The BLM offers the self-certification alternative to accommodate operators who may consider this option an advantageous business alternative while ensuring the public receives a fair return for its oil and gas. An operator might choose to avoid having to submit a WMP because it can be relatively easy to design, build, and operate its facilities to capture all of the gas and sell it. In addition, an operator may want to accelerate drilling and development in lieu of waiting for a gas contract and accept the additional royalty obligation as a business expense should the operator need to flare following drilling and completion.

The BLM's approval process for the WMP or the self-certification statement appears in the new final § 3162.3–1(l). With this addition, the BLM has clarified for operators how the Bureau will evaluate a WMP or self-certification statement. Upon review of the WMP or the self-certification, the BLM may take one of the following actions: (1) approve an administratively and technically complete oil-well APD with a WMP, subject to the conditions for flared gas described in § 3162.3–1(j); (2) approve an administratively and technically complete oil-well APD with a self-certification statement for associated gas capture subject to the conditions for

flared gas described in § 3162.3–1(k); or (3) defer action on an APD that is not administratively or technically complete in the interest of preventing waste until such time as the operator is able to amend its APD to comply with the requirements in either § 3162.3–1 paragraph (j) or (k).

The final rule replaces the subjective term “adequate” in this section with the term “administratively and technically complete.” The concept “administratively and technically complete” appears in the original § 3162.3–1(d), which states that “[p]rior to approval, the application shall be administratively and technically complete.” To be administratively complete, an APD must contain all the required components: a drilling plan, a surface use plan of operations, evidence of bond coverage, other information as may be required by applicable orders and notices, and, with the finalization of this rule, for an oil well, a WMP or self-certification. For an APD to be technically complete, the APD must fulfill all the requirements of each of the components and be technically correct pursuant to any applicable orders and notices. For example, an APD is not administratively complete if it does not include a drilling plan. If the APD does include a drilling plan, but the drilling plan fails to include the appropriate blowout prevention equipment, as required in 43 CFR subpart 3172, then the drilling plan is not technically complete.

A WMP or self-certification will now be a required component of an APD for it to be administratively complete. If an operator does not submit a WMP or a self-certification statement with the APD, then the APD will not be administratively complete. For the WMP or self-certification to be technically complete, it must contain the required information in final § 3162.3–1 paragraph (j) or (k). If the operator submits a WMP that includes only the anticipated oil production decline curve for 1 year, then the APD is not technically complete. If an operator fails to include a WMP or self-certification as required or if the WMP or self-certification fails to meet the requirements in § 3162.3–1 paragraph (j) or (k), then the BLM will defer action on the APD until the operator amends the APD to comply with the requirements of administrative and technical completeness.

Final § 3162.3–1(l)(3) limits the time in which the operator must address deficiencies in the WMP or the self-certification to within 2 years of submission of the APD. If the operator does not meet this deadline, then the

BLM may disapprove the APD. This change conforms the WMP or self-certification process with the rest of the current § 3162.3–1 and review process. Furthermore, a 2-year limit provides operators with sufficient time to either secure a gas sales contract or proceed with self-certification in the absence of a sales contract. The 2-year time limit also ensures that an APD will not remain in a pending status with the BLM for an extended period because of an operator's lack of diligence or inability to complete its application. A 2-year limit is reasonable for an operator who intends to drill on a lease and is capable of submitting a complete WMP or self-certification.

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

Section 3179.1 Purpose

Final § 3179.1 has only one change from the proposed rule. The BLM changed the name of the Osage Tribe to the Tribe's official name, The Osage Nation, which the Tribe adopted in 2008. The purpose of subpart 3179 remains unchanged in the final rule and continues to implement and carry out the purposes of statutes relating to the 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 IRA.

This final rule section continues to clarify that upon publication, final subpart 3179 supersedes those portions of NTL–4A that pertain to, among other things, flaring and venting of produced gas, unavoidably and avoidably lot gas, and waste prevention. Subpart 3178, published on November 18, 2016 (81 FR 83078), superseded the portions of NTL–4A that pertain to oil or gas used on lease for beneficial purposes (see 43 CFR subpart 3178). With the final publication of subpart 3179, NTL–4A has been superseded in its entirety.

Section 3179.2 Scope

Section 3179.2 of the final rule continues to identify the operations to which the various provisions of subpart 3179 will apply. Paragraph (a) states that, in general, the provisions of the final rule apply to: (1) all onshore Federal and Indian (other than The Osage Nation) oil and gas leases, units, and communitized areas; (2) IMDA agreements, except in certain circumstances described in the rule text; (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, except under certain circumstances; and (4) wells, equipment, and operations on State or private tracts that are committed to a federally approved unit or CA. Final § 3179.2(a) removes the duplication of the words “provided in” that appeared in the proposed rule.

Final paragraph (b) is substantially the same as proposed paragraph (b). The only change in the final rule is that the crossed-referenced sections have been revised to reflect the new section numbers. As in the proposed rule, it provides that certain provisions in subpart 3179, namely redesignated §§ 3179.50, 3179.90, and 3179.100 through 102, apply only to operations and production equipment located on a Federal or Indian oil and gas surface estate and do not apply to operations on State or private tracts, even where such tracts are committed to a federally approved unit or CA, sometimes referred to as “mixed ownership” agreements.

As in the proposed rule, final § 3179.2(b) implicates a question regarding the BLM's authority raised by the court that vacated the 2016 Waste Prevention Rule. 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.”¹³⁹ 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 may be limited to rates of development and matters directly relevant to the BLM's proprietary interest in the Federal minerals.¹⁴⁰ This rule does not reach a position on the full extent of the BLM's authority to regulate non-Federal lands. For purposes of this rule, however, we note that many provisions in the final rule—including final §§ 3179.41, 3179.70, 3179.81, 3179.82, and 3179.83 and the final measurement and reporting requirements in final §§ 3179.71 and 3179.72—have a direct impact on royalty revenue and apply to all operations producing Federal or Indian gas, whether on a Federal or Indian lease or as part of a mixed-ownership agreement. Other requirements—such as those related to storage tank hatches and the leak detection and repair program—apply when the facilities are located on Federal or Indian surface estate because those requirements have a slightly less direct connection to royalties. While the BLM does not view that connection as

dispositive of its authority in this sphere, it has in this rule chosen to limit application of these programs in light of the BLM's recent history of regulation and the possibility that further extending these requirements would generate relatively small marginal gains in revenue relative to other requirements.

The final rule redesignates sections throughout the subpart to standardize the organization of sections in part 3170 (e.g., section numbers ending in “30” will be the sections that contain incorporation-by-reference material, as required, throughout part 3170). Further, the reorganization of the sections in part 3170 groups similar topics together under similar section designations for ease of use and readability.

Section 3179.10 Definitions and Acronyms

This final rule section contains definitions for 12 terms that are used in subpart 3179 as opposed to the 13 terms that appeared in the proposed rule. The BLM removed the proposed definition for “storage vessel.” Proposed § 3179.203, which pertained to oil storage vessels, was significantly revised based on public comment as discussed further below. Thus, the BLM removed the definition for “storage vessel” and substituted the more commonly understood term “oil storage tank” for “storage vessel” in the remainder of subpart 3179. The use of the common term “oil storage tank” brings the final subpart 3179 into alignment with the use of “oil storage tank” in current subpart 3174.

One commenter recommended that, “for the purposes of this section, where there is a State definition that applies for the same BLM term, the BLM will apply the definition used in the State in which the applicable gas or oil well is located.” The BLM is charged with ensuring that the public and Indian mineral interests receive a fair return for their oil and gas leases. That obligation necessarily entails the determination of a lessee's royalty obligation, which, in the case of waste prevention, relies directly on the BLM's consistent use of terms. The BLM would be unable to implement the requirements of this rule consistently—and to ensure a uniformly fair return—if the Bureau were to rely on multiple, varying, and changeable State definitions for the terms used in this regulation. Further, if the BLM were to adopt this approach, and there was a conflict between the BLM requirements and the State definition, there would be no clear path to resolution of the conflict. The BLM did not make changes

¹³⁹ Wyoming court at 1082.

¹⁴⁰ *Id.* at 1082–83.

to allow for the use of definitions from State code to apply to Federal and Indian oil and gas regulations for the State in which the production occurs.

The BLM received comments on the definition for “automatic ignition system” that agree with the BLM’s approach to not require a specific type of device. The BLM agrees that the term “automatic ignition system” connotes the concept of an ignition source without specifying a particular type of device. To be clear, any applicable rule of the EPA, a State, or a Tribe regarding such equipment and its destruction efficiency apply to operations regulated by the BLM.

One commenter stated that requiring a continuous flame is wasteful and unnecessary. The BLM disagrees with this comment because the proposed definition of “automatic ignition system” only requires a continuous pilot flare where needed to ensure continuous combustion. The BLM believes the proposed definition allows for a great deal of operator flexibility and did not change the “automatic ignition system” definition based on the comments.

The BLM did not receive any comments on the proposed definitions for “capture,” “compressor station,” “gas-to-oil ratio (GOR),” or “pneumatic controller.” Therefore, these four definitions remain the same in final rule as in the proposed rule.

One commenter requested the BLM to add a definition for “economic feasibility.” The commenter’s recommended definition mirrors part of the definition for “economically marginal property” found in subpart 3173. For the proposed rule, the BLM used the term “economically infeasible” in proposed § 3179.203(b), which addressed vapor recovery systems. Since the BLM has removed the requirement for a vapor recovery system on oil storage tanks in the final rule, the final rule no longer references the terms “economically feasible” or “economically infeasible.” Therefore, the BLM has not included a definition for “economic feasibility” in the final rule.

Commenters recommended that the BLM include a definition for the term “exploratory well.” The BLM has a definition for “exploratory well” in existing subpart 3172, but that definition applies within that subpart. Leaving the term undefined in this rule could cause confusion. Accordingly, we are adding the same definition of “exploratory well” to this rule as appears in 43 CFR 3172.5: “[e]xploratory well means any well drilled beyond the known producing

limits of a pool.” Subpart 3179 resides in part 3170 Onshore Oil and Gas Production. The definitions that are used within multiple subparts of part 3170 reside in subpart 3170. Originally published in 1988 as Onshore Oil and Gas Order No. 2, subpart 3172 was codified in the CFR on June 16, 2023 (88 FR 39514). When the BLM revises subpart 3170, it will remove the definition for exploratory well from subpart 3172 and include it in subpart 3170 since the definition now applies to more than one subpart.

The BLM received numerous comments on the definition for “gas well.” The definition that the BLM included in the proposed rule was taken from the Conservation Division Manual 644.5. One commenter recommended including a definition that relied on a GOR standard throughout the rule and did not recommend incorporating any deference to the States’ definitions in the rule. The commenter did not provide any recommendation for the appropriate GOR standard for a gas well. The BLM is aware that many States define a gas well in terms of GOR, and the GOR varies among State definitions. The BLM has decided not to change the proposed definition, which relies on whether the well produces more energy from gas or oil. The BLM has implemented that definition in the CDM for decades. Commenters did not explain how a GOR based definition would improve implementation of this final rule. Conversely, adopting a new definition—one relying on GOR—could create implementation conflicts insofar as the BLM chooses a GOR that differs from certain State definitions. Historically, the proposed and final rule definition has provided the BLM with regulatory flexibility when interacting with operators and State regulatory authorities by allowing BLM to adapt to reservoir changes throughout the life cycle of a well that may result in a well qualifying as an oil well initially and as a gas well later.

Another commenter recommended removing the BLM definition for “gas well” and reminded the BLM that in its January 11, 2023, virtual information forum, the BLM stated it uses the gas- or oil- well designation assigned by a State jurisdiction when resolving controversial issues. The BLM’s statement at the virtual information forum was based on IBLA’s interpretation of NTL-4A.¹⁴¹ The BLM has determined that consistent implementation of this rule would be better served by a uniform definition of “gas well”, which it is now

promulgating in this final rule for the first time. The commenter expressed concerns regarding how any inconsistencies between State well designations and the BLM’s “gas well” definition would be reconciled. The final rule does not affect States’ implementation of their regulatory programs. Accordingly, the final rule does not need a mechanism for reconciling State well designations. The BLM did not change the definition for “gas well” in the final rule based on the comments received.

One commenter requested that the BLM change its definition of “high-pressure flare” to mean “an open-air flare stack or flare pit that combusts natural gas at high-pressure volumes leaving a pressurized vessel greater than 100 psig or more and that in normal operations would go to a sales line.” Based on the BLM’s experience, we conclude that, by defining “high-pressure flare” as “leaving a pressurized vessel greater than 100 psig,” the rule would apply to less than 5 percent of flares at Federal or Indian oil-well facilities. Excluding 95 percent of flares would not accomplish the waste prevention goals of this rule. Conversely, in this final rule the BLM intends for any flare carrying gas from a pressurized vessel to be considered a high-pressure flare and to include most, if not all, flares that operate due to pipeline capacity constraints. The BLM did not change the definition to one that includes a pressure threshold to ensure that most of the associated gas flaring is regulated with this subpart.

Another commenter suggested the BLM revise the “high-pressure flare” definition to include any flare that would normally go to sales and provide a definition for “low-pressure flare” as associated gas from separation equipment that would not normally go to sales without compression. The BLM considered the recommended changes to the definition for “high-pressure flare” and “low-pressure flare” and changed the definition of “high-pressure flare” in response to comments. The final definition is: “High-pressure flare means an open-air flare stack or flare pit designed for the combustion of natural gas that would normally go to sales.” Under normal operating conditions, the gas from a pressurized vessel flows through a gas facility measurement point (FMP) and into a sales line, but, due to pipeline capacity constraints, the gas from the pressurized vessel sometimes goes to a flare instead. The BLM disagrees with the commenters that compression needs to be added to the “high-pressure flare” definition, and the BLM believes that defining a low-

¹⁴¹ See Rife, 131 IBLA 357 (1994).

pressure flare as a flare that does not meet the definition of a high-pressure flare is sufficient for the requirements of this rule. A commenter suggested adding “with sufficient pressure to otherwise be injected into the pipeline without the aid of a compressor.” There are operations producing from Federal or Indian leases that use compression on-lease to have enough pressure to enter the sales line. Locations with compression also flare due to pipeline capacity issues. Therefore, the BLM did not add compression to the final definition of “high-pressure flare.” The BLM recognizes and agrees with the comments that the BLM’s proposed definition for “high-pressure flare” would include gas from a second- or third-stage pressurized separation vessel at a lower pressure than would be required for sales. That is not the BLM’s intent, and the definition was changed based on comments to better reflect that the requirements for high-pressure flares are meant for the flared production that would have gone to sales if there were adequate pipeline capacity.

A third commenter suggested that the BLM should define “high-pressure flare” as combustion of gas that does not require compression and that could be transported through the connected sales line. The BLM agrees with the commenter that a high-pressure flare combusts gas that normally flows to sales and changed the definition in response to the comment. However, the BLM did not include the phrase “does not require compression” in the final definition because that would inappropriately limit the definition of high-pressure flare. Some oil wells produce gas that would not need compression to enter a sales line, but if the gas is not routed to a sales line, it should be routed to a flare and therefore subject to the final requirements in § 3179.70. Accordingly, tethering the definition of “high-pressure flare” to the absence of compression might imply that a low-pressure flare *requires* compression, which is inaccurate as a matter of practice and does not reflect the BLM’s intent.

For the proposed definition of “leak,” the BLM received comments suggesting removal of the three methods and standards by which a leak or release may be detected. Other commenters, though, stated that the definition should remain as proposed. For the final rule definition of “leak,” the BLM added the use of audio, visual, and olfactory (AVO) means for leak detection and removed the reference to “a leaking vapor recovery unit” as an example of a leak, since the requirements for installation of a vapor recovery unit

have been removed from the final rule. The final rule LDAR program uses AVO detection methods and does not require operators to evaluate and possibly install vapor recovery equipment. See final §§ 3179.10 and 3179.100.

The BLM amended the final definition of “leak” to be consistent with the final rule’s leak LDAR requirements. Commenters recommended that the removal of the detection methods from the definition. The BLM retained the detection methods in the definition to provide clarity for the regulated community and BLM inspectors. Leaks are not considered leaks unless they can be detected by one of the three methods provided in the definition. Further, the three identified methods for leak detection provide operators with facility inspection flexibility.

The BLM received several comments suggesting a rewording of the proposed definition for “liquids unloading.” For additional clarity, commenters recommended the following rewording to the definition, “removal of liquid hydrocarbons or water in the wellbore that accumulated during production of a completed gas well.” The rewording did not offer any substantive change from the proposed definition, which states “removal of an accumulation of liquid hydrocarbons or water from the wellbore of a completed gas well.” The BLM did not change the definition based on the comments received.

The BLM did not change the final rule definition for “lost oil or lost gas” based on comments received. The BLM received comments suggesting that the BLM expressly exclude royalty-free use of produced oil or gas on-lease from the definition.

The BLM does not consider royalty-free use of oil or gas on the lease to be “lost oil or lost gas,” but adding an express exclusion of royalty-free use in the proposed definition for “lost oil or lost gas” could have created confusion or conflict with the implementation of proposed § 3179.201, regulating pneumatic equipment. Pneumatic controllers and pneumatic diaphragm pumps use gas designated as on-lease and royalty-free use pursuant to subpart 3178. Subpart 3178, in turn, requires that any production used on-lease and royalty-free must be a reasonable volume, based on the type of equipment used. In the case of pneumatic equipment, proposed § 3179.201 would have limited the bleed rate to 6 scf per hour. Thus, if a pneumatic controller had a higher bleed rate than allowed in proposed subpart 3179 and an operator were reporting this use as on-lease use, then the controller would have been in

compliance with subpart 3178 and out of compliance with proposed subpart 3179. For this reason, the BLM removed the pneumatic equipment requirements in proposed § 3179.201 and did not change the definition for “lost oil or lost gas” in this final subpart.

