April 22, 2016

The Honorable Sally Jewell
Secretary
U.S. Department of the Interior
1849 C Street N.W.
Washington, DC 20240

Re: Draft Methane Waste Prevention Rule Comments
Submitted via Federal eRulemaking Portal
Docket ID: BLM-2016-0001-001
RIN: 1004-AE14

Dear Secretary Jewell:

The thirty-seven undersigned organizations represent a broad and diverse cross section of ranchers, sportsmen, faith leaders, native peoples, and conservationists in the Western U.S. We appreciate the opportunity to comment on the U.S. Bureau of Land Management’s (“BLM’s”) proposed rule to prevent methane pollution and waste from oil and gas exploration and production operations carried out on federal and tribal lands. As the fiduciary of 245 million acres of federal public lands and 700 million acres of federal oil and gas resources, the time is now to modernize BLM’s outdated, 37-year old waste policies to prevent methane pollution and waste; boost royalties that support essential public services; and safeguard our climate, lands, water, wildlife, and the public’s health.
While the proposed rule is a step in the right direction, it should be strengthened consistent with our urgent need to prevent methane pollution and waste. In the attached comments, we provide constructive suggestions to strengthen BLM’s proposed methane waste rule consistent with an ethic of innovation and zero tolerance for methane waste. These comments are expressly designed to promote effective implementation and enforcement of the rule in the context of BLM’s multi-phased planning and management framework.

If you have any questions, please do not hesitate to contact us.

Sincerely,

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COMMENTS REGARDING THE U.S. BUREAU OF LAND MANAGEMENT’S DRAFT METHANE WASTE PREVENTION RULE

Docket ID: BLM-2016-0001-0001

Submitted By:

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April 22, 2016
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I. **EXECUTIVE SUMMARY**

We appreciate BLM’s proposed rule to modernize the agency’s 37-year old waste prevention policies. The proposed rule is an important step in the right direction to prevent the waste of natural gas, boost royalties that support essential public services, and better safeguard our climate, lands, waters, wildlife, and the public’s health. BLM’s final rule should take an additional and urgently needed step forward to foster a robust ethic of innovation and zero tolerance towards methane pollution and waste from oil and gas operations on federal and tribal lands. To achieve this goal, we recommend that BLM:

- Design the rule as a floor, not a ceiling, for methane waste prevention action (Section II.A).
- Craft the rule to better reflect BLM’s expansive, retained duties and authorities to prevent methane pollution and waste from operations on existing leases (Section II.B).
- Provide that BLM will take action to prevent waste from oil and natural gas development infrastructure (Section II.C).
- Presumptively prohibit all flaring, allowing limited flaring only from existing wells subject to a more stringent 600 Mcf per well per month limit that is phased out over a ten-year period after which flaring is prohibited absolutely (Section II.D).
- Improve the benefit-cost test for determining when operators may obtain exemptions from the rule’s venting and flaring prohibitions or seek alternative limits (Section II.E).
- Strengthen waste minimization planning requirements and extend those requirements to encompass applications for permit to drill natural gas wells (Section II.F).
- Prevent methane pollution and waste by committing to an integrated approach that leverages BLM’s multi-stage planning and management framework (Section II.G).
- Improve leak detection and repair requirements (Section II.H).
- Include measures providing for public transparency and accountability (Section II.I).
- Foster coordination with state and tribal regulatory agencies (Section II.J).
- Continue to impose the rule across all lands within a federally-approved unit or area subject to a communitization agreement (Section II.K).
- Eliminate or at least improve the state and tribal variance provision (Section II.L).

