



BLM Methane Waste Prevention Rule Summary

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Introduction

On November 30, 2022, the Department of the Interior’s Bureau of Land Management (BLM) published a proposal to require operators of federal and Indian oil and gas leases to take steps to avoid the waste of methane (“2022 Waste Prevention Rule”). This proposed rule would replace the current policy, NTL-4A, which is more than 40 years old. It would require operators to take steps to reduce methane waste and ensure that when natural gas is lost at these sites, the US public and tribal mineral owners are compensated through royalty payments. For some operators, these proposed requirements for wasted gas would apply to sources in addition to EPA’s proposed methane emissions requirements and the Inflation Reduction Act (IRA) methane fee. BLM is accepting [comments submitted](#) through **January 30, 2023**.

Based on its authority under the Mineral Leasing Act (MLA), BLM proposes to require operators to “use all reasonable precautions to prevent the waste of oil or gas” on federal and tribal leases.¹ Under this standard, BLM proposes to define what precautions are reasonable, using many factors including technology advances and industry norms.² The proposal would require operators to pay royalties on oil and gas that is “avoidably lost,” and it would define situations in which oil and gas is deemed “unavoidably lost” and not subject to royalties.³ BLM also proposes to require drill permit applicants to submit a waste minimization plan with their applications.⁴ Additionally, BLM proposes new affirmative requirements for operators, including leak detection and repair programs,⁵ low-bleed pneumatic equipment for a subset of facilities,⁶ and vapor recovery systems for storage vessels (with some exceptions).⁷

BLM projects that the benefits of the rule include reduced gas waste, increased royalty revenue, and environmental co-benefits. BLM emphasizes that the royalties will help taxpayers and tribes benefit from the use of valuable public resources.⁸ BLM recognizes that while NTL-4A already generates royalties, the new policy accounts for changes in technology and industry practices that have significantly increased both the production of oil and the waste of natural gas from the 1990s to the 2010s.⁹ For example, BLM estimates that operators vented and flared \$1.46 billion worth of gas between 2010 and 2020.¹⁰

¹ Dept. of Interior Bureau of Land Management, Waste Prevention, Production Subject to Royalties, and Resource Conservation (“Proposed Rule”), 87 FR 73588 (Nov. 30, 2022) at 6. Available at <https://perma.cc/BTB5-4F5C>.

² Proposed Rule at 6.

³ Proposed Rule at 7.

⁴ Proposed Rule at 28.

⁵ Proposed Rule at 80.

⁶ Proposed Rule at 73.

⁷ Proposed Rule at 76.

⁸ BLM notes that there is significant oil and gas production on public lands, and calculates that in FY 2021, this production generated “\$4.2 billion in royalties...” and that “[a]pproximately \$1 billion of these royalties went directly to Tribes and Indian allottees for production from Indian lands.” Proposed Rule at 11.

⁹ In volume, BLM estimates a 157% increase in waste of gas from Federal and Indian lands and 102% increase percent in the waste of gas per barrel of oil produced. Proposed Rule at 12-13.

¹⁰ Assuming \$3 per cubic foot. This estimation comes from the average annual Henry Hub spot price for natural gas from 2010 through 2020, which was \$3.19. Proposed Rule at 12.



Both the Obama and the Trump administrations issued rules to replace NTL-4A, but federal courts vacated these rules based on different and sometimes “conflicting”¹¹ legal reasoning. BLM’s proposal indicates that the agency used these legal opinions to craft its “New Approach.”¹² BLM’s proposal thus draws from the prior attempts to update the rule and the IRA’s subsequent clarifications of the agency’s authority.

In this white paper, we provide an overview of the proposed rule, including the context of BLM’s past waste prevention rules and new legal developments that have shaped the proposal. Additionally, we explain how BLM’s waste prevention rule compares to EPA’s supplemental methane proposal released earlier in November.

History of BLM’s waste prevention requirements

BLM’s proposal would provide needed updates to the current standard, NTL-4A, while considering the courts’ directions to BLM in cases challenging the prior administrations’ rules. In January 1980, the US Geological Survey¹³ issued its Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases: Royalty or Compensation for Oil and Gas Lost, known as NTL-4A.¹⁴ Under NTL-4A, operators must pay royalties on avoidably lost gas, which it defines as “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.” However, it provides several exceptions where no royalties are owed. For example, NTL-4A gives BLM discretion to approve flaring from oil wells when conservation of gas is not “economically justified,” and BLM’s 1987 internal memorandum updated BLM’s policy to require the agency to give operators a chance to justify their flaring after the fact.¹⁵ In recent years, applications for royalty-free flaring have increased.¹⁶

The prior two administrations issued rules to replace NTL-4A, but courts invalidated these rules. In 2016, the Obama administration finalized the 2016 Waste Prevention Rule, which briefly replaced NTL-4A.¹⁷ Several states and energy trade associations immediately challenged the 2016 Waste Prevention Rule,¹⁸ but before courts decided the merits of the rule,¹⁹ President Trump entered office and directed BLM to review the rule.²⁰ In accordance with this directive, BLM finalized the Revision Rule, which revised and replaced the 2016 Waste Prevention Rule. In response to a challenge from states and environmental groups, the Northern District of California vacated the Revision Rule, holding that that BLM failed to interpret “waste” as broadly as the MLA requires and that it was arbitrary and capricious for several reasons, including because

¹¹ In BLM’s view, “[r]equirements that one court might consider necessary for the BLM to meet its statutory mandates might be seen as regulatory overreach by another court.” Proposed Rule at 35.