The BLM received comments recommending a change to the definition of “low-pressure flare.” The proposed rule defined a “low-pressure flare” as any flare that does not meet the definition of a “high-pressure flare.” Based on comments received, the BLM changed the definition for a “high-pressure flare” to state that it combusts gas that would normally go to sales. Multiple commenters suggested defining the “low-pressure flare” as one that would not normally go to sales without compression. Since the definition for a “high-pressure flare” now requires that the gas stream would normally go to sales, the proposed definition for “low-pressure flare” as one that is not a “high-pressure flare” accomplishes what the commenters recommended. The BLM did not change the proposed definition of “low-pressure flare” in the final rule based on the comments.

One commenter suggested including a definition for “oil well.” NTL-4A does not contain a definition for either “oil well” or “gas well.” However, the 2016 and 2018 rules that have been vacated by the court did contain a definition for an “oil well.” The BLM believes that defining a “gas well” is sufficient for the purposes of this rule. The BLM acknowledges that the 2016 and 2018 versions of this rule provide a definition for “oil well” that mirrors the definition for a “gas well.” However, this final rule definition of a “gas well” necessarily implies that an “oil well” is one that is not a “gas well.” The final rule definition for gas well reads, “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 GOR greater than 6,000 standard cubic feet (scf) of gas per barrel of oil is a gas well.” Based on the final definition of “gas well,” the BLM believes it functionally supplies a definition for an oil well as one that produces more energy in oil than in gas. The BLM did not add a definition for an oil well to the final rule based on this one comment.

The proposed rule defined “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 BLM requested comment on the definition of “unreasonable and undue waste of gas” in the proposed rule as well as comment on a proposed 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.” One commenter specifically suggested the inclusion of the qualifier “that is economically feasible to avoid” after “or the ongoing loss of gas” in the proposed definition, stating that the BLM has always considered economics in making the determination as to whether the loss of gas is avoidable or unavoidable. The commenter continued that the removal of economic considerations makes the rule “unwieldy,” and “significantly reduces the BLM’s ability to efficiently administer this regulatory program.” A number of commenters recommended the removal of the term “unreasonable and undue waste” that was tied to the proposed WMP, LDAR, and oil-well flaring requirements. Commenters stated the proposed definition is inconsistent and arbitrary and does not provide clear guidance. Another commenter recommended modifications to the proposed alternative definition, which included the addition of a sentence stating, “This includes all venting and flaring of gas unless it arises due to circumstances beyond the control of the operator or due to temporary operational necessities that render abatement options infeasible or unsafe.” The BLM considered all the comments received on the proposed and alternative definitions of unreasonable and undue waste, as discussed in the next paragraph.

Oil and gas deposits are nonrenewable resources and therefore waste prevention and resource conservation are reasonable requirements for producing operations, as provided for and required by statute. In the more than 40 years since the publication of NTL-4A, oil and gas industry technology has advanced significantly, the market has shifted from viewing associated gas as a waste product to a commodity, yet loss of gas from Federal and Indian oil wells has increased in total and on a per barrel produced basis. An economic feasibility

analysis is highly dependent on multiple variables that one may choose to include in the analysis, while the more simplified, sensible approach that the BLM is using here does not require such a multivariate analysis. With the final rule, the BLM has decided to not carry forward the proposed definition of “unreasonable and undue waste of gas” and removed the term from the final rule definitions and references to the definition in that appeared in the proposed rule at § 3162.3-1(k), § 3179.8(b), and § 3179.301. The BLM has determined that the proposed definition and its alternative proposed definition might create unnecessary confusion and, moreover, is not relevant for purpose of carrying out final § 3179.70(b) and § 3179.100. The proposed definitions would made it unnecessarily difficult for the BLM to take enforcement actions given the multivariate nature of the definition. Indeed, the final rule does not use the term “unreasonable and undue waste of gas” anywhere in the regulatory text. Therefore, the BLM removed the definition.

For the final rule, one commenter suggested that the BLM add a definition for the term “vapor recovery tower.” Since the BLM removed the provisions for vapor recovery equipment in the proposed § 3179.203 in response to comments, the BLM does not believe the addition of a definition for a “vapor recovery tower” serves any purpose in the final rule. The BLM did not add a definition to the final rule based on this comment and the changes made in the final rule.

Section 3179.11 Severability

This new section describes the legal principle of “severability” and applies it to the regulations in subpart 3179. If any portion of these regulations were found invalid or unenforceable as to a particular set of circumstances or particular people, the remaining portions of the regulations would remain in effect and the BLM could continue to enforce them.

The BLM has included this severability section in the final rule to make its intent clear that the various provisions in the regulation are independent and that any of the sections of this final rule may either stand alone or work together and are therefore severable. If a court were to find certain sections invalid, the remaining sections of the rule would remain in effect.

Section 3179.30 Incorporation by Reference (IBR)

This final rule incorporates one industry standard without republishing the standard in its entirety in the CFR, a practice known as incorporation by reference. This standard was developed through a consensus process, facilitated by the American Petroleum Institute (API), with input from the oil and gas industry. The BLM has reviewed this standard and determined that it will further the purposes of § 3179.71 of this final rule. This standard reflects the industry-accepted standard for the testing and reporting protocols for a flare gas meter within a Flare Flow Meter System. Under § 3179.71(c), ultrasonic meters used in high-pressure flare systems must be tested for flare use. The legal effect of IBR is that the incorporated standard becomes a regulatory requirement. This final rule incorporates the specific version of the standard listed. The standard referenced in this section would be incorporated in its entirety.

The incorporation of the industry standard follows the requirements found in 1 CFR part 51. The industry standard can be incorporated by reference pursuant to 1 CFR 51.7 because, among other things, it would substantially reduce the volume of material published in the **Federal Register**; the standard is published, bound, numbered, and organized; and the standard proposed for incorporation is readily available to the general public through purchase from the standard 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 final 43 CFR 3179.30 meets the requirements of 1 CFR 51.9.

The API material that the BLM is incorporating by reference is available for inspection at the Bureau of Land Management, Division of Fluid Minerals, U.S. Department of the Interior, 1849 C Street NW, Washington, DC 20240, telephone 202-208-3801; and at all BLM offices with jurisdiction over oil and gas activities.

The API material is also available for inspection and purchase from API, 200 Massachusetts Avenue NW, Suite 100, Washington, DC 20001-5571; telephone 202-682-8000; online purchase <https://www.apiwebstore.org/Standards>. In addition, the API provides free read-only access to the API standard that the BLM has incorporated by reference via an online reading room <https://publications.api.org/>.

The following describes the API standard that the BLM incorporates by reference in this final rule:

API Manual of Petroleum Measurement Standards (MPMS) Chapter 22.3, Testing Protocol for Flare Gas Metering; First Edition, August 2015 (“API 22.3”). This standard covers the testing and reporting protocols for natural gas flare meters. This standard discusses the testing to be performed, how the test data should be analyzed, and how measurement uncertainty is determined based on the test data.

In the proposed rule, the BLM included two GPA Midstream Association standards that would have addressed requirements in proposed § 3179.203(c) for sampling and analysis in the evaluation of the installation of vapor recovery equipment. Since the BLM has removed the vapor recovery equipment requirements from the final rule, there is no longer a need to incorporate those two industry standards and they have been removed.

In response to comments, the BLM in the final rule has expanded the acceptable methods for measuring flared oil-well gas volumes from orifice meters to also include ultrasonic meters. Since ultrasonic meters are not an approved method of measurement at FMPs pursuant to 43 CFR subpart 3175, the BLM is including the testing protocol from API 22.3 to ensure ultrasonic metering accuracy for high-pressure flares. Operators who use ultrasonic meters for flare measurement are required to ensure that these meters are tested for flare use pursuant to API 22.3. The test result report based on API 22.3 must be made available to the AO upon request.

The BLM received a number of comments requesting the inclusion of API MPMS Chapter 14.10 Natural Gas Fluids Measurement—Measurement of Flow to Flares, December 2021, in the industry standards that are incorporated by reference. The BLM elected not to include this standard for reasons outlined in the discussion for § 3179.71 of this preamble.

Section 3179.40 Reasonable Precautions To Prevent Waste

The BLM redesignated this section from § 3179.12 in the proposed rule to § 3179.40 in the final rule. The BLM received comments on this section stating that the section: (1) is vague and would be difficult for the BLM to enforce consistently among field offices; (2) uses the MLA’s “reasonable precautions to prevent waste” language absent actionable requirements; and (3) would allow the BLM to exercise open-ended discretion divorced from

regulatory requirements because it allows the BLM, under proposed paragraphs (b) and (c), to prescribe “reasonable measures” as conditions of approval of an APD. One commenter supported the BLM’s inclusion of the “reasonable precautions to prevent waste” language in this section and concurred with the BLM’s conclusion that what may constitute reasonable precautions to prevent waste may change over time.

In response to these comments, the BLM notes that the proposed section simply reflects the BLM’s existing statutory authority—already enshrined by Congress in the MLA—to require reasonable precautions for preventing waste. The BLM cannot ignore that statutory authority and duty. And insofar as commenters suggest that the BLM’s regulation is in tension with other regulations—such as the application of royalties to enumerated categories of “avoidably lost” gas—the BLM notes that it cannot act contrary to statute or regulation and, where regulations provide the BLM with discretion, it must exercise reasoned decision making in accordance with the APA. Against these background principles, commenters did not provide specific examples of any conflicts between § 3179.40 and other regulations or requirements. Nor did commenters provide specific examples of how any conceptual tension between the MLA’s “reasonable precautions” language and the final regulations would manifest as an irreconcilable and unworkable conflict with these or any other Department regulations.

Indeed, the BLM routinely attaches conditions to APDs, chiefly to apply general statutory and regulatory commands to site-specific conditions, and to apply lease stipulations to particular wells. If an operator requests a variance under § 3170.6, for instance, which requires the alternative to meet or exceed the current requirement, the BLM may grant the variance with reasonable measures for the implementation of the variance. To date, operators have not objected to the BLM’s reasonable measures included with Conditions of Approval for APDs or approvals of measurement variance requests. Further, any decision the BLM makes to prescribe “reasonable measures” that an operator believes causes harm may be appealed pursuant to §§ 3165.3 and 3165.4. The BLM did not change this section in response to comments and the final rule section remains the same as the proposed section, except for redesignating the section.

Section 3179.41 Determining When the Loss of Oil or Gas Is Avoidable or Unavoidable

The BLM redesignated this section from § 3179.4 in the proposed rule to § 3179.41 in the final rule. In paragraph (a) of this section, the BLM considers lost oil as an unavoidable loss when the operator has taken reasonable steps to avoid waste and has complied fully with applicable laws, lease terms, regulations, provisions of a previously approved operating plan, and other written orders of the BLM. Likewise in paragraph (b) of this section, the BLM considers lost gas as an unavoidable loss based on the grounds described in paragraph (a) for lost oil, but with a list of operations or sources from which the gas is lost to qualify as unavoidably lost. Proposed paragraph (b) in this section contained 14 operations for which gas lost would be considered an unavoidable loss. The final rule section contains 13 operations for which gas lost would be considered an unavoidable loss. The BLM removed one operation: initial production testing. The BLM also removed the term “prudent” from the determinations of unavoidably lost oil and unavoidably lost gas because it could cause confusion with the prudent operator standard discussed above, and it is not required for those determinations.

One commenter pointed out that the proposed rule did not address force majeure, or act-of-God events, such as extreme weather conditions, and requested that this type of event should be included in the list of unavoidable losses. The commenter explained that, in its view, force majeure events may not qualify as “emergencies,” as that term is defined in the proposed rule and the IRA. In the BLM’s experience in considering NTL-4A Sundry Notices, it has encountered operators who have claimed that pipeline capacity issues should be considered force majeure events since, in the operators’ view, any gas flared because of a capacity issue is out of its control. The BLM has concluded that pipeline capacity issues are neither force majeure events, nor outside an operator’s control. As discussed above, operators have various options to reduce associated gas flaring when there are pipeline capacity issues, such as curtailing oil production until pipelines become available, and an operator’s choice to continue oil production unabated when there is no available pipeline capacity should not mean that the public must lose the value of the royalties for that flared gas. The BLM disagrees with the comment and will not include “force majeure” in the

list of unavoidable losses in final § 3179.41(b). The emergency provision in the final rule will cover most events that are traditionally thought of as “force majeure” events, but provides clearer standards focused on situations that are true emergencies rather than simply all those arguably beyond the operator’s control. As discussed below, final § 3179.83 defines 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. For the first 48 hours of an emergency, the lost gas is royalty free.¹⁴² It is worth noting that if a “force majeure” event prevented production and sale of oil, there would be little or no venting or flaring.

Commenters on this proposed section disagreed with the time or volume limits set within sections cited in the unavoidable loss list of operations in proposed § 3179.4(b). In most instances, the commenters believed the set limits to be too low and found them to be arbitrary. The BLM has addressed the time or volume limits in final §§ 3179.70, 3179.81, 3179.82, and 3179.83. Each of these sections discusses the comments received and the BLM’s response to the comments separately.

Numerous commenters objected to the list of unavoidable loss operations for lost gas and recommended keeping the NTL-4A rule established 40 years ago, under which the BLM evaluates each event on a case-by-case basis. Under the commenters’ reading of these documents, gas may be wasted, royalty-free, so long as the economics of production do not justify the funding and construction, by a single lessee, unit PA, or CA, of infrastructure, such as a redundant pipeline system or a gas plant. As set forth above, nothing in the MLA requires adoption of commenters’ reading of the prudent operator standard, and, properly considered, even if applicable that standard does not foreclose the BLM from regulating the massive and increasing volume of waste generated from the development of public minerals: as noted in the proposed rule preamble, the average amount of flared associated gas per barrel of oil produced has increased 102 percent between the decade beginning in 1990 and the decade beginning in 2010.

Even on their own terms, NTL-4A and the CDM 644.5 were designed to allow these outcomes. For example, CDM 644.5 explains that “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.” Because most gas pipelines or gas plants do not require a single well to supply them to capacity, but rather service multiple wells, it is inappropriate to weight the costs of infrastructure against the value of the gas produced by a single well or lease.

The BLM also received comments suggesting that the proposed rule’s definition of “avoidable loss” is inconsistent with 43 CFR 3162.7-1(d). That section first provides that “[t]he operator shall conduct operations in such a manner as to prevent avoidable loss of oil and gas.” In a separate sentence, the regulation states that “[an] operator shall be 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 such lease, or due to the failure of the operator to comply with any regulation, order or citation issued pursuant to” 43 CFR part 3160 (emphasis added).

Commenters appear to have read this regulation as equating “avoidable loss” with negligence or noncompliance with BLM orders or regulations, such that the BLM’s proposed rule—which deems gas “avoidably lost” in certain scenarios where an operator is otherwise complying with the regulations and is not negligent—is overbroad and in tension with the existing regulations.

There is no conflict between the BLM’s existing regulations and the proposed rule or this final rule. The regulation at 43 CFR 3162.7-1(d) provides two distinct conditions for when royalties are owed, namely that operators must pay royalties on losses or waste resulting from negligence or from noncompliance with BLM regulations. This final rule defines avoidable waste and specifies when wasted gas is royalty bearing. Thus, it is not in conflict with § 3162.-1(d), rather it is the type of regulation contemplated and referenced by § 3162.7-1(d).

Paragraph 3162.7-1(d) does not define such royalty-bearing loss or waste as “avoidable.” Rather, it includes a separate requirement that operators must conduct operations in such a manner as to prevent avoidable loss.

In comparison, NTL-4A includes a broad definition of “avoidable loss” that has been in place for four decades and that the relevant commenters did not question, contradicting any suggestion that § 3162.7-1(d) conclusively defines what qualifies as avoidable loss of gas.

Unlike 43 CFR 3162.7-1(d), but like NTL-4A, the BLM’s proposed rule and this final rule in § 3179.41 define when

lost gas is “avoidably lost” or “unavoidably lost” and apply royalties to “avoidably lost” gas in § 3179.42. This final 3179 subpart provides that lost gas is royalty bearing if it is avoidably lost—that is, if the operator has not taken reasonable steps to avoid waste, has not complied with BLM directives, and the gas is coming from sources other than those listed in § 3179.42(b), it is royalty bearing. These final regulations better define the conditions for when gas is royalty free and when it is royalty bearing. The BLM has, however, eliminated the “negligence” component of the definitions for “avoidably lost” and “unavoidably lost,” since the definitions already require reasonable measures to prevent waste, *i.e.*, a higher bar than negligence. Particularly in light of this change, there is no tension between the BLM’s existing regulations and those finalized in this rule.

Section 3179.42 When Lost Production Is Subject to Royalty

Proposed § 3179.5 is redesignated § 3179.42 in the final rule. The BLM received several comments on this section, none of which directly objected to the two statements made in this section. The section states that royalty is due on all avoidably lost oil or gas and royalty is not due on any unavoidably lost oil or gas. For example, commenters objected to the use of the terms “avoidable” and “unavoidable” elsewhere in the subpart. As a further example, one commenter stated the BLM should acknowledge that raw associated gas cannot be marketed, explaining that, in the commenter’s view, “[i]t is improper to assess royalties on flared gas because that gas cannot make it to market and has no value.” The commenter appears to argue that when an operator chooses to flare gas, that gas has no value to the public. The BLM disagrees. When an operator makes the business decision to prioritize oil production over gas capture and sale, that operator has necessarily chosen to deprive the public or the Indian lessor of return for that gas. In all events, this comment addresses concepts addressed elsewhere in the regulatory language and preamble. No commenter disagreed that an avoidable loss has a royalty obligation and an unavoidable loss has no royalty obligation. For this reason, the BLM did not change this section.