In Section II, we expand upon these core recommendations. In Section III, we provide specific recommended changes to the proposed rule’s text and the basis for those changes.
II. CORE RECOMMENDATIONS

A. BLM SHOULD STRUCTURE THE RULE AS A FLOOR, NOT A CEILING, FOR ACTION TO PREVENT METHANE POLLUTION AND WASTE

BLM currently attempts to prevent waste in accord with Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-4A), 44 Fed. Reg. 76600 (December 27, 1979). As BLM is aware, NTL-4A is outdated and does not prevent methane pollution and waste. As the preamble to the proposed rule explains:

BLM’s existing requirements on venting and flaring are more than 3 decades old, do not reflect technological advances and current scientific understanding, have failed to deter rising losses of gas, fail in some respects to provide clear guidance to BLM staff and oil and gas operators, and do not address leaks from existing and new infrastructure.

81 Fed. Reg. 6616, 6627 (Feb. 8, 2016). In significant part, these deficiencies are a product of NTL-4A’s focus on whether or not waste is royalty bearing, not robust and effective action to manage the publicly-owned oil and gas resource in the public interest. NTL-4A thus provides a brittle policy structure that has failed to foster prudent and reasonable development and ongoing innovation to, as a first order matter, conserve the oil and gas resource and thereby prevent waste as required by the Mineral Leasing Act (“MLA”) and Federal Land Policy and Management Act (“FLPMA”). See, e.g., 30 U.S.C. § 225; 43 U.S.C. §§ 1701(a), 1732(b). These laws provide BLM with expansive duties and authorities independent of the responsibilities held by other federal and state regulatory agencies. Indeed, these duties and authorities are even broader than those held by other agencies and compel BLM to subject development of the federal—i.e., publicly-owned—oil and gas resource to the strongest and highest standards. This is necessary to constrain and balance development of the oil and gas resource to protect public lands and resources, including “air and atmospheric” values, that are at grave risk from climate change. Oil and gas resources are, fundamentally, public trust resources that must be managed by BLM in the public interest. See 81 Fed. Reg. 6616, 6629 (“The MLA rests on the fundamental principal that the public should benefit from mineral production on public lands”).

BLM should therefore learn from NTL-4A and further the agency’s expansive duties and authorities to craft the methane rule as a floor, not a ceiling, for action that drives ever deeper cuts in methane pollution and waste through time, with an ultimate goal of zero tolerance for methane pollution and waste. This will improve the durability of the rule over time, foster prudent and reasonable operations as well as industry innovation, and secure the greatest possible methane pollution and waste reductions. In this context, we recommend that BLM strengthen the proposed rule to prohibit venting, limit and phase out flaring within 10 years, carry out robust leak detection and repair, and ensure effective front-end planning and management by both BLM and operators.
While operators may contend that preventing methane waste through new rules does not reflect current industry business models, that argument simply confirms that industry business models are outdated and in fact one of the factors contributing to methane pollution and waste. For example, as the Government Accountability Office found in 2010:

A number of other factors can also contribute to operators not adopting venting and flaring reduction technologies. Officials that we spoke with said that overcoming “institutional inertia”—a company’s tendency to do business and carry out operations as it always has—is key to adopting these technologies. In a similar vein, industry and EPA officials told us that upper management support is critical for these types of efforts to go forward, and many companies’ management is focused on other efforts that are deemed more important than what are seen as incremental improvements in operations. For example, the operator may choose to invest its limited available capital in drilling a new well, which may have a larger return than investments in capturing vented or flared gas from an existing well, according to industry representatives.1

Business models must therefore evolve to conform to the fundamental—and long-standing—objective of BLM’s oil and gas rules: “to promote the orderly and efficient exploration, development and production of oil and gas.” 43 C.F.R. § 3160.0–4. BLM rules already provide that both BLM and operators must ensure that oil and gas development “protects other natural resources and the environmental quality, protects life and property and results in the maximum ultimate recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources.” 43 C.F.R. §§ 3161.2, 3162.1. The robust action to prevent methane pollution and waste that we recommend thus reflects precisely the sort of “reasonable precautions to prevent waste of oil or gas developed in the land” that the MLA mandates and contemplates. 30 U.S.C. § 225.