¹² Proposed Rule at 35.

¹³ A bureau of the Department of the Interior formerly tasked with administering this rule.

¹⁴ Dept. of Interior Geological Survey Conservation Division, Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases: Royalty or Compensation for Oil and Gas Lost (“NTL-4A”) (1980).

¹⁵ Instruction Memorandum No. 87-652; Proposed Rule at 27.

¹⁶ In 2005 BLM received 50 applications vent or flare and in 2015, BLM received 4,181 applications to vent or flare. Proposed Rule at 27.

¹⁷ Dept. of Interior Bureau of Land Management, Waste Prevention, Production Subject to Royalties, and Resource Conservation, 81 FR 83008 (Nov. 18, 2016).

¹⁸ 81 FR 83008.

¹⁹ *Wyoming v. Dep’t of Interior*, Case 2:16-cv-00280-SWS, 2017 WL 161428 (D. Wyo. Jan. 16, 2017).

²⁰ Executive Order 13783 (Mar. 2017). In addition to working on a new rule, BLM also took several immediate actions in accordance with President Trump’s directive, BLM indefinitely postponed compliance with the Waste Prevention Rule first through a notice of postponement and later through a final rule postponing compliance. Environmental groups challenged the postponement. The Northern District of California issued a preliminary injunction blocking the new compliance dates, but the Ninth Circuit later voluntarily dismissed this preliminary injunction. *California v. BLM*, No. 18-15711 (9th Cir).



the rule did not consider the social cost of methane.²¹ As a result, the 2016 Waste Prevention Rule became effective again, and the litigation on that rule resumed.

In 2020, the District Court of Wyoming vacated the 2016 Waste Prevention Rule, finding that the rule was not a reasonable interpretation of BLM’s statutory authority. Among other issues,²² the court found that the rule impinged on EPA’s authority under the Clean Air Act because the rule was incompatible with EPA’s oil and gas rule’s cooperative federalism framework.²³ Additionally, the court held that certain aspects of the 2016 Waste Prevention Rule, including the rule’s preference for flaring over venting and rule’s use of the social cost of methane, suggested that the administration intended the requirements to address climate change rather than waste prevention.²⁴

For additional details on BLM’s waste prevention rules and challenges, [visit our Regulatory Tracker page](#).

Legal and policy context for a new rule

The legal and policy context for methane waste prevention has evolved since BLM promulgated the 2016 Waste Prevention Rule. Specifically, BLM highlights that the passage of a methane royalty provision in the Inflation Reduction Act (IRA), the further development of state regulations of greenhouse gas emissions, and EPA’s Supplemental Proposal for methane emissions from the oil and natural gas sector create a need for clarity of waste prevention rules on federal and tribal lands.

Inflation Reduction Act

[The IRA, which Congress passed in August 2022](#), requires operators to pay royalties on all gas produced on federal land and the Outer Continental Shelf, including, for the first time, “all gas that is consumed or lost by venting, flaring, or negligent releases through any equipment during upstream operations.”²⁵ It excludes gas that is vented or flared in an “emergency situation” or “unavoidably lost.” BLM notes in the proposal that the IRA’s provision is consistent with BLM’s existing authority,²⁶ that it confirms the concepts of “avoidable” and “unavoidable” losses for determining when royalties should be assessed, and that the assessment should apply to upstream operations.²⁷ BLM notes that Congress did not specifically define “unavoidably lost” and “emergency situation,” stating that Congress deferred to BLM to define those terms.²⁸

State regulations

In recent years, several states have implemented new requirements for oil and gas emissions, including flaring and equipment requirements. For example, Colorado has requirements for flaring and equipment standards, and New Mexico has flaring regulations.²⁹ BLM concludes that federal regulation is necessary to provide consistency on federal and tribal lands, given the developing state regulations.³⁰

²¹ *California v. Bernhardt*, 472 F. Supp. 3d 573, 594—611 (N.D. Cal. 2020).

²² Some notable others include that the rule infringes on private and state mineral interests, long departure from historical precedent, which generally makes courts suspect, and arbitrary and capricious on several grounds including BLM’s inadequate assessment on the cost impacts to marginal wells and BLM’s inadequate explanation of the gas capture requirements.

²³ *Wyoming v. Dep’t of the Interior*, 493 F. Supp. 3d 1046, 1065 (D. Wyo. 2020).

²⁴ The court also held that the use of social cost of greenhouse gases was arbitrary and capricious.

²⁵ Inflation Reduction Act Sec. 50263.

²⁶ Specifically, MLA’s assessment of royalties on all gas “removed or sold from the lease” and FOGRMA’s requirement that lessees pay royalties on lost or wasted gas. Proposed Rule at 34.

²⁷ Proposed Rule at 34.