Section 3179.43 Data Submission and Notification Requirements

This is a new section that did not appear in the proposed rule, but merely contains three tables that reference

¹⁴² 30 U.S.C. 1727.

requirements that appear elsewhere in the regulations for the benefit of readers. All the requirements included in these tables were available for public comment, even though the tables themselves did not appear in the proposed rule. The BLM includes this section for both BLM inspectors and oil and gas operators as a quick reference to Sundry Notice requirements, information that is required at the request of the AO, and information requirements for the LDAR program. The section creates no new obligations on operators that are not already required in other regulations; it is provided for convenience. The summaries of the requirements, as provided in the table, impose no obligation on operators or on the BLM: all rights and obligations appear in the corresponding section of code.

For example, Table 1 to paragraph (a) informs an operator or a BLM inspector that subpart 3179 contains seven Sundry-Notice requirements. Each Sundry-Notice requirement is briefly summarized in the left-hand column with the section number of the specific Sundry-Notice requirement appearing in the right-hand column. If a reader wants further information on the Sundry-Notice requirements, then the reader may go to the referenced sections to understand the requirement more fully within the context of the section. Table 1 has a Sundry-Notice requirement of “Delay of leak repair beyond 30 calendar days with good cause” with a corresponding cross reference to § 3179.101. The reader may go to § 3179.101(a) to learn the full requirement and conclude that § 3179.101(a) requires operators to repair leaks as soon as practicable, and in no event longer than 30 calendar days after discovery unless the operator has good cause for the delay. Further reading shows that § 3179.101(b) requires an operator to submit a Sundry Notice informing the BLM of the good cause creating the delay in repair beyond 30 calendar days. The table provides a quick guide to a requirement and provides the corresponding regulatory reference.

The tables are intended to list all the requirements in the subpart or a section, but they are not intended to provide a comprehensive understanding of the full requirements. The tables are meant to serve as a summarized, quick reference to aid the reader. While this is a new section in the final rule, everything contained within the tables was subject to public comment in the proposed rule. The tables simply summarize final rule requirements. In the event of any conflict, the language

of the final rule requirements prevails over the summaries in the table.

Section 3179.50 Safety

Proposed § 3179.6 is redesignated § 3179.50 in the final rule. The section remains largely the same as in the proposed rule. The BLM received a number of comments on the use of the term “automatic ignition system” and on the proposed immediate assessment of \$1,000 per violation imposed on operators upon the discovery of a flare that is not lit. Industry commenters expressed the view that the definition for an “automatic ignition system” did not allow for various types of equipment to ensure that flares are properly lit when natural gas is present. The BLM intends for the term “automatic ignition system” to require operators to maintain an ignition source without specifying a particular type of device, with the goal that operators will use devices that are appropriate under the circumstances. The purpose of flaring is to combust the gas immediately with no venting from the flare apparatus, and that is the function and requirement of the automatic ignition system.

One commenter interpreted this section to mean that the BLM would prohibit venting of associated gas. The commenter further stated that, in certain circumstances, a “no venting” standard is impossible to meet. The BLM agrees with the commenter, and, for this reason, the BLM continues to include a list of exceptions for which flaring is not possible and venting is anticipated at final § 3179.50(a)(1) through (8). The commenter requested the addition of a *de minimis* exception in the final rule on the grounds that flaring is occasionally technically or economically infeasible. The proposed and final sections already include an exception for technical infeasibility, in addition to several other exceptions for small amounts of gas, and the commenter did not explain why a general “*de minimis*” exception would cover scenarios not already embraced by the final text. The BLM did not make any changes to this section in the final rule based on that commenter’s suggestions. Royalty-free flaring under this provision is limited, as indicated in final § 3179.83, discussed below.

Some commenters contended that the BLM would exceed its statutory authority if it imposed an immediate assessment of \$1,000 per violation for unlit flares. Commenters cited the Wyoming court’s decision¹⁴³ that concluded, for waste minimization and

¹⁴³ Wyoming v. U.S. Dep’t of the Interior, 493 F. Supp. 3d at 1068.

resource conservation purposes, that there is no difference between eliminating excess methane by venting or by flaring. But that is not true for royalties; routing the gas through metered flaring equipment is essential for royalty measurement.

Furthermore, as the BLM stated in the proposed rule, consistent with the MLA’s requirement that leases contain provisions for the “safeguarding of the public welfare” and for the “safety and welfare of the miners,” combusting gas rather than venting it into the surrounding air is safer for operations due to the gas’s explosiveness and the risk to workers from hypoxia and exposure to various associated pollutants.¹⁴⁴ Furthermore, the BLM has an obligation to protect local public health and safety in connection with its oil and gas leases.¹⁴⁵ Based on the 2019 ONRR production data, 3 percent of the flaring locations are flaring more than 30,000 Mcf per month over the averaging period. Allowing volumes of this magnitude to be vented because of failures of flaring equipment would be a public health and safety threat.¹⁴⁶

The BLM also notes, again, that the preference for flaring over venting is well established in oilfield operations. USGS’s implementing guidance for NTL-4A states that, “[b]ecause of safety requirements, gas which cannot be beneficially used or sold *must normally be flared, not vented.*”¹⁴⁷

Furthermore, the BLM in the final rule has limited the scope of this section to apply only to operations and production equipment located on a Federal or Indian surface estate. The requirements in the final § 3179.50 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 CA.

In response to comments, the BLM changed the text of final § 3179.50(a)(4) by replacing the term “storage vessel” with “oil storage tank” and removing the reference to the requirement for vapor recovery equipment in proposed § 3179.203, which has been removed

¹⁴⁴ “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>.

¹⁴⁵ 43 CFR 3162.5–3, 3163.1(a)(3).

¹⁴⁶ See “Flammability of methane, propane, and hydrogen gases,” May 2000, available at <https://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/fompa.pdf> and “Toward an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer-Reviewed Scientific Literature, 2009–2015,” April 2016, available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154164>.

¹⁴⁷ CDM, 644.5.3G (June 1980) (emphasis added).

from the final rule. Also, the BLM amended regulatory text in final § 3179.50(b) to state that flares or combustion devices must be equipped with either an automatic ignition system or an on-demand ignition system. Paragraph (b) has changed slightly from an immediate assessment for “discovery of a flare that is not lit” to state that, upon discovery of a flare that is venting instead of combusting gas, the BLM may issue the operator an immediate assessment of \$1,000 per violation. The BLM changed the language to underscore that the type of automatic ignition system is irrelevant, and the expectation is that gas of sufficient volume and quality must be flared. The immediate assessment for a flare that is venting gas instead of combusting gas remains fundamentally the same as the proposed rule and no changes were made based on comments received.

Section 3179.60 Gas-Well Gas

The BLM redesignated this section from § 3179.7 in the proposed rule to § 3179.60 in the final rule. The BLM did not receive any substantive comments related to this section. The comments received for this section more directly relate to the BLM’s definition of a gas well. These comments are addressed in the discussion of § 3179.10 of this preamble. The BLM did not make any changes to the regulatory text other than updating a referenced citation to the final section number.

Section 3179.70 Oil-Well Gas

Proposed § 3179.8 is redesignated § 3179.70 in the final rule. This section covers the limit beyond which oil-well gas will be considered an avoidable loss with a royalty obligation when gas is flared due to pipeline capacity constraints, midstream processing failures, or similar events. The proposed rule included a volumetric limit of 1,050 Mcf per month per lease, unit PA, or CA. The BLM received numerous comments explaining why a volumetric limit of this kind is inappropriate. The BLM administers many leases that contain a single producing well and many units that contain hundreds of producing wells. Under the proposed rule, a single-well lease and a multi-well unit would have been subject to the same 1,050 Mcf per month volumetric limit.

The BLM agrees that the volumetric limit of 1,050 Mcf per lease, unit PA, or CA per month is unfair due to the varying number of wells in a lease, unit PA, or CA, and has discarded that particular limit, replacing it with a per-barrel volumetric limit. The BLM’s objective in this rulemaking is to create

a practical, royalty-based approach to waste prevention from oil wells that removes the need for an inefficient case-by-case determination of an avoidable/unavoidable loss for gas flaring and allows for some unavoidable flaring, capped by a practical limit.

Achieving this goal is not straightforward, and the BLM considered and ultimately declined to adopt certain alternate thresholds proposed by commenters, such as a time-based limit to flaring.¹⁴⁸ In North Dakota, the BLM encountered significant obstacles when implementing the emergency provision from NTL-4A Section III.A. allowing operators to flare royalty-free for “24 hours per incident and to 144 hours cumulative for the lease during any calendar month.” From that experience, the BLM learned that the time-limit approach is difficult to enforce, and operators learned that they are ill-prepared to provide flaring volumes based on time: operators do not maintain hourly production data that could be used for NTL-4A emergency determinations, nor will the measurement regulations provided for in this final rule obligate such hourly measurements for all operators. From experience, therefore, the BLM decided against adopting a time-based approach in the final rule.

The BLM also considered and rejected commenters’ suggestion that the BLM require operators to capture certain percentages of their oil-well gas. Instead, this final rule requires operators to submit either a waste-minimization plan or a self-certification committing the operator to capture 100 percent of the gas. In addition, insofar as this rule flows from lessees’ obligation to compensate the United States or Indian mineral owners for their resources, the BLM’s application of royalties to avoidably lost gas ensures that the Federal taxpayer or Indian lessor is compensated in the same manner as if the gas were captured and sold. The royalty approach aligns with Congress’ instruction in the IRA. It also aligns with the BLM’s historical practice of curbing waste through royalties, not capture percentages, and (in the context of the production rate limits for oil well gas) with the demonstrated capacity of industry to conserve Federal gas. And consistent with this rule’s efforts to streamline BLM enforcement and supervision (by, *e.g.*, limiting the need for Sundry Notices), it forgoes a not insignificant burden on both operators and the BLM. For example, forgoing

capture percentages obviates the need for the BLM to make case-by-case determinations to avoid premature shut-ins, as in the 2016 Rule’s provision for applications for exceptions to the capture requirements. Although the BLM does not here disclaim the authority to impose capture limits on Federal gas, the BLM’s objective in this rule does not necessitate such percentages.

The flaring thresholds in the final rule begin at 0.08 Mcf of gas per barrel of oil produced in the first year of the rule, 0.07 Mcf per barrel produced in the second year of the rule, 0.06 Mcf per barrel produced in the third year, and 0.05 Mcf per barrel produced afterwards. The BLM selected the initial limit—0.08 Mcf per barrel of oil produced—because it is the average amount of gas flared per barrel of oil produced in 1990 to 2000. Since the 1990s, the industry has witnessed considerable technological advances in directional drilling, hydraulic fracturing, and well completions, but has failed to adhere to the level of conservation the industry has *already* demonstrated it can achieve. Advances have been made in the use of skid-mounted equipment for the extraction of natural gas liquids on-lease, equipment for compressed natural gas on-lease, and on-lease power generation and these advances may not be fully used in the field. Operators also have available to them older methods for using the gas, such as reinjection for enhanced oil recovery, reservoir pressure maintenance, or simply safe disposal. The failure to fully implement new and old techniques to manage gas that is currently wasted is particularly glaring given the inclusion of standardized natural gas contracts with delivery at Henry Hub in the New York Mercantile Exchange (NYMEX) in 1990. Including natural gas on the New York exchange provided important pricing information for the industry and facilitated broader marketing for natural gas as a commodity even though the price of gas fluctuates with the market. Notwithstanding a national market for pricing since 1990, Federal lessees have wasted *more* of the public’s gas as a function of oil production. *Cf., Cal. Co. v. Udall*, 296 F.2d 384, 388 (D.C. Cir. 1961). For example, when the BLM evaluated the 2019 operator-reported production for agreements reporting oil production and flaring data, the average agreement produced 11,850 barrels of oil per month and flared 4,500 Mcf of associated gas per month or an average flaring rate of 0.38 Mcf per barrel of oil produced.

¹⁴⁸ See *Marathon Oil Co. v. Andrus*, 452 F. Supp. 548, 553 (D. Wyo. 1978).

The BLM determined that the starting threshold of 0.08 Mcf per barrel of oil produced would impact the approximately 62 percent of flaring locations responsible for approximately 96 percent of the reported flaring, based on 2019 production data. The 0.08 Mcf per barrel of oil produced is comparable to the proposed 1,050 Mcf per lease, unit PA, or CA in that the final threshold of 0.08 Mcf per barrel addresses about 96 percent of the reported flaring. Thus, the proposed and final rule limits target only those locations generating the majority of the flaring, but, unlike in the proposed rule, would not apply inequitably across unit agreements, PAs, and CAs. The BLM estimates that the proposed limit of 0.08 Mcf per barrel of oil produced would make 88 percent of the flared volumes royalty-bearing and generate approximately \$57.7 million in royalty revenue for the first year. The 0.05 Mcf per barrel of oil produced threshold, in the BLM's estimate, would make about 92 percent of the flared volumes royalty-bearing, based on the 2019 production data.

The proposed rule included a flaring threshold of 1,050 Mcf per lease, unit PA, or CA per month that would have gone into effect 60 days after publication of the final rule. For the final rule, the BLM elected to use a phased-in timeline because of the changed metric, with an initial threshold similar in magnitude to recently reported flaring. A number of States have implemented a phased-in gas capture percentage that allows operators to plan operations and budgets to meet the capture requirements. The BLM provides a similar opportunity for operators to plan for thresholds decreasing from 0.08 Mcf to 0.05 Mcf over 4 years. Also, a 4-year phase-in for the threshold allows for further advances in technology that may assist in lowering waste. When BLM changed to the Mcf per barrel of oil produced flaring limit from the 1,050 Mcf per lease, unit PA, or CA limit, the projected aggregate flared volume beyond the limit increased and, therefore, projected royalties increased.

Commenters also stated that regardless of the flaring threshold, the BLM must include provisions permitting operators to submit a request for approval to flare above the established threshold, and that the threshold establishes an improper per se avoidable loss. The BLM disagrees. The ability for operators to request approval to flare above the established threshold defeats the purpose of a threshold and returns the BLM and operator to an unworkable case-by-case analysis.

Commenters suggested a 24-hour time limit as an alternative to the volumetric threshold that the BLM had in the proposed rule. The BLM disagrees, and the commenters failed to explain how a time-based limit would not also result in what the commenters alleged was an improperly rigid, per se avoidable loss threshold associated with a volumetric limit. The BLM has established the volumetric flaring threshold based on oil production to allow for some avoidable oil-well loss flaring while simultaneously eliminating the time-consuming and administratively costly case-by-case determinations required under NTL-4A.

The State of North Dakota has taken issue with the BLM's proposal to use monthly volume limits. The North Dakota Industrial Commission contends that the BLM should use the "average percentage of gas captured to ensure economic viability, better manage unconventional resources, and minimize conflict with North Dakota's flaring regulations." The BLM has elected not to use a monthly volume limit or a gas capture percentage to determine waste due to the aforementioned inequities associated with varying numbers of wells in a lease, unit PA, or CA; the difficulties implementing a gas capture percentage nationwide; and the concern for not fulfilling the BLM's Indian trust obligation.

States such as North Dakota and New Mexico have implemented a phased-in gas capture percentage. The final rule's limits based on percentages of gas flared per barrel of oil, however, are a better means to manage and understand waste by directly linking oil production with flared gas.

Wyoming comments that in 2021, operators only flared or vented 0.18 percent of all gas that was produced in the State. And North Dakota comments that "its regulations resulted in gas capture rates increasing from 64 percent in 2014 to total capture of 95 percent in 2022 even with all [of North Dakota's] approved variances included." The BLM lauds both States for their advances in lowering flaring, and their achievements will likely reduce any additional burdens on operators in those States from the final rule. However, according to EIA data from 2017 through 2022, North Dakota accounted for approximately 33 percent of the volume of gas flared nationwide while producing 11 percent of the volume of oil produced nationwide. Wyoming accounted for approximately 11 percent of the average total flared gas onshore nationwide and 2 percent of the oil produced nationwide. State efforts to

reduce venting and flaring, though important, do not displace the Secretary's duty to prevent undue waste from Federal and Indian wells nationwide.¹⁴⁹ The BLM has written a rule that will compensate the taxpayer or the Indian mineral owner for the waste of flared gas when the operator chooses to maximize oil production regardless of the associated gas disposition.

Some commenters stated that a fixed threshold for avoidable loss wrongly fails to account for situations "beyond the control of the operator." The largest sources of flared gas associated with BLM leases are unconventional oil reservoirs in North Dakota and New Mexico, where pipeline capacity issues have been cited as reasons for extreme flaring. The BLM has concluded that, particularly in these cases, the rate of oil production and its associated gas production is fully within the control of the operator: the BLM is well aware, for example, that operators have shut in production (whether oil or gas) when commodity pricing is low and have begun producing again when the price rises. The BLM's threshold simply applies the operators' logic in these circumstances to the BLM's interest, as lessor or trustee, in conservation of a public or Indian resource. For this reason, the threshold for an avoidable loss in the final rule is directly tied to the oil production rate—*i.e.*, a factor within the operators' control.

The BLM received comments stating that the flaring thresholds throughout the rule are arbitrary and unfounded, particularly in proposed § 3179.8. One commenter claimed that the BLM had failed to identify and make available for review the information used to determine the flaring limits. On the contrary, the BLM clearly noted in the proposed rule preamble that it relied on production data that operators reported to ONRR from 2015 through 2019 to derive flaring thresholds.¹⁵⁰ These data are available to the public online at the U.S. Department of the Interior Natural Resources Revenue Data website, <https://revenue.data.doi.gov/query-data>.

The BLM elected to use 2019 production data, even though later production data were available, in recognition of the lower (*i.e.*, unrepresentative) production in 2020 and 2021 during COVID-19. When the BLM prepared the proposed rule, 2022 production data were not available. The 2022 production data is now available.