Unfortunately, while BLM’s proposed methane waste rule is a step in the right direction, it is merely an incremental step that risks locking in, in particular over the long-term, unacceptable methane pollution and waste. The propose rule is premised on the notion that containment of methane gas from oil and gas operations is sufficient, with flaring relied upon far too heavily to dispose of that methane gas. Flared gas, put simply, is wasted gas. Moreover, the proposed rule fixes too heavily on associated gas from oil wells rather than adopting a comprehensive approach that addresses serious methane pollution and waste from oil and natural gas wells. These deficiencies are exacerbated by the BLM’s failure to link the proposed rule to the agency’s foundational planning and management framework provided by the Federal Land Policy and Management Act (“FLPMA”) and informed by compliance with the National Environmental Policy Act (“NEPA”). The rule, isolated from this planning and management framework, fails to take advantage of opportunities to control the timing, pace, and location of development to, as already noted above, foster orderly and efficient development and

1 Government Accountability Office, Federal Oil and Gas Leases: Opportunities Exist to Capture Vented and Flared

COMMENTs RE: BLM DRAFT METHANE WASTE RULE
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production of oil and gas in service of action to prevent methane pollution and waste. 43 C.F.R. § 3160.0–4

Our comments and recommendations are structured in this context and to further the basic and essential notion that BLM’s methane pollution and waste rule should set a floor, not a ceiling, for action, and should drive modernization and innovation in service of eliminating, not simply reducing, methane pollution and waste.

**B. BLM’S RULE SHOULD BETTER REFLECT ITS EXPANSIVE RETAINED DUTIES AND AUTHORITIES TO PREVENT WASTE FROM OPERATIONS ON EXISTING LEASES**

As a primary matter, we are troubled that BLM’s proposed rule reflects a cramped view of BLM’s retained duties and authorities. This operates to limit the ability of the proposed rule, as structured, to prevent methane pollution and waste from oil and natural gas infrastructure on both existing and future leases, units, and lands subject to communization agreements (“CAs”). We suspect that BLM’s cramped view is a product of the considerable political weight that the oil and gas industry wields, not a reasoned and informed understanding of the BLM’s duties and authorities in light of what is technically and economically feasible.

We recommend that BLM craft the final rule to properly reflect the agency’s expansive retained duties and authorities in support of more robust action to cut methane pollution and waste from operations on both future and existing leases. To the degree that BLM’s duties and authorities to act on waste must accommodate an operator’s investment-backed expectations and development rights, we think the far better distinction is not between existing and future leases, but between existing and future oil and gas wells and associated infrastructure. BLM itself suggests this approach in the preamble to the proposed rule. See 81 Fed. Reg. 6616, 6644 (“Another alternative to the proposed approach to flaring would be to distinguish between new and existing wells….The BLM is…considering including a complete prohibition on routine flaring of associated gas from new development wells”). We believe this is a far better distinction.

With existing wells and infrastructure, the operator has sought and received approval from BLM to construct and has in fact constructed a well and associated infrastructure. But, with regard to existing leases that have not yet been developed, and as we demonstrate below, BLM’s duties and authorities to prevent methane waste are considerable and expressly limit the investment-backed expectations and development rights held by the operator of an existing, but undeveloped lease. Put differently, the operator has no investment-backed expectation or development right to waste oil and natural gas from new wells BLM has yet to approve.

Pursuant to the Mineral Leasing Act (“MLA”), BLM oversees oil and gas development on the public lands not only to ensure safe and fair development of the mineral resource, but to more fundamentally “safeguard[…] the public welfare.” 30 U.S.C. § 187. Specific to methane waste, the MLA mandates that “[a]ll leases of lands containing oil or gas … shall be subject to the
condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land....” 30 U.S.C. § 225; see also 30 U.S.C. § 187 (“Each lease shall contain...a provision...for the prevention of undue waste....”). BLM, consistent with this authority and responsibility, determines where, when, and under what terms and conditions oil and gas development should occur. Specifically, once an oil and gas lease is executed, BLM controls the timing, pace, and scale of development via 43 C.F.R. § 3101.1-2 and language in BLM’s standard lease form.