²⁸ Proposed Rule at 35.

²⁹ Proposed Rule at 43.

³⁰ Proposed Rule at 46.



EPA’s supplemental proposal for methane emissions

Just prior to BLM’s proposed Waste Prevention Rule, [EPA released a supplemental proposal](#) that would require new and existing oil and natural gas operations to reduce emissions through the installation and operation of certain equipment, and through deploying technologies to detect and fix leaks.³¹ EPA is working to finalize the rule by mid-2023, thus many expect the EPA rule to be effective before BLM finalizes its requirements.

In the following sections, we summarize the requirements and timing that operators covered by both rules can anticipate. BLM’s proposed rule, which focuses on wasted gas, is distinct and separate from the EPA supplemental proposal, which focuses on methane emissions reductions. The BLM proposed rule does not incorporate any parts of the EPA rule by reference, in contrast to the 2016 Waste Prevention Rule. BLM notes that while it will not “presuppose” the outcome of EPA’s current rulemaking, it will “maintain an awareness of developments in EPA’s regulations and will make adjustments to the final rule as appropriate.”³² Operators may need to comply with both rules once they are finalized.

Proposed 2022 Waste Prevention Rule

BLM explains its authority for the proposal is based on the Mineral Leasing Act (MLA), the Mineral Leasing Act for Acquired Lands, the IRA, the Federal Oil and Gas Royalty Management Act (FOGRMA), the Federal Land Policy and Management Act, the Indian Mineral Leasing Act of 1938, the Indian Mineral Development Act, and the Act of March 3, 1909.³³ BLM points to the MLA, FOGRMA, and the IRA as the basis for many of the proposed requirements; BLM explains each provide the agency authority to regulate waste of natural gas. BLM notes that the MLA requires lessees to take “reasonable precautions to prevent waste of oil or gas developed in the land,”³⁴ and that the MLA and FOGRMA make oil and gas lessees liable for royalty payments where waste does occur.³⁵ BLM also explains that the IRA (section 50263) further clarifies the agency’s authority by specifying when royalties are owed on oil and gas produced on federal lands.³³ BLM finds that its authority to manage Indian mineral interests comes from the secretary’s “duty to act as a trustee for the benefit of Indian mineral owners.”³⁶

In addition to this primary authority to regulate waste, BLM also finds that the MLA and the FLPMA give it authority to regulate environmental impacts on public lands.³⁷ However, BLM maintains that its provisions are also independently justified as waste prevention measures.³⁸

Royalties and changes in application of “avoidably” and “unavoidably

BLM proposes that losses of oil or natural gas are “unavoidable” where the operator “has not been negligent... has taken prudent and 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

³¹ Environmental Protection Agency, Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 87 FR 74702 (Dec. 6, 2022).

³² Proposed Rule at 45.

³³ Proposed Rule at 17.

³⁴ 30 USC 225.

³⁵ 30 USC 226(b); 30 USC 1756.

³⁶ Proposed Rule at 22, quoting *Woods Petroleum Corp. v. Department of Interior*, 47 F.3d 1032, 1038 (10th Cir. 1995).

³⁷ Under the MLA, BLM has authority to regulate the physical impacts of oil and gas production on public lands and to include provisions “for the protection of the interests of the United States...and for the safeguarding of the public welfare” Proposed Rule at 20, citing 30 USC 226(g). And, FLPMA requires BLM to balance “the need for domestic sources of minerals against the need to ‘protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values; . . . [and] provide for outdoor recreation and human occupancy and use.’” Proposed R9le at 21, quoting 43 USC 1732(b).

³⁸ Proposed Rule at 14.



of the BLM.”³⁹ For natural gas, BLM also proposes several enumerated exceptions in which natural gas would be considered unavoidably lost. Subject to time, volume, and other limitations that BLM specifies, these include losses from well drilling, well completions, initial production tests, well tests, emergencies, leaks,⁴⁰ operating losses from natural-gas-activated pneumatic equipment and storage vessels, downhole well maintenance and liquids unloading, facility and pipeline maintenance, and flaring.⁴¹

Compared to NTL-4A, BLM explains that while some of these conditions are consistent with NTL-4A, enforcement has been inconsistent.⁴² Any gas that is not “unavoidably lost” is “avoidably lost” and subject to royalties.⁴³

BLM asks for comment on whether it could define “unavoidably lost” more narrowly.⁴⁴

Waste minimization plans

To ensure operators take steps to minimize waste of natural gas, BLM proposes requiring operators to submit waste minimization plans with their applications for permit to drill (APD).⁴⁵ The proposal would require a waste minimization plan to demonstrate how the operator will minimize the waste of natural gas from a well, including when the operator expects the well to be completed, the expected production of oil and associated gas from the well, certification that the operator has told one midstream processing company about its plans, information on the gas pipeline to which the operator will connect, and additional information.⁴⁶ BLM states that such information will help the agency understand the estimated loss of gas from the well and whether that loss is reasonable before approving the APD.