¹⁴⁹ https://www.eia.gov/dnav/ng/ng_prod_sum_a_EPG0_VGV_mmcf_a.htm, https://www.eia.gov/dnav/pet/pet_crd_cpdpn_adc_mbb1_a.htm.

¹⁵⁰ 87 FR 73590, 73603 (Nov. 30, 2022).

The BLM has now reviewed the 2022 data with a flaring rate of 0.11 Mcf of gas flared per barrel of oil produced. Accordingly, the BLM has not altered its approach to flaring limits based on the updated data.

Another commenter wrote, the “BLM’s proposed limits in this Section are much too low, constituting in some instances mere minutes of flaring.” This comment is inconsistent with the publicly available ONRR data, which indicates that the highest reported flared volumes for any month in 2019 were 662 Mcf per hour or 11 Mcf per minute. If operators are flaring 1,050 Mcf in minutes, they are failing to report this level of flared volumes on their Oil and Gas Operations Reports (OGOR) to ONRR. The BLM did not change the flaring limit based on this comment.

One commenter objected to the proposed thresholds because, according to the commenter, the most significant reason why new production outpaces infrastructure capacity is the time-consuming process of obtaining the necessary pipeline rights-of-way from the BLM. The commenter outlined the required steps and associated time to obtain approval to construct a pipeline across Federal and Indian land but did not include the time necessary to obtain necessary approvals to cross State and private land. According to the commenter, the process ordinarily takes 47 weeks. The commenter asserted that operators have no choice but to flare associated gas or shut in the wells given the time necessary to obtain the rights-of-way from the BLM. In effect, the commenter asserted that the BLM is responsible for the flaring of associated gas because obtaining rights-of-way from the BLM is a lengthy process.

Since the rights-of-way process is well understood—as reflected in the comment—operators necessarily make a business decision to accelerate oil production while flaring associated gas due to capacity constraints. Conversely, an operator could begin to plan for the process for obtaining rights-of-way prior to drilling the wells—particularly because many operators plan drilling 5 years into the future—or, alternatively, leave wells shut in until the pipeline rights-of-way is approved. As the BLM notes above, operators routinely make business decisions that are advantageous to their self-interest by electing to shut in wells when the price of oil is low, and, when the price of oil is high, operators act on their self-interest as well by increasing oil production. In this final rule, the BLM is merely applying the same logic to the public’s interest in the conservation of resources and intends for the flaring

limitations to encourage operators to plan ahead for natural gas conservation before they drill wells or postpone production until there is adequate pipeline capacity, thereby reducing the waste of Federal natural gas resources. We note that the BLM approves rights of way for pipelines only where BLM manages the surface estate, which is important for some but not all oil and gas operations.

In any event, as of January 2024, there are 4,237 approved APDs in New Mexico, 1,948 in Wyoming, and 333 in North Dakota. Simultaneously, the BLM currently has only 314 pending rights-of-way applications for oil or gas pipelines in New Mexico, 29 in Wyoming, and none in North Dakota. This disparity between APDs and rights-of-way applications illustrates that operators appear uninterested in obtaining the necessary rights-of-way to accommodate the need for greater pipeline capacity. These pending rights-of-way applications may be factors relating to some of the volume of flared associated gas that operators have reported for the past year, but could have been addressed by earlier planning for those rights-of-way before drilling begins. As demonstrated by the comment, operators are aware of the process and timeline for BLM approval of rights-of-way.

The BLM also received comments on the proposed provision in § 3179.8(b) that would have allowed the BLM to exercise its discretion to order the operator to curtail or shut in production as necessary to avoid unreasonable and undue waste of Federal or Indian gas after confirming that an operator’s flaring is exceeding 4,000 Mcf of gas for 3 consecutive months. The BLM has revised the flaring threshold in the final § 3179.70(b) to allow 1 Mcf of gas per barrel of oil produced per month for 3 consecutive months with confirmation that the flaring is ongoing. The BLM arrived at this figure by targeting the 3 percent of reporting units with roughly 16 percent of flaring—as it had in the proposed rule—and simply adjusted the threshold to correspond to a rate of production as in paragraph (a).

One commenter criticized the structure of proposed § 3179.8 for eliding any inquiry into whether the lessee is acting reasonably and prudently in light of the operator’s actual economic circumstances. The commenter stated further that flaring is not automatically “waste.” The BLM agrees that flaring is not automatically waste, an understanding reflected in the proposed and final rules’ distinctions between avoidable and unavoidable loss and associated flaring thresholds. The

BLM uses the unavoidable loss threshold to allow operators to respond to operational considerations and manage both oil production and associated gas flaring throughout the month to stay below the unavoidable loss threshold: operators are capable of curtailing oil production or shutting in oil wells to lessen or stop the flaring of associated gas. And as set forth elsewhere in this rule, nothing in the MLA requires that the BLM evaluate the feasibility of flaring on a case-by-case basis or without regard to the United States’ interest in conserving the mineral estate.

One commenter went further and provided an example of the economic value of shutting in a well for flaring in excess of 4,000 Mcf per month, the threshold from proposed § 3179.8(b), at a hypothetical value of \$3 per Mcf, which, at a minimum, would yield a gross income of \$12,000 for the gas and an associated Federal royalty income of \$1,500. This commenter continued that, in its view, the BLM failed to explain “how it is negligent and imprudent for an operator to flare that minimal value of gas in lieu of shutting in production from a CA that in the same month would produce tens of thousands, if not hundreds of thousands of dollars, worth of oil.”

The BLM does not find the commenters to be persuasive. The revenue from oil in the proposed example is not lost unless the well is abandoned—otherwise the operator can simply resume operations later. The BLM has reasonably concluded that it would prefer to reap royalties, for the benefit of the American taxpayers or Indian mineral owners, from *both* oil production and otherwise wasted gas. The commenter did not provide any specific data that, in such circumstances, the well would be abandoned. Indeed, the example ultimately buttresses the BLM’s conclusion that the royalties the BLM seeks to obtain are in many cases small relative to the overall value of oil and the associated profit accruing to the operator, such that, absent the final rule, an operator may decide to prioritize its short-term profits over longer-term resource recovery.

This final rule section on oil-well gas applies to all onshore Federal and Indian oil and gas leases, unit PAs, and CAs and this section requires operators to flare (not vent) gas due to pipeline capacity constraints, midstream procession failures, or other similar events that prevent produced gas from being transported through the connected pipeline. The BLM has received comments characterizing the Wyoming

court decision as explaining that it does not matter if gas is vented or flared. The BLM agrees with the relevant passage of the court's opinion, which indicates that, as a matter of volumes of gas wasted, it is immaterial whether the gas is vented or flared. But—independent of the court's discussion regarding volumes of potentially wasted gas—flaring provides benefits to the BLM's waste management mandate, namely accuracy in the measurement of wasted gas. Oil-well gas with flared volumes greater than 1,050 Mcf per month over the averaging period requires accurate measurement for purposes of calculating the royalty obligation. The measurement of vented gas through a flare line does not meet the BLM's expectation for measurement accuracy when there is a royalty obligation. There are no industry standards for measurement of vented gas and no current industry understanding of measurement accuracy of vented gas. Therefore, the operator is expected to flare and measure the flare volume pursuant to final § 3179.71, as set forth below.

Section 3179.71 Measurement of Flared Oil-Well Gas Volume

The BLM has restructured proposed § 3179.9, which was entitled, "Measuring and reporting volumes of gas vented and flared," by breaking it up into two sections in the final rule: § 3179.71, entitled, "Measurement of flared oil-well gas volume," and § 3179.72, entitled "Reporting and recordkeeping of vented and flared gas volumes." The BLM made this change for ease of use for both the regulated community and BLM inspectors.

One commenter suggested a method for determining the flaring threshold limit at commingled facilities. From this comment, the BLM recognized that it had not included explicit regulatory text allowing for the commingling of flared gas from multiple leases, unit PAs, and CAs in the proposed rule. The BLM has rectified this omission by including in the final rule the ability for operators to commingle flared gas without BLM approval in final § 3179.71(a). Proposed paragraph (d) would have allowed operators to use an allocation method approved by the BLM to allocate production from a commingled flare. The BLM recognizes the benefit for operators and the BLM to allow flaring from more than one lease, unit PA, or CA in a common high-pressure flare. Final § 3179.71(a) explicitly allows for the commingling of flared gas from more than one lease, unit PA, or CA to a common flare without BLM approval and provides the allocation method for commingled flares in final paragraph

(h). The BLM requires a standard allocation methodology for commingled flared gas based on oil production. The BLM also included a requirement in this section for operators to indicate on the site facility diagram that the high-pressure flare is a common, commingled flare, and to list the leases, unit PAs, or CAs contributing gas to the common flare. Indicating that flares are commingled on the site facility diagram ensures that BLM inspectors have accurate information when conducting production inspections.

In the proposed rule, the BLM would have required operators to measure using an orifice meter at all high-pressure flares flaring 1,050 Mcf per month or more within 6 months after the effective date of the final rule. For flared gas measured with an orifice meter, the proposed rule also would have required the following: (1) orifice plate inspections once a year; (2) meter verification once a year; (3) gas sampling with a C6+ analysis once a year; (4) flare gas sample taken from: the flare meter location, the gas FMP when the flare and FMP gas are the same quality, or another location approved by the BLM; (5) measurement uncertainty within ± 5 percent; (6) radiant heat considerations for flare placement; and (7) high-pressure flares that met the measurement requirements for a low-volume FMP under subpart 3175. Many of these requirements that appeared in the proposed section were taken directly from the industry standard, API MPMS Chapter 14, Natural Gas Fluids Measurement, Section 10, Measurement of Flow to Flares, Second edition, December 2021.

The BLM evaluated these requirements based on comments and decided to instead require operators in the final rule to use an orifice metering system with the low-volume measurement requirements found in § 3175.80, the low-volume electronic gas measurement system requirements found in § 3175.100, and the low-volume gas sampling requirements found in § 3175.110, with the gas sampling location requirements provided in final § 3179.71(d) or (e). These changes make the accuracy of an orifice metering system used at a flare consistent with that of a low-volume gas FMP. Based on measurement data received from a commenter, the BLM agrees with the data analysis and believes that flare measurement is unlikely to meet the ± 5 percent uncertainty requirement. The commenter provided analysis of annual field data from an orifice measurement flare system and a linear meter flare system showing that the overall

uncertainty of the orifice meter is 6.32 percent and the linear meter is 3.22 percent. Requiring a flare meter to meet the FMP requirements for a low-volume gas FMP removes the need to meet the ± 5 percent uncertainty level. For this reason, the BLM removed the measurement uncertainty requirement in the final rule. The requirement for the consideration for radiant heat for flare installation has been moved to final § 3179.71(c)(3).

One commenter requested that the BLM require flare measurement at all locations flaring associated gas because the commenter believes industry grossly underestimates flared volumes reported to ONRR. The BLM considered this approach but abandoned it because requiring measurement at all flares places an unnecessary economic burden on small operators who rarely have routine flaring due to pipeline capacity issues. While the BLM understands this threshold is based on data that may underestimate the scope of the problem, the BLM has concluded that requiring measurement on flared volumes less than 1,050 Mcf per month over the averaging period would encompass flaring operations that would meet the BLM's emergency criteria and that are outside the BLM's objective for this section, which is to measure more frequent gas flaring. The BLM did not change the high-pressure flare measurement requirement threshold based on this comment.

Other commenters requested the BLM to return to the NTL-4A standard of estimation and eliminate the requirement to measure gas-flaring volumes, relying instead on flared-volume estimation based on site-specific information, such as GORs, sales gas volumes metered for allocations, and gas sample analysis. One commenter provided a study indicating that inefficient and unlit flares account for five times more methane emissions than was previously estimated across the three basins responsible for more than 80 percent of U.S. flaring.¹⁵¹ The study's evidence that industry underestimates the amount of methane lost from flares supports the final rule requirement to measure high-pressure flares with volumes greater than or equal to 1,050 Mcf per month over the averaging period.

The BLM received numerous comments requesting the BLM expand the types of flare measurement systems that can be used from orifice metering

¹⁵¹ Genevieve Plant et al., "Inefficient and Unlit Natural Gas Flares Both Emit Large Quantities of Methane," *Science*, vol. 377, pp. 1566 (2022), <https://www.science.org/doi/10.1126/science.abq0385>.

only to other systems that are covered under API MPMS Chapter 14.10 Natural Gas Fluids Measurement—Measurement of Flow to Flares, December 2021. The BLM did not incorporate this API standard into the final rule because it includes meters that the BLM does not regulate in its gas measurement rules found in subpart 3175. Since royalties will be owed at most flares that require measurement, the BLM is requiring almost the same level of accountability for flaring measurement as would be required for production royalty measurement. The BLM elected to expand the list acceptable meters in subpart 3175 to include ultrasonic meters because the BLM anticipates allowing for the use of ultrasonic meters when it updates subpart 3175, but none of the other meters in API 14.10.

The BLM did not include the use of thermal flow or thermal mass meters for several reasons. First, thermal mass meters are dependent on gas properties, which are variable with natural gas in a flare line. Second, open-loop calibration (as in a flare system), with a thermal mass meter is only recommended using air. Any other application environment will be inferred indirectly and introduce uncertainty or less accurate measurement. Finally, no party submitted any measurement data to demonstrate the acceptable performance of a thermal mass meter for flare use. For these reasons, the BLM has expanded the final rule to include orifice measurement systems and ultrasonic measurement systems.

Comments highlighted safety concerns related to the use of orifice meters on flares and the difficulty in obtaining accurate measurement, given that flow to a flare is intermittent with rates varying considerably at a single meter. The BLM agrees with both the safety and measurement accuracy concerns and changed this section in the final rule to allow both orifice metering and ultrasonic meters. In addition, based on commenters' concerns for safety with the orifice metering system, the BLM included a new provision in § 3179.71(c)(3) that requires operators to evaluate the production facility to determine which type of flare measurement is safe for the facility.

In the final rule, orifice metering systems must comply with the low-volume measurement requirements in § 3175.80, low-volume electronic gas measurement requirements in § 3175.100, and the low-volume gas sampling and analysis requirements in § 3175.110, with the exception for gas sampling requirements in the final rule

at § 3179.71(d) or (e). Under the new provisions in § 3179.71(c)(2), ultrasonic measurement systems must comply with three requirements. First, each ultrasonic meter make and model must be tested for flare use. Ultrasonic meter testing must be conducted and reported pursuant to API MPMS Chapter 22.3, Testing Protocol for Flare Gas Metering, First Edition, August 2015 (“API 22.3”) and the test report must be available to the AO upon request. Second, ultrasonic meters must be installed and operated for flare use according to the manufacturer's specifications and those specifications must be provided to the AO upon request. Third, ultrasonic metering systems must comply with the low-volume electronic gas measurement requirements in § 3175.100, and low-volume gas sampling analysis requirements in § 3175.110 with the exception for the gas sampling requirements in § 3179.71(d) or (e).

Two commenters expressed concern that the measurement system as required in the proposed rule could not meet the proposed uncertainty requirement of ± 5 percent, even though the BLM used the industry standard value. Section 4.1 of API MPMS Chapter 14.10 Natural Gas Fluids Measurement—Measurement of Flow to Flares, December 2021 states, “Targeted uncertainty for flare metering applications shall be ± 5 percent of actual volumetric or mass flow rate, measured at 30 percent, 60 percent and 90 percent of the full scale for the flare meter or as defined by regulations or specific end user requirements.” Based on a commenter's submission of an uncertainty analysis of an orifice meter used in a flare application, the BLM agrees that a ± 5 percent uncertainty for the flare meters, particularly orifice meters, will be difficult to achieve. Therefore, the BLM has removed the measurement uncertainty requirement that was in proposed § 3179.9(b)(5) based on the comment.

The BLM did not receive any comments on its gas sampling requirements in the proposed rule. Since the BLM explicitly allows for commingling of flared gas without prior approval in the final rule, it became necessary to address gas sampling at a commingled and non-commingled flare. The final rule at § 3179.71(d) requires operators to take gas samples from either the flare meter location, the gas FMP location, or another location approved by the AO when measuring high-pressure flare volumes from a single lease, unit PA, or CA. When the gas sample is for a commingled high-pressure flare, the final rule at § 3179.71(e) requires that the gas sample

be taken from either the flare meter location or another location approved by the AO. High-pressure flare heating value requirements are in the new § 3179.72 in the final rule.

The BLM received comments regarding a provision in proposed § 3179.9(b)(1) that provided a 6-month compliance timeline from the effective date of the rule for the measurement requirements. Industry commenters recommended a 1-year compliance deadline for all flare measurement. For the final rule, the BLM extended the timeline for compliance based on the flare flow category. The highest flare flow category ($\geq 30,000$ Mcf per month) compliance deadline remains at 6-months after the effective date of the rule. The mid-level flow category ($< 30,000$ Mcf per month and $\geq 6,000$ Mcf per month) for compliance with measurement and gas sampling requirement has been extended to 12 months after the effective date of the rule. The lowest flare flow category ($< 6,000$ Mcf per month and $\geq 1,050$ Mcf per month) for compliance has been extended to 18 months after the effective date of the rule. One reason for the tiered approach to the measurement compliance timeline is the concern for the risk to royalties based on the volumes flared. The shortest compliance timeline applies to flares producing the highest volumes. The BLM has extended the compliance timeline for lower flared volumes with a lower risk to royalty measurement.

The BLM also understands current supply chain difficulties and has taken those difficulties into consideration in extending the deadline for compliance with measurement requirements and any modifications required for gas sampling for flares based on the flare flow category. The BLM retained a 6-month compliance deadline in the final rule at § 3179.71(f) for measurement and sampling equipment for high-pressure flares measuring greater than or equal to 30,000 Mcf per month over the averaging period. Based on the 2019 ONRR production data, the BLM has concluded that this requirement will affect approximately 100 locations. Of those 100 locations, the BLM anticipates that many will already have measurement systems in place: operators flaring above 30,000 Mcf per month are likely to be interested in accurate measurements of the volume in order to make operational decisions. Moreover, such wells are capable of generating substantial revenue, allowing them to more easily overcome supply chain difficulties. In short, the 6-month deadline should not be difficult for those operators to meet.