If BLM determines that an APD is likely to result in “unreasonable and undue” waste of gas, BLM proposes three potential actions.⁴⁷ First, BLM proposes that it could approve the APD subject to natural gas capture or royalty payment conditions. Second, BLM proposes it could delay action on the APD and notify the applicant of ways to fix the application. Third, if the operator does not revise the APD within 2 years in response to BLM’s determination, BLM could deny the APD.

BLM proposes to define “unreasonable and undue waste” as “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,” but also proposes an alternative definition.⁴⁸

³⁹ Proposed Rule at 114. NTL—4A defines “unavoidably lost” as “(1) those gas vapors which are released from storage tanks or other low-pressure production vessels unless the Supervisor determines that the recovery of such vapors would be warranted, (2) that oil or gas which is lost because of line failures, equipment malfunctions, blowouts, fires, or otherwise except where the Supervisor determines that said loss resulted from the negligence or the failure of the lessee or operator to take all reasonable measures to prevent and/or control the loss, and (3) the venting or flaring of gas in accordance with Section III hereof.” In the past, BLM has interpreted this definition to allow the agency to allow royalty-free flaring under certain economic circumstances, and the 1987 memorandum allowed BLM to approve flaring on economic bases after the fact. Proposed Rule at 27.

⁴⁰ Where the operator has complied with LDAR.

⁴¹ Proposed Rule at 114-116.

⁴² Proposed Rule at 57; see also BLM’s regulatory history of NTL-4A, Proposed Rule at 25-26.

⁴³ Proposed Rule at 57.

⁴⁴ Proposed Rule at 58.

⁴⁵ Proposed Rule at 48.

⁴⁶ Proposed Rule at 48-49.

⁴⁷ Proposed Rule at 49.

⁴⁸ Proposed Rule at 55. Under the alternative definition, “unreasonable and undue waste of gas” would mean 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.



In addition to its approach to defining and limiting unreasonable and undue waste, BLM is seeking stakeholder comment on its proposed definition and alternative proposed definition. BLM also seeks comment on the relationship between “unreasonable and undue waste” and avoidably lost gas. BLM notes that it sees “unreasonable and undue” as a definition that informs complex agency decision-making and avoidability as a definition that determines when royalties are due.⁴⁹

Flaring

BLM’s proposal includes requirements for flaring, including volume and time limitations for certain activities. Under the proposed rule, natural gas that cannot be captured would have to be flared, not vented, except in specific circumstances.⁵⁰ BLM proposes to require flares or combustion devices to have automatic ignition systems for continuous combustion (with fines for unlit flares) and to be located a “sufficient distance” from tank battery containment and other structures for safety reasons.⁵¹ BLM would require operators to take “all reasonable precaution to prevent waste,” which could include “relevant advances in technology and changes in industry practice.”⁵²

The proposed rule specifies requirements for venting and flaring from oil and gas wells. Under the proposal, gas-well gas could not be flared or vented unless it is deemed unavoidably lost.⁵³ If oil-well gas needs to be flared due to “pipeline capacity constraints, midstream processing failures,” or other events that prevent the gas being routed through a pipeline, BLM proposes that 1,050 thousand cubic feet (Mcf) per month of flared gas could be considered an “unavoidable loss,” and any amount beyond that the operator would owe royalties.⁵⁴ BLM estimates that this would generate \$33 million annually as 85 percent of flared gas would be royalty-bearing.⁵⁵ BLM proposes that for oil wells, there would be a “narrow set of circumstances” under which the bureau could require an operator to curtail or shut-in production to avoid unreasonable waste.⁵⁶

Under the proposal, operators would be required to estimate or measure all flared and vented gas, both royalty-bearing and royalty-free, and report those quantities to BLM.⁵⁷ BLM proposes a phase-in period to allow operators to continue to flare royalty-free pursuant to existing approvals for six months after the final rule is effective.⁵⁸ The proposed rule also describes situations and activities where gas can be lost without paying royalties, including during initial production testing, emergencies, and up to defined thresholds during well drilling and completions. In setting these thresholds, BLM explains that it reviewed past flaring data and consulted with state and field offices. It asks for comment on the proposed volume thresholds and on alternative approaches, such as a capture percentage target, rather than a numerical threshold.

⁴⁹ Proposed Rule at 56-57.

⁵⁰ Those circumstances include when flaring is technically infeasible, under emergency conditions, when the gas is vented through equipment that does not require flaring, when the venting is from a leak, and when necessary for non-routine maintenance Proposed Rule at 116.

⁵¹ Proposed Rule at 59.

⁵² Proposed Rule at 121.

⁵³ Proposed Rule at 59.

⁵⁴ Proposed Rule at 60.

⁵⁵ Proposed Rule at 62.

⁵⁶ BLM proposes limiting shut-in or curtailment orders to situations where the operator has reported flaring over 4,000 Mcf per month for 3 months in a row, and when BLM has confirmed that the flaring is ongoing. Proposed Rule at 61.

⁵⁷ Proposed Rule at 64.

⁵⁸ Proposed Rule at 65.