The second flare flow category in the final rule has a deadline for compliance 12 months after the effective date of the rule and measures flare flow that is less than 30,000 Mcf per month over the averaging period and greater than or equal to 6,000 Mcf per month over the averaging period. Based on the 2019 ONRR production data used for this rulemaking, the BLM estimates that the 12-month deadline will affect approximately 228 locations. The BLM anticipates some, but not all, of these locations will already have measurement equipment in place that will require some updating based on the final rule flare measurement requirements. In the final rule, the BLM has also extended the timeline for flare measurement and gas sampling to be in compliance for flares measuring less than 6,000 Mcf per month and greater than or equal to 1,050 Mcf per month over the averaging period within 18-months of the effective date of the rule. The BLM estimates that approximately 575 locations will be required to comply with the measurement rules within 18 months of the effective date of the rule. Diligent operators should be able to be in compliance by that effective date.

Final § 3179.71(g) provides the method for estimating the flared volumes when the flared volume is less than or equal to 1,050 Mcf per month over the averaging period. The estimation method is based on the GOR_r calculated from the oil and gas volumes reported to ONRR for the previous 6 months. The total gas produced is the sum of the gas reported as sold or transferred to a gas plant, gas reported for on-lease use, and gas reported as vented or flared for the 6 months prior to the month in which the gas flared volume is estimated. The GOR_r is then multiplied by the total volume of oil produced from oil wells while flaring for the reporting month. The estimated gas volume flared (V_f) equals the GOR_r times the volume of oil produced while flaring (V_{op}) minus the total gas volume sold or transferred to a gas plant (V_s). This method for estimating the flared volume relies on volumes reported to ONRR that can be verified by the BLM without having to rely on production testing done by the operator. Final § 3179.71(g) replaces part of proposed § 3179.9(a) with a verifiable method for flare estimation.

The BLM did not receive any comments on the concepts of flare estimation or measurement per se. On review of the proposed rule, the BLM realized it did not include the ability for an operator to commingle flared gas from multiple sources even though it has been common practice for the BLM

to allow this ability with approval. In the final rule, the BLM allows operators to commingle flared gas without prior BLM approval. Since commingling of flared gas does not require BLM approval, the BLM included a required allocation methodology to be used for the reporting of the flared gas to any lease, unit PA, or CA included in the commingled flare. When a flare is combusting gas that is combined from more than one lease, unit PA, or CA, final § 3179.71(h) provides the allocation methodology for reporting the allocated flared volume to ONRR. The allocation methodology is based on the ratio of the net standard volume of oil from one of the FMPs that is contributing flared gas to the commingled flare divided by the total net standard volume of oil from all the FMPs that have gas contributing to the flare times the total flared volume measured at the flare. The allocation is done for each lease, unit PA, or CA contributing gas to the flare. The flared volume for each lease, unit PA, or CA is reported on its respective OGOR. Final § 3179.71(h) replaces proposed § 3179.9(d) with a verifiable method of allocation from a commingled flare that follows typical industry practices for allocation.

Proposed § 3179.9(e) became § 3179.71(i) in the final rule. The BLM did not receive any comments on this provision. The measurement of flared volumes is not considered an FMP for the purpose of subpart 3175 even though some of the measurement requirements of subpart 3175 will apply to flare measurement. Flare measurement will require the use of an FMP number on the OGOR when and if there is a royalty obligation.

Section 3179.72 Required Reporting and Recordkeeping of Vented and Flared Gas Volumes

Final § 3179.72 is a new section that contains all the ONRR reporting requirements for avoidable and unavoidable losses and the recordkeeping requirements for vented and flared gas volumes. Section 3179.72 begins with paragraph (a), which requires operators to report all vented and flared volumes, both avoidable and unavoidable losses, pursuant to ONRR's *Minerals Production Reporter Handbook*. This paragraph remains unchanged from proposed § 3179.9(a) to final § 3179.72(a). The BLM did not receive any comments on this paragraph in the proposed rule.

In the final rule, the BLM allows operators to commingle flared gas without prior BLM approval. Gas royalty determination is based on two

components: gas volumes and heating value. Final § 3179.72(b) requires operators to report the flared gas heating value based on the gas analysis requirement in § 3179.71(d) or (e). If flared gas is commingled, the operator must report the same heating value from the common flare on all the leases, unit PAs, or CAs contributing gas to the flare based on the gas sample analysis. The proposed rule had similar gas sampling analysis requirements but did not specifically state the requirement to use this heating analysis for reporting. The BLM has included this requirement to clarify the unstated expectation in the proposed rule.

Based on comments received, the final rule includes provisions for event and operational recordkeeping related to waste prevention. GAO reports (e.g. GAO 04-809) have also admonished the BLM that it should exercise better oversight in the documentation of waste.

In response to public and GAO comment, the BLM added paragraph (c) for recordkeeping of oil- or gas-well flaring events, emergency events, and manual downhole liquids unloading operations or well-purging operations in this final section. The requirements of final paragraph (c) apply 3 months after the effective date of the rule to give operators time to develop a system of recordkeeping that complies with the BLM's requirements. The BLM anticipates requesting the records required in paragraph (c) when conducting production audits or investigating excessive avoidable or unavoidable reported losses.

Section 3179.73 Prior Determinations Regarding Royalty-Free Flaring

In the final rule, the BLM redesignated proposed §§ 3179.10 to 3179.73. The provision allows previous decisions authorizing royalty-free flaring to continue for 6 months after this rule's effective date, after which time the BLM will determine the royalty-bearing status of all flaring based on the new subpart 3179 requirements. This change accords with lease terms, which expressly subject all leases to "regulations hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease." See BLM standard lease form 3100-011. We think a 6-month postponement of the effective date will foster a successful transition, potentially reducing or eliminating difficulties for both operators and the BLM. The BLM received two comments in support of including this provision in the final rule. One commenter from a State regulatory authority expressed concern

that some operators may not have budgeted for the necessary operational changes and sought additional time for compliance. No industry commenters, however, requested an extension of the 6-month provision. Nor did anyone object to the approach that the BLM is adopting in the final rule. The BLM did not make any changes to this section based on the comments received. The proposed and final sections contain the same requirements.

Flaring and Venting Gas During Drilling and Production Operations

Section 3179.80 Loss of Well Control While Drilling

Final § 3179.80 was redesignated from proposed § 3179.101 and retitled from “Well drilling” in the proposed rule to “Loss of well control while drilling” in the final rule. The language in the proposed and final sections remains largely the same, with one exception. For consistency with the IRA section 50263, the BLM now requires the operator to submit a Sundry Notice within 15 days following the conclusion of a loss-of-well-control event describing the loss of well control. From the details provided in the Sundry Notice and any other information available to or obtained by the BLM, the BLM will determine whether the loss of well control was due to operator negligence. If the BLM determines the loss of well control was due to operator negligence, then the oil or gas lost is determined to be an avoidable loss with a royalty obligation. The BLM will notify the operator in writing as to whether such loss will qualify as an avoidable loss.

One commenter on this section suggested that the BLM assess “royalties on all gas that is vented during well drilling unless venting is required due to safety reasons or because flaring or capture is infeasible.” The BLM has concluded that the Sundry Notice requirement in the final rule—and the respective royalty obligation—meets the commenter’s objective. In the BLM’s experience, operators work to avoid loss of well control while drilling and prepare in advance should a loss of well control occur. Therefore, the BLM considers the likelihood of negligence during the loss of well control to be very low and adequately canvassed.

The BLM received another comment requesting that the BLM provide clarification on the process it will use to make an avoidable-loss determination, and whether and how an operator may appeal a BLM decision of an avoidable loss. In response to part of this comment, the final rule requires an

operator to notify the BLM within 24 hours of the start of a loss of well control event and to submit a Sundry Notice containing relevant details of the loss of circulation to determine if the loss is an avoidable or unavoidable loss. The BLM believes this process is consistent with that in the Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases Reporting of Undesirable Events (NTL–3A). The BLM already has an appeal process in place that will cover any BLM decision in this section, see §§ 3165.3 and 3165.4.

Section 3179.81 Well Completion and Recompletion Flaring Allowances

In response to comments, the BLM reorganized, redesignated, and consolidated concepts from proposed §§ 3179.102, 3179.103, and 3179.104 into only two final sections, §§ 3179.81 and 3179.82. Proposed § 3179.103, which was entitled, “Initial production testing,” has been redesignated as final § 3179.81 and is now entitled, “Well completion or recompletion flaring allowances.” Comments reflected some confusion about the BLM’s intent in proposed § 3179.102, “Well completion and related operations,” and § 3179.103, “Initial production testing.” The comments’ core question is whether the BLM views the period of flowback following fracturing or refracturing as the same or different from initial production testing. In response to those comments, the BLM eliminated the concept of initial production testing and will regulate flaring following well completion or recompletion as a separate period in the lifecycle of a newly producing formation in a well.

Final § 3179.81, “Well completion or recompletion flaring allowances,” provides for flaring royalty-free under §§ 3179.41(b)(2) and 3179.42(b) until one of the following events occurs: (1) 30 days have passed since the beginning of the flowback following completion or recompletion, except where an extension has been granted under paragraph (b) for flowback delays caused by well or equipment problems, or under paragraph (d) for dewatering and initial evaluation of an exploratory coalbed methane well for up to two possible 90-day extensions; (2) the operator has flared 20,000 Mcf of gas, as provided in paragraph (a)(2); or (3) flowback has been routed to the production separator, as provided in paragraph (a)(3). Paragraph (e) of this section of the final rule requires operators to submit their requests for extension using a Sundry Notice. One commenter contended that royalty-free flaring thresholds for well completion in

the proposed rule were “arbitrarily low.” The BLM has increased these thresholds in the final rule.

This final section includes the flowback period following a completion or recompletion. As suggested by some commenters, the BLM removed the provision in proposed § 3179.103(a)(1) allowing the operator to flare royalty-free until adequate reservoir information for the well was obtained. Comments indicated that this provision was an obsolete vestige of NTL–4A, and operators no longer initially test wells for reservoir information. To avoid confusion about testing and flowback following completion or recompletion, the BLM’s final rule includes time and volumetric flaring limits for well completion or recompletion for flowback.

Section 3179.82 Subsequent Well Tests for an Existing Completion

For the final rule, the BLM redesignated and retitled this section from § 3179.104, “Subsequent well tests,” to § 3179.82, “Subsequent well tests for an existing completion.” One commenter argued that since the BLM’s rule is focused on waste prevention from a royalty perspective, the BLM should not allow operators to extend subsequent well testing without a royalty obligation beyond 24 hours. The BLM has always been responsible for ensuring that oil and gas resources belonging to the public or to Indian mineral owners have been produced in a reasonable manner, measured accurately, and reported properly. The allowance for an extension to the 24-hour well testing period was part of NTL–4A. Operators rarely need to submit well testing extension requests and, when they do, the AO may deny the request if the flaring during well testing would be excessive. Further, this section also allows for a longer flare period for any well testing that the BLM may require of an operator. Accordingly, the BLM disagrees with the comment and did not make any changes to this section.

Another commenter indicated that the BLM does not provide an appeal process within this section if an operator would like to appeal a BLM decision not to extend the well-testing period. The BLM allows for appeal of any BLM decision from an adversely affected party pursuant to 43 CFR 3165.3. The BLM did not change this section based on this comment.

Section 3179.83 Emergencies

The BLM redesignated this section from § 3179.105 in the proposed rule to § 3179.83 in the final rule. One

commenter stated that the proposed rule did not indicate who will make the determination of whether a situation will be treated as an emergency. The final rule indicates that the AO will receive the Sundry Notice and make a determination of avoidable or unavoidable loss based on the event circumstances. In § 3179.83(a), the BLM defines 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. To further clarify the definition of an emergency, the BLM provides in § 3179.83(b) common examples of situations that do not qualify as emergencies. Given the definition and the illustrative situations that do not constitute an emergency, the BLM believes operators will be able to report the lost volumes with the appropriate disposition codes on the OGOR. From this section, the BLM believes that operators can measure or estimate lost volumes appropriately on the OGOR for the initial 48 hours of the emergency situation that are royalty-free. Beyond the initial 48 hours of an emergency, there may be a royalty obligation and, in final § 3179.83(c), the BLM included a description of the type of information that operators must include on a Sundry Notice to enable the BLM to make an avoidable or unavoidable loss determination. The BLM added this provision in the final rule for consistency with section 50263 of the IRA.

The BLM also received a comment suggesting that the BLM should expressly include severe weather events and natural disasters as emergencies. Severe weather and natural disasters were not provisions in NTL-4A. While the BLM believes that severe weather and natural disasters may require other types of safety precautions, such as temporarily shutting in a well, and if a well were shut in for severe weather or natural disasters, then there is no need to be concerned about associated gas flaring. If the well continues to produce oil, then this does not constitute an emergency for flaring gas royalty-free. The commenter did not provide adequate justification for this type of change to the final rule.

Gas Flared or Vented From Equipment and During Well Maintenance Operations

Section 3179.90 Oil Storage Tank Vapors

Based on comments on the proposed rule, the BLM changed the requirements in proposed § 3179.203, which has been

redesignated as § 3179.90 in the final rule.

In response to comments, the BLM changed the term “oil storage vessels” in the proposed section to “oil storage tanks” in the final rule. This change in terminology brings this section of the final rule into alignment with subpart 3174, Measurement of oil. The BLM received several comments on the proposed requirements for vapor recovery equipment and the immediate assessment of \$1,000 per violation for an oil storage tank hatch left open or unlatched, and unattended. After careful consideration of the comments, the BLM removed the vapor recovery requirements from § 3179.90 for two reasons.

First, the BLM’s focus is on waste prevention, including loss of royalties, and the proposed vapor recovery requirement would not increase royalties with any certainty. Many commenters stated that the annual requirement to obtain a sample and compositional analysis of the tank vapors was expensive, excessive, and in their view served no purpose. The BLM agrees that those requirements would contribute little to assuring proper royalty collection.

Second, even if the installation of vapor recovery equipment might be economic, there is no guarantee that the tank vapors collected would have adequate pressure for a sales line. Under these circumstances, the BLM would be requiring operators to incur a capital expense with no guarantee of sales or associated royalties for the public, or for Indian mineral owners. For these main reasons, the BLM has decided to remove the vapor-recovery-equipment requirements in this section.

A commenter pointed out that there are tank hatches designed to open with excess pressure, and such openings might occur prior to or during inspections, and that there should be no immediate assessment for open, unlatched, and unattended tank hatches. API Standard 2000 Venting Atmospheric and Low-pressure Storage Tanks (Reaffirmed, April 2020) Section 3.4.2, Emergency Venting, indicates that a gauge hatch that permits the cover to lift under abnormal internal pressure is an acceptable emergency venting method, among other provisions. While there are tanks designed and built with this type of emergency venting gauge hatch, in the BLM’s experience, this type of hatch is very uncommon equipment located on a Federal or Indian oil and gas lease. If an operator does have an emergency venting gauge hatch on the tank, the operator may request a variance pursuant to § 3170.6.

Other commenters asserted that the requirements for the oil storage tank hatch presented a safety risk. Commenters specifically referenced North Dakota Department of Environmental Quality (NDDEQ) guidance that, according to the commenters, “allows for tank vapor flares and control devices to be bypassed when a well is shut in to minimize the risk. In these cases, the hatches may need to be left open to relieve breathing pressure due to temperature fluctuations throughout the day.” The BLM has been unable to locate that exact quote from NDDEQ’s website, but has found guidance for shut-in, upstream facilities.¹⁵² The BLM confirmed by phone call with NDDEQ that this memo appears to be that referenced by the commenter. The BLM agrees with the NDDEQ guidance that, if a facility is completely shut-in and any production to tanks has ceased, then emissions are expected to be minimal and operators may be in compliance with VOC emissions standards with the hatch left open. With this final rule, the BLM is regulating waste prevention from producing oil and gas wells. The BLM is not regulating emissions from shut-in facilities in this final rule.

As a general matter, the requirement to maintain all hatches and connection and other access points vapor tight and capable of holding pressure in excess of the pressure relieving device has been in place since the BLM referenced API 12R1 Recommended Practice for Setting, Connecting, Maintenance and Operations of Lease Tanks, Third Edition, May 1986 in Onshore Oil and Gas Order No. 4, Measurement of Oil.¹⁵³ The current API Standard 12R1, Installation, Operation, Maintenance, Inspection, and Repair of Tanks in Production Service, Sixth Edition, March 2020, Section 4.5.2 states, “All hatches, connections, and other access points shall be gasketed and kept closed during operation to minimize vapor emissions.” One commenter stated that the closure of a tank hatch was a prudent operator standard and one that industry follows diligently. The BLM thus concludes that, at a producing facility, latching a tank hatch closed is the current industry practice, and well

¹⁵² <https://deq.nd.gov/publications/AQ/policy/PC/OilGas/20210823StorageTankMemo.pdf>.

¹⁵³ The BLM includes API 12R1, Third edition, from May 1986 as historical reference that the requirement for vapor tight connections was an industry standard included in the BLM’s Onshore Oil and Gas Order No. 4 later codified at 43 CFR subpart 3174 Measurement of oil.

within the capabilities of competent operators.