Leaks

BLM proposes to require operators to maintain a leak detection and repair (LDAR) program designed to prevent unreasonable gas waste. An operator's LDAR program would need to include "regular inspections of all oil and gas production, processing, treatment, storage, and measurement equipment" at lease sites.⁵⁹ Operators would conduct inspections at least annually, with the first inspection within one year of the final rule.⁶⁰ The operator would be required to submit a Sundry Notice to BLM describing the LDAR program for the lease site, including frequency of the inspections and instruments to be used.⁶¹

While BLM does not propose to require specific process or equipment standards for inspections, the proposal indicates that optical gas imaging, gas measurement technologies, and bubble detection would likely be acceptable approaches.⁶² However, BLM states that it could impose a condition of approval requiring the operator to use a particular instrument to detect leaks under LDAR program if, due to "technological advancements, changes in common industry practice, or other appropriate considerations," not using that approach would constitute a failure to use all reasonable precautions to prevent waste.⁶³

If a leak is detected, BLM proposes that operators would need to conduct repairs "as soon as practicable" and within 30 calendar days of discovery of the leak, unless there is "good cause" for repair to take longer.⁶⁴ The operator would conduct a follow-up inspection within 30 days of the repair to confirm its effectiveness and continue to follow up if needed.⁶⁵

BLM recognizes that its proposed LDAR program is different than what EPA proposes for oil and gas operations in its November 2022 Supplemental. BLM explains that it is "judging the cost-effectiveness of the proposed requirements in terms of gas conservation only" and that "[a]ny divergence between the BLM and EPA on LDAR standards (or those pertaining to pneumatic equipment or storage vessels) is a result of the fact that the BLM and the EPA regulate these matters under different statutory authorities and for different purposes."⁶⁶ BLM considered more frequent inspections (which would be more analogous to EPA's requirements) and found that their additional costs would not justify the marginal gas savings.⁶⁷ BLM requests comment on alternative approaches.

Equipment requirements

BLM proposes to require equipment improvements to reduce wasted gas. For pneumatic controllers and pumps, the proposal would require operators producing at least 120 Mcf of natural gas or 20 barrels of oil per month to use natural-gas-activated pneumatic controllers or pneumatic diaphragm pumps with a bleed

⁵⁹ Proposed Rule at 8.

⁶⁰ Proposed Rule at 82.

⁶¹ Proposed Rule at 128.

⁶² Leaks would be defined as "a release of natural gas from a component that is not associated with normal operation" when the hydrocarbon emission is (1) detected by use of an optical gas imaging instrument; (2) detected at levels of at least 500 ppm using a portable analyzer or other instrument that measures quantity; or (3) detected via visible bubbles using soap solution. Releases from normal operations of equipment are not considered leaks unless they are higher than expected. Releases are considered leaks if they are due to operator error, equipment malfunction, or equipment not in compliance with standards. Proposed Rule at 82.

⁶³ Proposed Rule at 68.

⁶⁴ In the case of a repair delayed for good cause, the operator would notify BLM by Sundry Notice and complete the repair at the earliest opportunity within 2 years. Proposed Rule at 83-84.

⁶⁵ Proposed Rule at 84.

⁶⁶ Proposed Rule at 84.

⁶⁷ Proposed Rule at 82.



rate that does not exceed 6 standard cubic feet (scf) per hour.⁶⁸ BLM proposes to apply this requirement only to larger operations to ensure that it is economically feasible.⁶⁹

For oil storage tanks, BLM proposes to require a vapor recovery system or other mechanism to avoid the loss of natural gas, “where technically and economically feasible.”⁷⁰ The system would need to be installed within one year of the final rule. BLM also proposes to require that the thief hatch on a storage tank remain closed (with fines for open hatches), except as necessary to conduct production and measurement operations.⁷¹

BLM provides details on the analysis it conducted in setting these new proposed requirements, which are distinct from EPA’s methane requirements for oil and gas, again explaining that they aim to reduce gas waste while minimizing economic burdens and ensure feasibility for operators. It seeks comment on the proposed requirements, including estimated costs and benefits, production thresholds, and alternative approaches such as requiring zero-emissions equipment.⁷²

State or Tribal variances

The proposed rule would reinstate the “State or Tribal” variance provision included in the 2016 Waste Prevention Rule, which would allow a state or tribe to request a variance that would allow “analogous” state or tribal rules to apply to operators in lieu of some or all of the BLM regulations.⁷³ The BLM director would be authorized to approve or deny the variance request or approve it with additional conditions.⁷⁴ BLM requests comment on whether variances would be “useful and practical” recognizing that any more stringent state or tribal standards would apply regardless of whether BLM includes such a variance.⁷⁵

Key Changes from Prior Rulemakings

BLM frames its authority for the proposal on natural resource waste reduction and on responding to court decisions on past administrations’ methane waste prevention rules. BLM references its additional statutory authority under the IRA to affirm the legal basis for the rule. The agency explains that this provision is “consistent with the BLM’s prior agency practice regarding emergency situations and the unavoidable loss of gas, and it provides additional support for the approach set forth in this proposed rule.”⁷⁶

Response to court decisions

The proposal responds directly to court decisions on prior rules. First, BLM’s 2016 Waste Prevention Rule would have allowed operators to comply with EPA’s methane requirements in lieu of BLM’s. Given the differing statutory authorities of these two agencies, with BLM focused on natural resource management while EPA regulates air quality, in this proposal BLM makes clear that its rule and regulatory process are distinct and separate from EPA’s.

Second, the scope of the rule is narrow; BLM affirms that it only applies to federal and tribal land except in limited circumstances for unit or communitized areas on state or private property. The equipment and leak detection requirements do not apply to state or private land.⁷⁷ This contrasts with the 2016 rule’s

⁶⁸ Proposed Rule at 73-74.

⁶⁹ Proposed Rule at 74.

⁷⁰ Proposed Rule at 76.

⁷¹ Proposed Rule at 76.

⁷² Proposed Rule at 76.

⁷³ Proposed Rule at 85.

⁷⁴ Proposed Rule at 85.

⁷⁵ Proposed Rule at 86.

⁷⁶ Proposed Rule at 34.

⁷⁷ Proposed Rule at 111.



application of such requirements to private or state land in certain situations, which the US District Court for the District of Wyoming found invalid.

Finally, BLM revamped its approach in using the social cost of greenhouse gases to quantify the proposed rule's impacts, as we explain in the next section.

Exclusion of social cost of greenhouse gases from cost-benefit analysis

The social cost of greenhouses gases (SC-GHGs) is a metric that federal agencies use to estimate the cost to society of emitting one additional metric ton of carbon dioxide, methane, or nitrous oxide into the atmosphere. BLM does not use the SC-GHGs in its “considerations underpinning” the proposed requirements. BLM explains that climate benefits using SC-GHGs were “not a factor” in its decision to propose any of the requirements in the proposed rule.⁷⁸ Rather, in the regulatory impact assessment, BLM includes benefits calculated using SC-GHGs “to respond to Executive Orders 12866 and 13563 and in order to present as complete a picture as possible of the total costs and benefits of the proposed rule for the public,” but indicates that the metric was not determinative in BLM decision-making.⁷⁹

BLM calculates the following high-level costs and benefits of the rule:

- Annual costs to industry: \$122 million/year⁸⁰
- Annual benefits to industry in recovered gas: \$55 million/year⁸¹
- Social benefits of reduced methane emissions: \$427 million/year

BLM calculates but does not rely on the SC-GHGs. The Obama administration's 2016 Waste Prevention Rule used the SC-GHGs in its cost-benefit analysis. In striking down the Obama administration's rule, the District Court of Wyoming pointed to the use of the SC-GHGs as evidence that the rule was promulgated for its “climate change benefits,” rather than for waste prevention. The Trump administration's Revision Rule relied on a modified “domestic” social cost of methane to justify revisions to the Obama administration's rule. In striking down the Revision Rule, the Northern District of California found the use of the domestic model arbitrary and capricious because BLM disregarded the best available science.

BLM recognizes that the proposal has net costs for operators.⁸² However, BLM rejects the Trump administration's interpretation of the MLA that would require the agency to demonstrate that recovery of gas would be profitable for operators. BLM asserts 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.”⁸³ Additionally, BLM cites to the US Geological Survey's guidelines interpreting NTL-4A to support their assertion that the rule must allow for “profitable operation of the lease, not just profitable disposition of the gas.”⁸⁴

BLM seeks comment on the appropriate methodologies for quantifying the benefits of reducing VOCs and hazardous air pollutants by reducing natural gas emissions from pneumatic equipment and vapor recovery units and from the LDAR programs.⁸⁵

⁷⁸ Proposed Rule at 88.

⁷⁹ Proposed Rule at 88.

⁸⁰ At a 7% discount rate, not using social cost of greenhouse gas.

⁸¹ At a 7% discount rate, not using social cost of greenhouse gas.

⁸² Proposed Rule at 47.

⁸³ Proposed Rule at 47.

⁸⁴ Proposed Rule at 26.

⁸⁵ Proposed Rule at 75.



Interaction between BLM and EPA rules

BLM explains that its proposal is “independently justified as waste prevention measures” and is not designed for environmental outcomes.⁸⁶ The agency states that its waste prevention proposal is needed, in addition to EPA’s methane emissions regulations, for two reasons. First, EPA is regulating air quality; reducing waste is a co-benefit, but not the purpose of its regulation. Thus, EPA’s requirements will not necessarily result in the waste reduction that BLM’s requirements will.⁸⁷ Second, some of EPA’s current oil and gas sector requirements for LDAR, pneumatics, and storage tanks apply to sources constructed or modified after August 23, 2011. Thus, EPA’s current requirements did not apply to all facilities on federal and tribal land.⁸⁸ BLM estimates that EPA’s current oil and gas requirements cover about 61 percent of BLM-managed well sites.⁸⁹

While EPA’s proposed methane rule and BLM’s proposed waste prevention rule are still in development, we have analyzed how their requirements as currently proposed may interact with each other as well as with the IRA’s methane fee, which EPA will also need to implement. In Table 1 we compare the three methane programs in terms of scope, timing, and requirements.