An immediate assessment is appropriate for violating such an industry standard incorporated into the final rule. Immediate assessments are not new. They have “long been considered to be in the nature of liquidated damages, allowing the BLM to recover the administrative and other costs incurred as a consequence of the operator’s noncompliance, where actual damages are difficult or impracticable to ascertain, and regardless of whether there has been any actual threat to public health, safety, property, or the environment.” *Brigham Oil & Gas*, 181 IBLA 282, 287 (2011) (citing authorities). On this understanding of the MLA, the volumes of gases lost (or the safety or environmental risks caused by an improperly opened or leaking hatch) are impossible to quantify, but the BLM would nonetheless incur costs of, *inter alia*, enforcement actions to assure the violation is abated. Thus, the BLM’s statutory authority for such an assessment in this context flows from 30 U.S.C. 188(a) (providing that the lease may provide for resort to appropriate methods for the settlement of disputes or for remedies for breach of specified conditions thereof,” which conditions necessarily encompass these regulations), and the BLM’s waste prevention authority.

Section 3179.91 Downhole Well Maintenance and Liquids Unloading

The BLM redesignated this section from § 3179.204 in the proposed rule to § 3179.91 in the final rule. The BLM received two comments in support of this proposed section with one commenter explicitly agreeing with the BLM’s inclusion of the requirement for a person to be on site for well purging and that the person end the event as soon as practical. Based on the comments, the BLM did not make any substantive changes to this final section.

Section 3179.92 Size of Production Equipment

This section was designated as § 3179.205 in the proposed rule. One commenter on this section stated that the requirement to size production and processing equipment properly based on the production volume at the facility is consistent with current industry practice. Another commenter pointed out that the States of New Mexico and Colorado have State requirements similar to this section. The same commenter recommended that, if operators fail to comply with the requirement to properly size their production equipment, the BLM should

deem that failure to constitute unreasonable and undue waste. The BLM did not adopt this suggestion, because it has elected to remove the term “unreasonable and undue waste” from the final rule.

Under the final rule, an operator who fails to size the equipment properly will receive an Incident of Noncompliance as a major violation with an abatement period to fix the violation. If an operator fails to comply within the abatement period, the BLM may escalate enforcement to civil penalties. The BLM did not make any changes to the regulatory text in this section in response to the comments received.

Leak Detection and Repair (LDAR)

Section 3179.100 Leak Detection and Repair Program

The BLM redesignated the LDAR program section from the proposed rule at § 3179.301 to the final rule at § 3179.100. Section 3179.100 provides the requirements for operators to set up and maintain programs for detecting and repairing natural-gas leaks from their operations and production equipment. Section 3179.101 gives the timetable and requirements for repairing leaks. Section 3179.102 provides the requirements for recordkeeping. The LDAR program applies only to operations and production equipment located on a Federal or Indian oil and gas lease. The LDAR program and requirements 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 CA (see § 3179.2).

The BLM received numerous comments requesting that the BLM allow operators to demonstrate their compliance with BLM requirements by showing that they already comply with EPA’s OOOO series rules or State leak detection rules. The BLM considered and rejected this alternative approach to compliance. First, the BLM’s final Waste Prevention Rule serves a different statutory purpose (conservation of resources) than EPA’s rule (protection of human health and welfare vis-a-vis air quality). The BLM further declines to allow compliance with EPA’s OOOOb and OOOOc to demonstrate compliance with BLM’s waste prevention rule given the different statutory goals of each rule and the acute need to reduce waste or receive compensation for waste of the public and Indian mineral resource. Where the BLM has independently determined that specific provisions from EPA are sufficient to accomplish the BLM’s waste prevention mandate, the BLM has made limited changes in

the final rule as set forth below at § 3179.100(b)(2).

Second, the BLM’s LDAR program is limited to operations and production equipment located on Federal or Indian oil and gas leases. Since the scope for this section is limited, it is appropriate for the BLM to have its own requirements that would not interfere with implementation of any EPA final rule. The BLM’s LDAR program is focused on monitoring and repairing leaks as quickly as possible to meet its waste prevention objective of maximizing production by keeping it contained within the system and flowing through the sales point.

Commenters also suggested that any final LDAR program cover a larger area than simply a single lease, unit PA, or CA. The BLM evaluated its ability to review individual LDAR programs for every single lease, unit PA, or CA, and agrees with the commenters. The BLM changed its final rule to require operators to submit LDAR programs corresponding to the BLM-administrative State. The initial LDAR programs and the annual reviews and updates of the originally submitted LDAR program must be submitted to the appropriate BLM state office in writing until such time as the BLM has the ability to receive the LDAR programs and annual reviews and update reports electronically.

In the proposed rule, the BLM required the operator to submit the LDAR program no later than 6 months after the effective date of the final rule. Commenters believed this timeframe was too short for submitting the initial program. The BLM agrees. The BLM extended the time in which operators must submit an LDAR program to the BLM administrative state office because the BLM adopted commenters’ suggestion to expand the geographic area for which an operator creates the LDAR program. In the proposed rule, LDAR programs were to be submitted to a BLM Field Office for review; in the final rule this was changed to a larger geographic area and therefore BLM extended the time to prepare the programs. In this final rule, the BLM extends this timeframe for compliance to within 18 months of the effective date of the final rule. This 18-month timeframe for compliance is likely to go into effect prior to standards in state plans submitted in response to EPA’s OOOOc rule.

This final section requires operators to review and update submitted LDAR programs on an annual basis. The annual update is due in the same month in which the operator submitted the initial LDAR program to the BLM. The

annual report ensures that information about the identified leases, unit PAs, and CAs, leak detection methods, current operator, and frequency of inspections is current. If the LDAR program requires no changes, then the operator must notify the BLM state office that the LDAR program submitted and reviewed remains in effect. The requirement for an annual update and review is also cross-referenced in the section about recordkeeping requirements for leak detection in final § 3179.102.

The BLM received comments that the requirements for the LDAR program were vague, with no guidance or requirements as to what the BLM would determine as adequate or inadequate and what additional measures the BLM might prescribe to address any identified deficiencies in the program. The BLM acknowledges the commenters' concern, and in the final rule modified some requirements for the LDAR program that should avoid conflict with the EPA's OOOO series requirements. In final rule § 3179.100(b), the LDAR program requires the operator to submit the following information for the LDAR program: (1) identification of the leases, unit PAs, and CAs by geographic State for all States within the BLM's administrative State boundaries to which the LDAR program applies; (2) identification of the method and frequency of leak detection inspection used at the lease, unit PA, or CA. Under final rule § 3179.100(b)(2), acceptable inspection methods and frequency include: (i) well pads with only wellheads and no production equipment or storage must include quarterly AVO inspections for leak detection; (ii) well pads with any production and processing equipment and oil storage must include AVO inspections every other month and quarterly OGI for leak detection; and (iii) other leak detection inspection methods and frequency acceptable to the BLM (e.g., continuous monitoring); (3) identification of the operator's recordkeeping process for LDAR pursuant to final § 3179.102.

Final § 3179.100 requires operators to directly submit initial LDAR programs and subsequent annual LDAR reports to BLM state offices for review. At this time, the BLM's Automated Fluid Minerals Support System is unable to receive LDAR programs or annual reports. In the future, the BLM anticipates having a new electronic database that will be able to accept LDAR program requirements. When a new electronic database is available and capable of receiving the LDAR program

requirements, the BLM will notify operators and give them sufficient time to prepare for electronic submission of LDAR program requirements.

Section 3179.101 Repairing Leaks

The final rule redesignated this section from § 3179.302 in the proposed rule to § 3179.101 in the final. The BLM received comments supporting this section as written in the proposed rule. One commenter suggested changing the repair periods to align with their EPA counterparts to eliminate confusion between the two agencies' requirements. The BLM's proposed period remains unchanged because the BLM has determined that its timeframes are sufficient to meet the BLM's waste prevention needs. Even though EPA is providing the delay of repair provisions for up to 2 years under specific conditions for the enforcement of air quality, the BLM elects to maintain a shorter time for repair for the prevention of waste.

A second commenter suggested that paragraph (d), which gives operators 15 calendar days to address an ineffective repair, is an insufficient amount of time. The BLM reminds the commenter that this is 15 days for an ineffective repair. Prior to this point, the operator will have had 30 calendar days after discovery of the leak to effectively repair the leak. The proposed and final rules provide an additional 15 calendar days to repair an ineffectively repaired leak. The repair of leaks in a timely manner is a maintenance obligation and demonstrates operator performance in a good and workmanlike manner. The 15-day allowance for an ineffective repair—45 days in total—should not be cause for concern for a diligent operator. The BLM did not make any changes to the regulatory text of this section based on comments.

Section 3179.102 Required Recordkeeping for Leak Detection Inspection and Repair

The BLM redesignated this section in the final rule from § 3179.303 in the proposed rule to § 3179.102 in the final. Commenters asked the BLM to remove the requirement for operators to submit an annual report to the BLM on March 31 of each calendar year summarizing the previous year's inspection activities, including: (1) the number of sites inspected; (2) the total number of leaks identified, categorized by the type of component that was leaking; (3) the total number of leaks repaired and (4) the total number of leaks that were not repaired as of December 31 of the previous year due to good cause, along with an estimated date of repair for each

leak. The commenters requested this information be kept on site and be made available to the AO upon request. Commenters also contended that the March 31 and December 31 dates as arbitrary. The BLM disagrees in part to the comments. The annual report is an integral part of informing the BLM as to whether the LDAR program is beneficial in reducing leaks and preventing waste, or, in other words, whether it is an effective program that is worth continuing. The BLM agrees in part that removing the two dates of March 31 and December 31 from the final rule would allow an operator to report similar information to the BLM and EPA on the same dates. Thus, the BLM removed the March 31 and December 31 dates that had been proposed to define the LDAR program year, and instead the final rule allows operators to determine the LDAR program year based on the submission of their initial LDAR program to the BLM state office for review within 18 months of the effective date of the rule pursuant to final § 3179.100. The BLM also removed the requirement for the annual report to contain the total number of leaks repaired in the year. This information may be determined from the other information required on the annual report.

As a reminder, final §§ 3179.100 through 3179.103 apply only to operations and production equipment located on a Federal or Indian oil and gas lease. The aforementioned sections do not apply to operations and production equipment on State or private tracts, even when those tracts are committed to a federally approved unit or CA.

Immediate Assessments

Section 3179.200 Immediate Assessments

The BLM did not include a section on immediate assessments in the proposed rule. However, the proposed rule contained two immediate assessments: proposed § 3179.6(b) for unlit flares and proposed § 3179.203(a) for thief hatch left open and unattended. There are no new immediate assessments in the final rule. The immediate assessment for the unlit flare is found in the redesignated § 3179.50(b) and for the hatch left open and unattended is found in the redesignated § 3179.90(a).

The BLM included this new section summarizing the immediate assessments found elsewhere in final subpart 3179 for consistency with other subparts in part 3170 that contain immediate assessments, such as §§ 3173.29, 3174.15, and 3175.150. The BLM believes the tables with immediate

assessments provided in these subparts provide the regulated community and BLM inspectors with a quick reference for the immediate assessments found within the respective subparts.

Sections That the BLM Removed

Section 3179.102 Well Completion and Related Operations

In the final rule, the BLM removed proposed § 3179.102, “Well completion and related operations,” and instead opted for a simpler approach to flaring following well completion or recompletion that appears in the final § 3179.81. Based on numerous comments, the BLM elected to eliminate the distinction made in proposed § 3179.102 between a new completion that is hydraulically fractured and an existing completion that is hydraulically refractured. In the proposed rule, the BLM made this distinction because the BLM believed that it is more likely for existing completions that are refractured to be connected to a sales line to capture flowback gas to sales sooner and limit flaring as a result. Comments revealed that the proposed sections were confusing. The BLM eliminated proposed § 3179.102 to simplify and make the flaring limits more straightforward.

Based on comments received for the proposed rule, the BLM removed proposed § 3179.201 “Pneumatic controllers and pneumatic diaphragm pumps.” The rationale for the removal and reduction of requirements for this section are discussed below. The removal of proposed § 3179.201 means that the subpart 3179 requirements that apply only to operations on Federal and Indian surface estate have been reduced in the final rule.

Section 3179.201 Pneumatic Controllers and Pneumatic Diaphragm Pumps

Proposed § 3179.201 limited the bleed rate of natural-gas-activated pneumatic controllers and pneumatic diaphragm pumps to 6 scf per hour for leases, unit PAs, and CAs producing greater than 120 Mcf of gas or 20 barrels of oil per month. The BLM’s intention was to limit the bleed rate of natural-gas-activated pneumatic diaphragm pumps to decrease the volume of bleed gas and simultaneously increase the amount of gas that would be sold. The BLM’s proposed RIA indicated the monetary benefits to industry for this requirement exceeded the costs. The proposed rule RIA estimated that operators would replace up to 52,213 pneumatics devices, resulting in an estimated 5.93 Bcf of gas conserved annually. The 5.93

Bcf of gas conserved described in the proposed RIA was an initial estimate that assumed that all intermittent bleed pneumatic controllers would bleed continuously throughout the year. BLM recognizes that is not how intermittent bleed pneumatic controllers are operated. Rather BLM understands that this equipment is used in varying ways based on operating conditions. A more precise estimate is difficult to ascertain because the BLM does not track production equipment of this type. The proposed RIA also relied on EPA’s U.S. GHG Emissions data (<https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021>), from which it is inherently difficult to attribute emissions volumes to operations on Federal and Indian surface estate.

After reviewing public comments on this section and evaluating the practical implications of enforcement of this section, the BLM decided to remove this section in its entirety. The BLM authorizes royalty-free use of lease production for operations and production purposes, including placing oil or gas in marketable condition on the same lease, unit PA, or CA prior to removal from the lease, unit PA, or CA. The requirements for royalty-free use of lease production are found in subpart 3178. Subpart 3178 does not limit the volume of royalty-free use oil or gas so long as the volume is reasonable for the operation. To limit the use of pneumatic controllers and pneumatic diaphragm pumps to less than 6 scf per hour would have created a conflict with 43 CFR subpart 3178. In addition, the BLM considered the practical difficulty in inspecting for and enforcing the requirements of the proposed section, which would obligate the BLM to maintain an extensive database of pneumatic equipment with the manufacturer’s advertised bleed rate for enforcement. During a production inspection, a BLM inspector would ascertain whether the device exceeded the required bleed rate and, if it did, require the operator to replace the equipment. Proposed 3179.4(b)(7) would have allowed for normal operating losses from a natural-gas-activated pneumatic controller or pump to qualify as an unavoidable loss. Therefore, during any inspection there could have been no determination of avoidably lost gas with a royalty obligation, making this provision irrelevant for royalty collection purposes.

Section 3179.401 State and Tribal Requests for Variances From the Requirements of This Subpart

Proposed § 3179.401 would have reinstated the State or Tribal variance provision from the 2016 Waste Prevention Rule. The provision would have allowed States and Tribes to request a variance under which analogous State or Tribal rules would have applied in place of some or all of the requirements of subpart 3179. With a variance request, the State or Tribe would have been 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 have been authorized to approve the variance request or approve it subject to conditions, after considering all relevant factors. This decision would have been entirely at the BLM’s discretion and would not be subject to administrative appeals under 43 CFR part 4. If the BLM were to have approved 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 have approved a variance under this section, the BLM would have been authorized to enforce the State, local, or Tribal rules applied under the variance as if they were contained in the BLM’s regulations.

In the proposed rule, the BLM requested public comment seeking confirmation that such variances would be both useful and practical. The BLM also requested 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 Memoranda of Understanding (MOUs), in terms of providing better environmental protection, better protection of taxpayer and lessor interests, administrative efficiencies, and burden reductions for operators.

Several commenters offered general support for the BLM’s proposed rule to allow for State or Tribal variance requests. Commenters expressed concerns for the increased need for

limited State resources for the process and implementation, for conflict with the MLA prohibition on the promulgation of rules “in conflict with the laws of the State in which the leased property is situated,”¹⁵⁴ and the lack of clarity in the proposed requirement that the State or Tribal regulation would perform “at least equally well” as the BLM rule. The BLM agrees with some of these concerns. However, the BLM did not receive comments confirming that the variances would be both useful and practical or that variances would improve on existing practices and administrative tools, such as MOUs. Commenters expressed support for the use of MOUs,

In the final rule, the BLM decided not to carry forward the proposed provision to allow for State and Tribal variances. Upon further review, the BLM believes that the provision would have created a significant administrative burden for the agency while not improving on existing practices and administrative tools.

Operators in States or on Tribal lands that have more stringent standards than those contained in this rule are required to conform to the more stringent State or Tribal standards, 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, indicating that a variance provision in this rule is not useful. Commenters failed to show that the subpart 3179 provisions would conflict with any State’s more stringent requirements. The BLM has also not identified any such conflict. Thus, with or without a formal variance, a State or Tribe may effectively supplement the BLM’s regulatory requirements by enacting stricter requirements. That is consistent with the BLM’s longstanding practice.

There are benefits associated with aligning data collection processes or other potential areas of regulatory similarity that could bring greater efficiencies for both operators and regulators, but MOUs can more efficiently achieve many of those goals without the need for a State or Tribal variance.

Commenters requested that the BLM pursue a Title V Operating Permit Program similar to EPA’s under the CAA and do further work to promote Tribal self-determination and self-governance within this rule. The BLM lacks EPA’s CAA authority, but welcomes the opportunity to consult with Tribes concerning cooperative agreements.

While the variance provisions are not in the final rule, the BLM welcomes the opportunity to enter into MOUs or similar agreements with States and Tribes to clarify applicable regulatory requirements, which is also part of longstanding practice.

VI. Procedural Matters

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

Executive Order 12866, as amended by Executive Order 14094, 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 final rule is 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 final rule replaces the BLM’s current rules governing venting and flaring, which are contained in NTL–4A. We have developed this final 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 in the following table along with the transfer payments this rule will provide in the form of increased royalties from increased gas sales. The total monetized Net Benefit on an annualized basis is \$360,000 at a 7 percent discount rate and \$441,000 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 final rule for the public. Climate benefits derived from foregone emissions were not a factor in the decision to include any of the individual waste prevention requirements in this final rule.

COSTS AND BENEFITS SUMMARY
[2024–2033]

	7% Discount rate		3% Discount rate	
	NPV (\$MM)	Annualized (\$MM)	NPV (\$MM)	Annualized (\$MM)
Costs				
Measurements	\$8.46	\$1.20	\$9.60	\$1.13
LDAR	64.55	9.19	78.40	9.19
Administrative Burdens	62.56	8.91	75.98	8.91
Total Cost	135.57	19.30	163.98	19.22

¹⁵⁴ 30 U.S.C. 187.

COSTS AND BENEFITS SUMMARY—Continued
[2024–2033]

	7% Discount rate		3% Discount rate	
	NPV (\$MM)	Annualized (\$MM)	NPV (\$MM)	Annualized (\$MM)
Benefits				
LDAR	\$165.07	19.66	167.74	19.66
Total Benefits	165.07	19.66	167.74	19.66
Net Benefits	29.50	0.36	3.76	0.44
Transfer Payments	360.04	51.26	438.59	51.42

The BLM reviewed the requirements of the final rule and determined that they will 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 final rule. The RIA has been posted in the docket for the final 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 APA (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 final rule will likely affect a substantial number of small entities.

The BLM reviewed the final rule and has determined that, although the final rule will likely affect a substantial number of small entities, that effect will

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 final rule are estimated to represent only a small fraction of the annual net incomes of the companies likely to be impacted. Because the final rule will not have a “significant economic impact on a substantial number of small entities,” as that phrase is used in 5 U.S.C. 605, a final regulatory flexibility analysis and regulatory compliance guide are not required. The Secretary of the Interior certifies under 5 U.S.C. 605(b) that this rule will not have a significant economic impact on a substantial number of small entities.

C. Congressional Review Act

The statutory provision found at 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act, does not apply to this final rule because it is estimated that the rule will not have an annual economic impact of \$100 million or more. As noted in the Costs and Benefits Summary earlier, the RIA that the BLM produced for this rule calculates that this rule will cost operators \$19.3 million per year (using a 7 percent discount rate) for the next 10 years, while generating benefits to operators of approximately \$1.8 million a year (using a 7 percent discount rate) in the form of 0.45 Bcf of additional captured gas. The reduced methane emissions associated with the final rule will provide a benefit to society of \$17.9 million a year over the same time frame, leading to a net benefit from the rule of \$360,000 to \$441,000 a year.

D. Unfunded Mandates Reform Act (UMRA)

The final rule will not have a significant or unique effect on State, local, or Tribal governments or the private sector. The final rule contains no requirements that apply to State, local, or Tribal governments. The final rule revises requirements that otherwise

apply to the private sector participating in a voluntary Federal program. The costs that the final rule will 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 final rule. This final 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 final rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630. A takings implication assessment is not required. The final rule will replace the BLM’s current rules governing venting and flaring, which are contained in NTL–4A. Therefore, the final rule will 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 final 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 will 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 final 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 final rule will 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 will not apply to States or local governments or State or local governmental entities. The rule will affect the relationship between operators, lessees, and the BLM, but it will not directly impact the States. Therefore, in accordance with Executive Order 13132, the BLM has determined that this final rule will not have sufficient federalism implications to warrant preparation of a Federalism Assessment.

G. Civil Justice Reform (Executive Order 12988)

This final rule complies with the requirements of Executive Order 12988. More specifically, this final 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 final 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 final 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 final rule has the potential to affect Indian Tribes.

In August of 2021, the BLM sent a letter to each federally recognized Tribe informing them of certain rulemaking efforts, including the development of this final rule. The letter offered Tribes the opportunity for individual

government-to-government consultation regarding the final rule. Three Tribes responded to the letter and requested government-to-government consultation. The BLM conducted Tribal consultations with those three Tribes during the rulemaking process.

I. Paperwork Reduction Act

A. 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 information collections requirements contained in the BLMs waste prevention standard as contained in 43 CFR parts 3160, 3170, and subpart 3178 have been approved by OMB under OMB control number 1004-0211.

This Final rule contains revised and new information collection (IC) requirements for BLM regulations and requires 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 Forms 3160-3 ("Application for Permit to Drill or Reenter") and 3160-5 ("Sundry Notices and Reports on Wells"). Forms 3160-3 and 3160-5 are used broadly for onshore oil and gas operations and production purposes under 43 CFR parts 3160 and 3170 and are approved under OMB control number 1004-0137. This final rule does not introduce any changes to Forms 3160-3 and 3160-5 and the forms 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 Forms 3160-3 and 3160-5 in regard to the proposed waste prevention standard subject to this final rule. The final rule contains the below new and revised IC requirements.

B. Effects on Existing Information Collections Requirements

The final rule revises certain existing information collection requirements and introduces new information collection

requirements. These information collection requirements are discussed in detail in the information collection request submitted to OMB and are available at <http://www.reginfo.gov/public/do/PRAMain> under OMB control number 1004-0211 as outlined below.

Existing § 3162.3-1 Drilling Applications and Plans (Application for Permit To Drill Oil Well and WMP)

The final rule amends § 3162.3-1 to include the requirement for a WMP (using Form 3160-3) or self-certification. In addition, the final rule adds § 3162.3-1(j), which requires 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 or alternatively, in § 3162.3-1(k), a self-certification for 100 percent capture of the associated gas.

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, and 3178.9 of the BLM's current rules require submission of a Sundry Notice (Form 3160-5) to request prior written BLM approval for use of gas royalty-free for the following operations and production purposes on the lease, unit or communitized area. This final rule does not address nor would change this existing requirement.

C. New Information Collection Requirements

The final rule introduces new information collection requirements in the new subpart 43 CFR subpart 3179. These information collection requirements are discussed in detail in the information collection request to submitted to OMB and are available at <http://www.reginfo.gov/public/do/PRAMain> under OMB control number 1004-0211, as outlined below.

The final subpart 3179 has information collection requirements, as discussed below. The purpose of this subpart is to implement and carry out the purposes of statutes to prevent waste from covered Federal and Indian oil and gas leases with requirements for flaring and venting of produced gas, requirements for the waste of gas from leaks, and clearly defining unavoidably and avoidably lost gas.

Section 3179.41 Determining When the Loss of Oil or Gas Is Avoidable or Unavoidable (Notifying the BLM Prior to Flaring)

Section 3179.41 requires that an operator notify the BLM through a Sundry Notices and Report on Wells, Form 3160-5, prior to the flaring of gas

from which at least 50 percent of natural gas liquids have been removed on-lease and captured for market, that the operator is conducting such capture and the inlet of the equipment used to remove the natural gas liquids will be an FMP.

Section 3179.71 Measurement of Flared Oil-Well Gas Volume

Section 3179.71(a) of the rule requires operators to measure volumes of gas using orifice meters or ultrasonic meters for flares measuring greater than 1,050 Mcf per month over the averaging period from wells, facilities and equipment on a lease, unit, or CA. The operator is required to install measurement for flares, but there are no information collection activities associated with the installation of measurement equipment. Sections 3179.71(d) and (e) provide the sampling requirements for non-commingled flares and commingled flares. The gas sample analysis will determine the Btu value the operator is required to report to the Office of Natural Resources Revenue Form ONRR-4054.

Section 3179.72 Required Reporting and Recordkeeping of Vented and Flared Gas Volumes

Section 3179.72 requires operators to maintain records of venting and flaring events beginning 3 months following the effective date of the rule. Operators are required to keep a record containing the information specified in this section and make it available to the BLM upon request.

Section 3179.80 Loss of Well Control While Drilling

Section 3179.80 provides that the operator must notify the BLM within 24 hours of the start of the loss of well control event and submit a Sundry Notice within 15 days following conclusion of the event to the BLM describing the loss of well control.

Section 3179.81 Well Completion and Recompletion Flaring Allowances and § 3179.82 Subsequent Well Tests for an Existing Completion

The final rule allows for royalty-free flaring following a new completion or recompletion until one of the following occurs: (1) 30 days have passed since beginning of the flowback following completion or recompletion; (2) 20,000 Mcf of gas have been flared; (3) flowback has been routed to the production separator. Section 3179.81 allows an operator to flare gas for 30 days since the beginning of the flowback under certain conditions and specified limits. Section 3179.82 permits an

operator to flare gas for no more than 24 hours during well tests subsequent to the initial completion or recompletion flaring. An operator is required to submit its request for longer test periods or increased limits under paragraphs (b), (c), or (d) of this section using a Sundry Notice.

Section 3179.83 Emergencies

Section 3179.83 requires that within 45 days of the start of the emergency, the operator is required estimate and report to the BLM on a Sundry Notice the volumes flared or vented beyond the timeframes specified in paragraph (b) of this section.

Section 3179.90 Oil Storage Tank Vapors

The final rule for § 3179.90 requires an operator to only open the tank hatch to the extent necessary to conduct production and measurement operations. This section also requires the operator to maintain all oil storage tanks, hatches, connections and other tank access points in a vapor tight condition. An immediate assessment is imposed upon discovery of a hatch that is open or unlatched, and unattended.

Section 3179.100 Leak Detection and Repair Program

The rule requires an operator to maintain an LDAR program designed to prevent the 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. Operators must submit their LDAR programs for BLM review, and the BLM would notify the operator if its program was determined to be inadequate. Operators are required to submit an annual report on inspections and repairs. Section 3179.100 requires that the operator of a Federal or Indian lease must submit the LDAR program to the BLM state office with jurisdiction over the production describing the operator's LDAR program for all the production facilities within the BLM administrative State boundaries, including the frequency of inspections and any instruments to be used for leak detection.

Section 3179.101 Repairing Leaks

Section 3179.101 requires that an operator 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, a well shut-in, or would be unsafe to conduct during operation of the unit. Paragraph (b) of this section 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.

Section 3179.102 Leak Detection Inspection Recordkeeping and Reporting

Operators are required to keep records in inspections and repairs and submit those records to the BLM upon request. Section 3179.102 requires that an operator maintain certain records for the period required under § 3162.4-1(d) of this title and make them available to the BLM upon request.

D. Changes From the Proposed to Final Rule

Below are changes to the information collections in the final rule that are different from those in the proposed rule.

- The final rule includes § 3179.72 adds a new required reporting and recordkeeping of vented and flared gas volumes.
- The final rule includes § 3179.80, Unavoidable/Avoidable loss determination for drilling with loss of well control, adds a new Sundry-Notice requirement in the final rule that was not in the proposed rule.
- The BLM removed the proposed Annual compositional analysis for oil storage vessels that was contained in the proposed § 3179.203.
- The BLM removed the proposed State or Tribal requests for variances or amendments that was contained in the proposed §§ 3179.401 and 3179.401(e).

E. Estimated Information Collection Burdens

Currently, there are 50 responses, 400 annual burden hours, and \$0 non-hour cost burdens approved under this OMB control number. 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 are not addressed in this final rule. The BLM projects that the information collections as contained in this final rule are to result in 58,301 new annual responses (from 50 to 58,351), 125,351 new annual burden hours (from 400 to 125,751); and \$24,175,000 annual non-hour cost burdens (\$0 to \$24,175,000). The increase in annual burdens results from the Final rule results from the information collection activities

contained in the 43 CFR subpart 3179, a new subpart introduced by this final rule and a new requirement contained in 43 CFR 3162.3–1, Application, to Drill Oil Well and WMP.

Title: Waste Prevention, Production Subject to Royalties, and Resource Conservation (43 CFR parts 3160, 3170, 3178 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: 1,200.

Estimated Number of Annual Responses: 58,351.

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

Estimated Total Annual Burden Hours: 125,751.

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: \$24,175,000.

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 final rule. 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.

If you want to comment on the information-collection requirements in this final rule, please send your

comments and suggestions on this information-collection request within 30 days of publication of this final rule in the *Federal Register* to OMB at 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.

J. National Environmental Policy Act

The BLM has prepared a final EA to determine whether this proposed rule will 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 final EA supports the issuance of a Finding of No Significant Impact for the rule, therefore preparation of an environmental impact statement pursuant to the NEPA is not required.

The final 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.

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 will 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 final rule will 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.

Authors

The principal authors of this final rule are: Amanda Fox, Petroleum Engineer, Santa Fe, NM; Beth Poindexter, Petroleum Engineer, San Antonio, TX; and the Office of the Solicitor, Department of the Interior. Technical support provided by: Tyson Sackett, Economist, Cheyenne, WY; Scott Rickard, Economist, Billings, MT; and Terry Snyder, Senior Natural Resources Specialist, Salt Lake City, UT. Assisted by: Casey Hodges, Petroleum Engineer, Granby, CO; 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 amends 43 CFR parts 3160 and 2170 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 revising paragraph (d) and adding paragraphs (j), (k), and (l) to read as follows:

§ 3162.3–1 Drilling applications and plans.

* * * * *

(d) The Application for Permit to Drill process must be initiated at least 30 days before commencement of operations is desired. Prior to approval, the application must be administratively and technically complete. A complete application consists of Form 3160–3 and the following attachments:

(1) A drilling plan, which may already be on file, containing information required by paragraph (e) of this section and appropriate orders and notices.

(2) A surface use plan of operations containing information required by paragraph (f) of this section and appropriate orders and notices.

(3) Evidence of bond coverage as required by the Department of the Interior regulations.

(4) For an oil well, a Waste Minimization Plan (WMP), as required by paragraph (j) or a self-certification statement, as required by paragraph (k) (These requirements do not apply to gas wells); and

(5) Such other information as may be required by applicable orders and notices.

* * * * *

(j) An Application for Permit to Drill for an oil well with a WMP must include the following information in the WMP:

(1) The anticipated initial oil production rate from the oil well and the anticipated production decline over the first 3 years of production;

(2) The anticipated initial oil-well gas production rate from the oil well and the anticipated production decline over the first 3 years of production;

(3) Certification that the operator has a valid, executed gas sales contract to sell to a purchaser 100 percent of the produced oil-well gas, less gas anticipated for use on-lease pursuant to 43 CFR subpart 3178.

(4) 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) A self-certification is a written statement that the operator will be able to capture, as defined in 43 CFR 3179.10, 100 percent of the oil-well gas that the oil well produces. An approved Application for Permit to Drill with a self-certification statement is not subject to 43 CFR 3179.70(a), and all flared gas is an avoidable loss with a royalty obligation, except for emergencies as

identified in 43 CFR 3179.83. A self-certification statement applies and is enforceable from the date of first production until the well is plugged and abandoned.

(l) The BLM may take one of the following actions based on the operator's WMP or self-certification:

(1) Approve an administratively and technically complete oil-well application with a WMP subject to conditions for flared gas, as described in 43 CFR 3179.70(a);

(2) Approve an administratively and technically complete oil-well application with a self-certification for oil-well gas capture subject to conditions for flared gas, as described in this paragraph;

(3) Defer action on an oil-well application with a WMP or self-certification statement that is not administratively and technically complete in the interest of preventing waste until such time as the operator is able to amend the application to comply with the requirements in paragraph (j) of this section or this paragraph, as applicable. If the applicant does not address deficiencies in the WMP or the self-certification to comply with the applicable requirements within 2 years of submission of the application, the BLM will disapprove the application.

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.

3179.10 Definitions and acronyms.

3179.11 Severability.

3179.30 Incorporation by Reference (IBR).

3179.40 Reasonable precautions to prevent waste.

3179.41 Determining when the loss of oil or gas is avoidable or unavoidable.

3179.42 When lost production is subject to royalty.

3179.43 Data submission and notification requirements.

3179.50 Safety.

3179.60 Gas-well gas.

3179.70 Oil-well gas.

3179.71 Measurement of flared oil-well gas volume.

3179.72 Required reporting and recordkeeping of vented and flared gas volumes.

3179.73 Prior determinations regarding royalty-free flaring.

Flaring and Venting Gas During Drilling and Production Operations

3179.80 Loss of well control while drilling.

3179.81 Well completion or recompletion flaring allowance.

3179.82 Subsequent well tests for an existing completion.

3179.83 Emergencies.

Gas Flared or Vented From Equipment and During Well Maintenance Operations

3179.90 Oil storage tank vapors.

3179.91 Downhole well maintenance and liquids unloading.

3179.92 Size of production equipment.

Leak Detection and Repair (LDAR)

3179.100 Leak detection and repair program.

3179.101 Repairing leaks.

3179.102 Required recordkeeping for leak detection and repair.

Immediate Assessments

3179.200 Immediate Assessments.

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 The Osage Nation) oil and gas leases, protection of worker safety, 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 paragraph (b), this subpart applies to:

(1) All onshore Federal and Indian (other than The Osage Nation) 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 3179.50, 3179.90, and 3179.100 through 3179.102 apply only to operations and production equipment located on a Federal or Indian surface estate. 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.

§ 3179.10 Definitions and acronyms.

As used in this subpart, the term:

Automatic ignition system means an automatic ignitor and, where necessary 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 at standard conditions.

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 that would normally go to sales.

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 audio, visual, and olfactory means or 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 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 an oil storage tank hatch left open, or an improperly sized combustor, are 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.

§ 3179.11 Severability.

If a court holds any provisions of the regulations in this subpart or their applicability to any person or circumstances invalid, the remainder of this subpart and its applicability to other people or circumstances will not be affected.

§ 3179.30 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 Yvette M. Fields with the BLM at: Division of Fluid Minerals, 1849 C Street NW, Washington, DC 20240, telephone 240-712-8358; email yfields@blm.gov; [*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 \[www.archives.gov/federal-register/cfr/ibr-locations.html\]\(http://www.archives.gov/federal-register/cfr/ibr-locations.html\) or email \[fr.inspection@nara.gov\]\(mailto:fr.inspection@nara.gov\). The material may be obtained from the following source:](https://www.blm.gov/programs/energy-and-minerals/oil-and-</p>
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(a) American Petroleum Institute (API), 200 Massachusetts Ave. NW, Suite 1100, Washington, DC 20001; telephone 202-682-8000. API offers free, read-only access to some of the material at <http://publications.api.org>.