Table 1. Comparing Scope, Timing, and Requirements of Methane Programs

	Proposed BLM Rule	Proposed EPA Rule	IRA Methane Fee
Scope	New and existing oil and gas operations on federal and tribal leases, units, and communitized areas	New, modified, and existing oil and gas operations on private and public lands	Oil and gas operations reporting more than 25,000 metric tons per year of CO ₂ equivalent under the Greenhouse Gas Reporting Program Subpart W
Timing	Effective upon finalization (estimated fall/winter 2023) with requirements phasing in over 6-12 months	Effective upon finalization for new and modified sources take (estimated spring 2023) Effective for existing sources based on timing for state plans (estimated early 2028)	Effective Jan. 2024 unless exemption applies (i.e., IRA’s sales threshold or compliance with section 111 requirements)
Requirements	Volume and time limits on flaring, new equipment requirements, waste minimization plans, LDAR	Emissions standards, new equipment requirements, work practice standards including LDAR	Fee assessed on methane emissions

⁸⁶ Proposed Rule at 44.

⁸⁷ Proposed Rule at 44.

⁸⁸ Proposed Rule at 45.

⁸⁹ Proposed Rule at 45.



BLM's coverage is geographically narrower in scope than EPA's. BLM estimates that domestic production on federal lands accounts for about eight percent of US natural gas supply and nine percent of oil production.⁹⁰ However, given the likely timing of the final rules, BLM's requirements will take effect several years prior to EPA's for existing facilities. Some operators may need to comply with the BLM requirements and royalties and the IRA methane fee before state plans go into effect later this decade.

EPA's proposed equipment requirements are more comprehensive than BLM's. For example, EPA's proposal requires more frequent inspections for leaks than BLM's proposed annual survey. EPA requires no-bleed pneumatics, while BLM requires low-bleed. The differences in these requirements, as BLM notes, stem from their distinct statutory mandates. For operators covered by both rules, EPA's requirements are more stringent than BLM's as proposed. Appendix A covers these requirements in detail.

Conclusion

Comments on BLM's proposal are due by January 30, 2023. In addition to the technical questions BLM posed for comment, stakeholder feedback on emerging technologies used for flaring and LDAR and how this rule will interact with other new requirements will help BLM find opportunities to align regulatory requirements with technology advancements. Comments can also support BLM's assessment of how its proposed requirements will interact with other efforts by the administration to reduce methane emissions through EPA's Supplemental Proposal under section 111 of the CAA and IRA.

You can submit a [comment here](#) by Jan. 30, 2023 and stay up to date with our [BLM Methane Waste Prevention Rule Regulatory Tracker page](#).

⁹⁰ Proposed Rule at 11.



Appendix A: Comparing EPA and BLM Proposed Requirements

Equipment and Process Requirements	EPA Methane Supplemental Proposal Nov. 2022	BLM Waste Prevention Proposal Nov. 2022
Leak Detection	<p>Single wellhead only sites and small well sites: Quarterly AVO inspections</p> <p>Multi-wellhead only sites with two or more wellheads: Quarterly AVO inspections and Semiannual OGI (or Method 21)</p> <p>Well sites and centralized production facilities with major production and processing equipment: AVO monitoring every two months and Quarterly OGI (or Method 21)</p> <p>Compressor Stations: Monthly AVO monitoring and Quarterly OGI monitoring</p> <p>Well Sites and Compressor Stations on the Alaska North Slope: Annual OGI (or Method 21)</p> <p>Option to use alternative technology or continuous monitoring per matrices</p>	<p>Maintain an LDAR program designed to prevent the unreasonable and undue waste of gas, including regular inspections of all oil and gas production, processing, treatment, storage, and measurement equipment on the lease site. Inspections conducted at least annually.</p> <p>Within 6 months of final rule, the operator of an existing lease would be required to submit a Sundry Notice to BLM describing the LDAR program, including the frequency of inspections and any instruments to be used for leak detection. BLM will review the LDAR program and notify the operator if BLM deems the program to be inadequate.</p> <p>BLM could impose a condition of approval on an application requiring the use of a particular instrument to detect leaks as part of its LDAR program if, due to technological advancements, changes in common industry practice, or other appropriate considerations, the failure to employ the specified instrument would constitute a failure to use all reasonable precautions to prevent waste.</p>