(1) API Manual of Petroleum Measurement Standards Chapter 22.3, Testing Protocol for Flare Gas Metering; First Edition, August 2015 (“API 22.3”), IBR approved for § 3179.71(c).

(2) [Reserved]

(b) [Reserved]

§ 3179.40 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 (APD).

(c) After an APD 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.

§ 3179.41 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 taken 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 taken 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, subject to the limitations in § 3179.80;

(2) Well completion and recompletion flaring allowances in § 3179.81;

(3) Subsequent well tests, subject to the limitations in § 3179.82;

- (4) Exploratory coalbed methane well dewatering;
- (5) Emergency situations, subject to the limitations in § 3179.83;
- (6) Normal operating losses from a natural-gas-activated pneumatic controller or pump;
- (7) Normal operating losses from an oil storage tank or other low-pressure production vessel that is in compliance with §§ 3179.90 and 3174.5(b);
- (8) Well venting in the course of downhole well maintenance and/or liquids unloading performed in compliance with § 3179.91;
- (9) Leaks, when the operator has complied with the LDAR requirements in §§ 3179.100 and 3179.101;
- (10) Facility and pipeline maintenance, such as when an operator must blow-down and depressurize

- equipment to perform maintenance or repairs;
- (11) 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 the WMP or self-certification for Applications for Permit to Drill approved after June 10, 2024 or § 3179.70, as applicable;
- (12) Flaring of gas from which at least 50 percent of natural gas liquids have been removed on-lease 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 a Facility Measurement Point (FMP); or

(13) 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 APD.

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

§ 3179.42 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.

§ 3179.43 Data submission and notification requirements.

(a) Table 1 is a summary of the Sundry Notice requirements in this subpart.

TABLE 1 TO PARAGRAPH (a)—NOTIFICATION VIA SUNDRY NOTICE REQUIREMENTS

Sundry notice requirements	Reference
Flaring of gas following removal of ≥50 percent of the natural gas liquids from the gas stream on-lease	§ 3179.41(b)(12).
Other gas sample location for flare approved by the AO	§ 3179.71(d)(3) and (e)(2).
Unavoidable/avoidable determination of loss of oil and/or gas while drilling for loss of well control event	§ 3179.80.
Extension of time limit or volumetric limit for well completion or recompletion flaring, or exploratory coalbed methane dewatering flaring.	§ 3179.81(e).
Extension of time limit for well testing subsequent to initial completion	§ 3179.82.
Within 45 days of start of an emergency, estimate the volume flared or vented beyond the first 48 hours of the emergency.	§ 3179.83(c).
Delay of leak repair beyond 30 calendar days with good cause	§ 3179.101(b).

(b) Table 2 summarizes the locations in this subpart that require an operator to provide information to the authorized officer upon request.

TABLE 2 TO PARAGRAPH (b)—INFORMATION REQUIRED AT THE REQUEST OF THE AO

Information required at the request of the AO	Reference
Ultrasonic meter flare gas testing report	§ 3179.71(c)(2)(i).
Ultrasonic meter manufacturer’s specifications including installation and operation specifications	§ 3179.71(c)(2)(ii).
Recordkeeping for vented or flared gas events	§ 3179.72(c).
Recordkeeping for leak detection and repair	§ 3179.102(a).

(c) Table 3 summarizes the initial LDAR program submission and subsequent annual reporting.

TABLE 3 TO PARAGRAPH (c)—LDAR PROGRAM

Information required to be sent to the BLM State Office	Reference
First submission of a leak detection and repair program to the BLM for review	§ 3179.100(b) and (d).
Annual review and update of the leak detection and repair program to the BLM	§ 3179.100(e).

§ 3179.50 Safety.

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

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

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

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

(4) The gas is vented from an oil storage tank;

(5) The gas is vented during downhole well maintenance or liquids unloading activities performed in compliance with § 3179.91;

(6) The gas is vented through a leak;

(7) 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) 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 or an on-demand ignition system. Upon discovery of a flare that is venting instead of combusting gas, 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 tanks' 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.

§ 3179.60 Gas-well gas.

Gas-well gas may not be flared or vented, except where it is unavoidably lost pursuant to § 3179.41(b).

§ 3179.70 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, the oil-well gas is "unavoidably lost" for the purposes of 43 CFR 3162.3-1(j), 43 CFR 3179.41(b)(11), and 3179.42, subject to the following limits:

(1) Flaring of 0.08 Mcf per barrel of oil produced per month between July 1, 2024 and July 1, 2025.

(2) The flaring limit of 0.07 Mcf per barrel of oil produced per month will begin on July 1, 2025.

(3) The flaring limit of 0.06 Mcf per barrel of oil produced per month will begin on July 1, 2026.

(4) The flaring limit of 0.05 Mcf per barrel of oil produced per month will begin on July 1, 2027, and remain at this level.

(b) Where substantial volumes of oil-well gas are flared the BLM may order the operator to curtail or shut-in production as necessary to avoid the 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 1 Mcf per barrel of oil produced 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.

§ 3179.71 Measurement of flared oil-well gas volume.

(a) The operator may commingle flared gas from more than one lease, unit PA, or CA to a common high-pressure flare without BLM approval, subject to the allocation requirement in paragraph (h). The site facility diagram required under § 3173.11 must indicate that the high-pressure flare is a common, commingled flare and list the leases, unit PAs, or CAs contributing gas to the common flare.

(b) The operator must measure flared gas for high-pressure flares for volumes greater than 1,050 Mcf per month above the averaging period. For high-pressure flares measuring less than or equal to 1,050 Mcf per month over the averaging period and for low-pressure flares, operators may estimate the volume flared, as described in paragraph (h) of this section.

(c) High-pressure flares requiring measurement must use either orifice plates and orifice meter tubes, or ultrasonic meters. High-pressure flare measurement systems must meet the following requirements:

(1) Orifice metering systems must comply with the low-volume measurement requirements in § 3175.80, low-volume electronic gas measurement requirements in § 3175.100, and the low-volume gas sampling and analysis requirements in § 3175.110 with the gas

sampling location requirements provided in paragraphs (d) or (e) of this section.

(2) Ultrasonic metering systems must comply with the following requirements:

(i) Each ultrasonic meter make and model must be tested for flare use. Flare gas meter testing must be conducted and reported pursuant to API 22.3 (incorporated by reference, see § 3179.30) and results must be made available to the AO upon request.

(ii) Ultrasonic meters must be installed and operated for flare use according to the manufacturer's specifications and those specifications must be provided to the AO upon request.

(iii) Ultrasonic metering systems must comply with the low-volume electronic gas measurement requirements in § 3175.100, and the low-volume gas sampling analysis requirements in § 3175.110, except for the gas sampling requirements in (d) or (e) of this section.

(3) Operators must evaluate the production facility to determine which type of flare measurement is safe for the facility.

(d) The gas sample must be taken from one of the following locations when the high-pressure flare is measuring a single lease, unit PA, or CA:

(1) At the flare meter;

(2) 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

(3) At another location approved by the AO with a Sundry Notice submission.

(e) The gas sample must be taken from one of the following locations for a common high-pressure flare that measures more than one lease, unit PA, or CA:

(1) At the flare meter; or

(2) At another location approved by the AO with a Sundry Notice submission.

(f) Appropriate meters must be installed at all high-pressure flares pursuant to paragraph (c), and gas sampling must be taken from the appropriate location pursuant to paragraphs (d) or (e) according to the following phase-in timeline:

TABLE 1 TO PARAGRAPH (f)—DEADLINE FOR COMPLIANCE WITH HIGH-PRESSURE FLARE MEASUREMENT, AND GAS SAMPLING LOCATION

Flare flow category	Deadline for measurement compliance for high-pressure flares and gas sampling location
≥30,000 Mcf per month	December 10, 2024.
<30,000 Mcf per month and ≥6,000 Mcf per month	June 10, 2025.
<6,000 Mcf per month and ≥1,050 Mcf per month	December 10, 2025.
<1,050 Mcf per month	Not applicable.

(g) When the flared volume for a high-pressure flare is less than or equal to 1,050 Mcf per month and for low-pressure flares, the flared volume may be estimated, or measured. Estimated flared gas volumes must be based on production reported on the ONRR OGORs over the previous 6 months and calculated at follows:

Equation 1 to Paragraph (g)

$$\sum_{m=1}^6 \frac{V_g}{V_o} = GOR_r$$

Where:

- n = the total number of FMPs sending gas to a common flare
- VF_i = The volume flared from the ith lease, unit PA, or CA sent to a common flare
- VF_t = The total volume flared from a common flare
- NSV_{FMPi} = The net standard volume of oil from the FMP for the ith lease, unit PA, or CA

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

§ 3179.72 Required reporting and recordkeeping of vented and flared gas volumes.

(a) The operator must report all flared volumes, both avoidable and unavoidable losses, using all applicable ONRR reporting requirements.

(b) The operator must report the flared gas quality in Btu on the OGOR based on the gas analysis required in § 3179.71(d) or (e). The operator must report the same Btu content from a common flare on the OGOR for all the leases, unit PAs, or CAs contributing gas to the flare based on the gas sample analysis.

(c) Starting on September 10, 2024, operators must maintain the

Equation 2 to Paragraph (g)

$$V_f = (V_{op} \times GOR_r) - V_s$$

Where:

- m = The previous 6 months of flaring
- V_g = The total volume of gas produced from oil wells in the previous 6 months as reported on the OGOR
- V_o = The total volume of oil produced from oil wells in the previous 6 months as reported on the OGOR
- GOR_r = The gas-to-oil ratio for the previous 6 months of production as reported on the OGOR
- V_{op} = The total oil produced from oil wells while flaring

$$VF_i = VF_t \cdot \frac{NSV_{FMP_i}}{\sum_{i=1}^n NSV_{FMP_i}}$$

following records and make them available to the AO upon request:

- (1) Date and time when oil or gas-well flaring begins and ends, the reason for flaring and whether the well, lease, unit PA, or CA was shut-in or returned to sales when the flaring stopped;
- (2) Date and time when an emergency begins and ends, the reason for the emergency, whether the gas was vented or flared, and whether the well, lease, unit PA, or CA was shut-in or returned to sales when the emergency ended;
- (3) Date and time when manual downhole liquids unloading operation or well purging begins and ends, and whether the well was shut-in or returned to sales at the end of the well maintenance.

§ 3179.73 Prior 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 November 1, 2024. After that date, 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 June 10, 2024

- V_s = The total gas volume produced and sent through a gas FMP from oil wells while flaring
- V_f = The estimated gas flared from oil wells to be reported on the OGOR

(h) If a flare is combusting gas that is combined across multiple leases, unit PAs, or CAs, the operator may measure the gas at a single point at the flare and allocate flared volumes based on the oil production while flaring from each lease, unit PA, or CA as follows:

Equation 3 to Paragraph (h)

[INSERT EFFECTIVE DATE OF THE FINAL RULE], with respect to the royalty-bearing status of flaring that occurred prior to June 10, 2024.

Flaring and Venting Gas During Drilling and Production Operations

§ 3179.80 Loss of well control while drilling.

If, during drilling, gas is lost as a result of loss of well control, the operator must notify the BLM within 24 hours of the start of the loss of the well control event and submit to the BLM a Sundry Notice within 15 days following the conclusion of the event describing the loss of well control. The BLM will determine whether the loss of well control was due to operator negligence. Oil or gas lost as a result of loss of well control 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 determines whether oil or gas was lost due to operator negligence, and whether such loss will qualify as an avoidable loss.

§ 3179.81 Well completion or recompletion flaring allowance.

(a) Gas flared following well completion or recompletion is royalty-free under §§ 3179.41(b)(2) and 3179.42(b) until one of the following occurs:

(1) Thirty days have passed since the beginning of the flowback following completion or recompletion, except as provided in paragraphs (b) and (d) of this section;

(2) The operator has flared 20,000 Mcf of gas; or

(3) Flowback has been routed to the production separator.

(b) The BLM may extend the period specified in paragraph (a)(1) of this section, not to exceed an additional 60 days, based on flowback delays caused by well or equipment problems.

(c) The BLM may increase the limit specified in paragraph (a)(2) of this section by up to an additional 30,000 Mcf of gas for exploratory oil wells in remote locations where additional flaring may be needed in advance of construction of pipeline infrastructure.

(d) During the dewatering and initial evaluation of an exploratory coalbed methane well, the 30-day period specified in paragraph (a)(1) of this section is extended to 90 days. The BLM may approve up to two extensions of this evaluation period, not to exceed 90 days per each approval.

(e) The operator must submit its request for an extension under paragraphs (b), (c), or (d) of this section using a Sundry Notice.

§ 3179.82 Subsequent well tests for an existing completion.

During well tests subsequent to the initial completion or recompletion, the operator may flare gas royalty free under § 3179.41(b)(3) for no more than 24 hours, unless the BLM approves or requires a longer period. The operator must submit any such request using a Sundry Notice.

§ 3179.83 Emergencies.

(a) An operator may flare or, if flaring is not feasible due to the emergency situation, vent gas royalty-free under § 3179.41(b)(5) 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 of 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 AO by a Sundry Notice the volumes flared or vented beyond the timeframe specified in paragraph (a) of this section, and details describing the emergency event, measures taken to prevent the emergency event, and actions taken to control the emergency event so that the BLM is able to determine if the loss of oil or gas is an unavoidable loss pursuant to § 3179.41.

Gas Flared or Vented From Equipment and During Well Maintenance Operations**§ 3179.90 Oil storage tank vapors.**

(a) The hatch on an oil storage tank may be open only to the extent necessary to conduct production and measurement operations. All oil storage tanks, hatches, connections, and other access points must be vapor tight (*i.e.*, capable of holding pressure differential at the installed pressure-relieving or vapor-recovery device’s settings). Upon discovery of an oil storage tank hatch that has been left open or unlatched, and unattended, the BLM will impose an immediate assessment of \$1,000 on the operator.

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

§ 3179.91 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 unloading to end it as soon as practical, thereby minimizing any venting to the atmosphere.

(e) For purposes of this section, “well purging” means blowing accumulated liquids out of a wellbore by reservoir 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. Well purging does not apply to wells equipped with a plunger lift system.

§ 3179.92 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)**§ 3179.100 Leak detection and repair program.**

(a) Pursuant to paragraph (b) of this section, the operator must maintain a BLM administrative statewide LDAR program designed to prevent the waste of Federal or Indian gas.

(b) Operators must submit a statewide LDAR program to the BLM state office with jurisdiction over the production for review. The LDAR program must cover operations and production equipment located on a Federal or Indian oil and gas lease and not operations and production equipment located on State or private tracts, even though those tracts are committed to a federally approved unit PA or CA. When there is a change of operator, the new operator must update the LDAR program on the annual update and revision timeline. Operators must submit the LDAR program in writing for review until such time as the BLM’s electronic filing system is capable of receiving LDAR program submissions. At minimum, the LDAR program must contain the following information, as applicable:

(1) Identification of the leases, unit PAs, and CAs by geographic State for all States within BLM’s administrative State boundaries to which the LDAR program applies;

(2) Identification of the method and frequency of leak detection inspection used at the lease, unit PA, or CA.

Acceptable methods, as well as other methods approved by the BLM, and frequency include the following:

(i) Well pads with only wellheads and no production equipment or storage must include quarterly AVO inspections for leak detection;

(ii) Well pads with any production and processing equipment and oil storage must include AVO inspections every other month and quarterly optical gas imaging for leak detection; and

(iii) Other leak detection inspection methods and frequency acceptable to the BLM (e.g., continuous monitoring).

(3) Identification of the operator's recordkeeping process for leak detection and repair pursuant to § 3179.102.

(c) 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.

(d) For leases in effect on June 10, 2024, the operator must submit a statewide LDAR program to the state office no later than December 10, 2025.

(e) Operators must review and update submitted LDAR programs on an annual basis in the month in which the operator submitted the first LDAR program to ensure that the identified leases, unit PAs, and CAs, leak detection methods, and frequency of inspections are current. If the operator's LDAR program requires no changes, then the operator must notify the BLM state office that the LDAR program submitted and reviewed by the BLM remains in effect. Any updates to the

LDAR program must be submitted in writing to the BLM state office for review until such time as the BLM's electronic system is capable of receiving the annual LDAR updates.

§ 3179.101 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.

§ 3179.102 Required recordkeeping for leak detection and repair.

(a) The operator must maintain the following records for the period

required under 43 CFR 3162.4-1(d) and make them available to the AO upon request:

(1) For each inspection required under § 3179.100 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 § 3179.101(c).

(b) With the annual review and update of the LDAR program under § 3179.100(e) the operator must provide to the BLM state office 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 that were not repaired from the previous LDAR program year due to good cause and an estimated date of repair for each leak.

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

Immediate Assessments

§ 3179.200 Immediate assessments

Certain instances of noncompliance warrant the imposition of immediate assessments upon the violation, as prescribed in the following table. Imposition of any of these assessments does not preclude other appropriate enforcement actions under other applicable regulations.

TABLE 1 TO § 3179.200—VIOLATIONS SUBJECT TO IMMEDIATE ASSESSMENT

Violation:	Assessment amount per violation:
1. Flare is not combusting gas sent to flare. As required in § 3179.50(b)	\$1,000
2. Storage tank hatch is open or unlatched, and unattended in violation of § 3179.90	1,000

This action by the Principal Deputy Assistant Secretary is taken pursuant to an existing delegation of authority.

Steven H. Feldgus,

Principal Deputy Assistant Secretary, Land and Minerals Management.

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