Equipment and Process Requirements	EPA Methane Supplemental Proposal Nov. 2022	BLM Waste Prevention Proposal Nov. 2022
Leak Repair	<p>Repairs would need to be completed within 30 days of the screening survey and, if the OGI survey confirms that the emissions were the result of a control device failure, EPA would require a root cause analysis to identify the corrective action within 24 hours of the ground-based survey.</p> <p>If the inspection results indicate a leak or defect in the cover or closed vent system, EPA proposes to require a root cause analysis to determine the cause within 5 days of completing the inspection.</p>	<p>Repair any leak as soon as practicable, and no later than 30 calendar days after discovery of the leak, unless there is good cause for repair to take longer.</p> <p>Alert BLM by Sundry Notice if there is good cause to delay the repairs beyond 30 days, and to complete the repair at the earliest opportunity, but in no event longer than 2 years after discovery. Operators would conduct follow up inspection within 30 days.</p> <p>Submit annual summary report on the previous year's LDAR inspection activities.</p>
Venting and Flaring	<p>To limit the use of flares for eliminating venting of associated gas from oil wells, EPA proposes four possible compliance pathways: recovering the associated gas from the separator and (1) routing the gas to a sales line, (2) using the recovered gas as an onsite fuel source, (3) using recovered gas for another useful purpose, or (4) reinjecting it into a well for enhanced oil recovery. Gas can be routed to a flare only if these four options are infeasible.</p> <p>Flaring or other combustion devices would need to achieve 95 percent reduction in methane and VOC emissions, and flaring would be subject to more comprehensive monitoring requirements.</p> <p>Monitoring for good flare performance: 1) Continuous pilot flame; (2) no visible emissions except for a total of 5 minutes in a 2-hour period; (3) minimum net heating value of gas sent to the flare; and (4) maximum flare tip velocity.</p>	<p>Gas-well gas: cannot be flared or vented unless it is unavoidably lost.</p> <p>Oil-well gas: when oil-well gas must be flared due to pipeline capacity constraints, midstream processing failures, or other similar events that prevent produced gas from being transported through the connected pipeline, a maximum of 1,050 Mcf per month per lease of such flared gas would be considered a royalty-free "unavoidable loss." The operator would owe royalties on flaring beyond that limit.</p> <p>Gas that cannot be captured must be flared (rather than vented), except under specified circumstances.</p> <p>Flares or combustion devices must be equipped with automatic ignition systems.</p> <p>Flares must be placed a sufficient distance from the tank battery containment or other significant structures or objects so as not to create a safety hazard.</p>



Equipment and Process Requirements	EPA Methane Supplemental Proposal Nov. 2022	BLM Waste Prevention Proposal Nov. 2022
Pneumatic Controllers	<p>For new and existing sources, use of zero-emissions controllers</p> <p>Exception for Alaska: For intermittent natural gas-driven pumps, OGI monitoring and repair of emissions from controller malfunctions.</p> <p>For continuous bleed natural-gas driven pumps, natural gas bleed rate no greater than 6 standard cubic feet per hour (scf/hour).</p>	<p>Source producing at least 120 Mcf of gas or 20 barrels of oil per month would be prohibited from using natural-gas-activated pneumatic controllers with a bleed rate that exceeds 6 scf/hour.</p>
Pneumatic Pumps	<p>Use of zero-emission pumps that are not powered by natural gas. Methane and VOC emission rate of zero. Pumps can only be driven by natural gas when the affected facility does not have access to electrical power and an engineer certifies that it is “not technically feasible” to use a solar powered pneumatic pump or a generator.</p> <p>If an affected facility powers the pneumatic pump with natural gas, it must route emissions to a process through a closed vent system unless it is “not technically feasible.”</p> <p>If routing is infeasible, then the resulting requirements vary depending on the number of pumps at the site.</p>	<p>Operator producing at least 120 Mcf of gas or 20 barrels of oil per month would be prohibited from using natural-gas-activated pneumatic diaphragm pumps with a bleed rate that exceeds 6 scf/hour</p>



Equipment and Process Requirements	EPA Methane Supplemental Proposal Nov. 2022	BLM Waste Prevention Proposal Nov. 2022
Storage Vessels	<p>For new storage vessels, 95 percent VOC and methane emissions reduction from a single storage tank or tank battery with the potential to emit at least 6 tons per year (tpy) VOCs.</p> <p>For existing storage vessels, 95 percent reduction from a tank battery with potential to emit 20 tpy methane.</p> <p>Specific compliance assurance measures, such as a requirement that thief hatches and other openings remain closed.</p>	<p>Where technically and economically feasible, oil storage tanks must be equipped with a vapor recovery system or other mechanism that avoids the loss of natural gas from the tank.</p> <p>Require the thief hatch on a storage tank to remain closed, except as necessary to conduct production and measurement operations.</p>
Liquid Unloading	<p>Perform liquids unloading with zero methane or VOC emissions.</p> <p>If this is not feasible for safety or technical reasons, employ best management practices to minimize venting of emissions to the maximum extent possible.</p>	<p>24-hour limit on royalty-free venting or flaring for each event, and the 24-hours of royalty-free venting or flaring would only be available if the operator employs best practices that prevent or minimize vented gas and the need for well venting.</p> <p>During any liquids unloading by manual well purging, the person conducting the well purging would be required to be present on-site to minimize, to the maximum extent practicable, any venting to the atmosphere.</p>
Well Completion	<p>Subcategory 1 (non-wildcat and non-delineation wells): Combination of reduced emissions completion (REC) and the use of a completion combustion device, venting in lieu of combustion where combustion would present demonstrable safety hazards.</p> <p>Subcategory 2 (exploratory and delineation wells and low-pressure wells): Use of a completion combustion device.</p>	<p>For new completions, up to 10,000 Mcf of gas that reaches the surface may be flared royalty-free.</p> <p>For refracturing of existing completions at a well connected to a pipeline, up to 5,000 Mcf of gas that reaches the surface may be flared royalty-free.</p> <p>For both categories, this would cover the operations of well completion, post-completion, and fluid-recovery operations.</p>