Federal oil and gas leases thus do not convey absolute rights akin to a private fee simple interest. As the Supreme Court has explained, “Congress under the [MLA] has ... subjected the lease to exacting restrictions and continuing supervision by the Secretary ... In short, a mineral lease does not give the lessee anything approaching the full ownership of a fee patentee, nor does it convey an unencumbered estate in the minerals.” Boesche v. Udall, 373 U.S. 472, 477-78 (1963); see also Indep. Petroleum Assoc. v. DeWitt, 279 F.3d 1036, 1039 (D.C. Cir. 2002) (finding that the MLA affords BLM “rather sweeping authority ‘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 leasing statutes].’”) (quoting 30 U.S.C. § 189). As the Supreme Court further explained, reflecting on the MLA’s legislative history, “conservation through control was the dominant theme of the debates.” Boesche v. Udall, 373 U.S. 472, 481 (1963) (citing H.R.Rep. No. 398, 66th Cong., 1st Sess. 12-13; H.R.Rep. No. 1138, 65th Cong., 3d Sess. 19 (“The legislation provided for herein...will [help] prevent waste and other lax methods....”)).

Indeed, while the specific rights granted to a lessee depend on the terms of the particular lease, those rights are often very limited, amounting to no more than an “opportunity” to develop if the lease meets the requirements of federal law. As the Supreme Court explained, offshore oil and gas leases qualified by the need to obtain future Government approvals, as is the case with federal onshore oil and gas leases, “amounted primarily to an opportunity to try to obtain exploration and development rights in accordance with the procedures and under the standards specified in the cross-referenced statutes and regulations.” Mobil Oil Exploration and Producing Southeast, Inc. v. United States, 530 U.S. 604, 621 (2000) (emphasis added). The scope of lease rights can be even more constrained. In Conner v. Burford, the Ninth Circuit described the right acquired by the lessee of a no-surface occupancy federal onshore oil and gas lease as a “right of first refusal”: “What the lessee really acquires with an NSO lease is a right of first refusal, a priority right ....” 836 F.2d 1521 (9th Cir. 1988).

Satisfying the requirements of federal law includes compliance with NEPA, in particular a site-specific hard look analysis of direct, indirect, and cumulative impacts and consideration of alternatives keyed to that hard look analysis regarding methane pollution and waste. A lessee’s investment-backed expectations are, in effect, limited by the scope of NEPA analysis prepared to assess development of the lease. In New Mexico ex rel. Richardson v. BLM, the U.S. Court of Appeals for the Tenth Circuit, reconciling decades of case law regarding the point at which site-specific NEPA analysis was required, explained that, “[l]ooking to the standards set out by
regulation and by statute, assessment of all ‘reasonably foreseeable’ impacts must occur at the earliest practicable point, and must take place before an ‘irretrievable commitment of resources’ is made.” 565 F.3d 683, 718 (10th Cir. 2009) (citations omitted).

Thus, where BLM’s NEPA analysis (whether prepared before a lease is executed or, as is more typically the case, later, when BLM reviews a application for permit to drill) is site-specific and development is, on that basis, approved, then the lessee obtains defensible investment-backed expectations. But where the scope of NEPA analysis is not robust and, instead, is cursory or not site-specific, the lessee’s rights remain, in effect, contingent on compliance with NEPA. This does not infringe on the lessee’s rights because the lessee is on notice that any “right” to drill is subject to NEPA’s mandate to take a hard look at site-specific impacts and to consider reasonable alternatives—i.e., relevant here, alternatives assessing “reasonable precautions” to prevent waste—prior to the point of commitment. 40 C.F.R. § 3101.1-2. As the standard lease form explicitly provides, “[r]ights granted [by an oil and gas lease] are subject to applicable laws,” including NEPA. BLM Form 3100-11 (October 2008).

These principles are well-rooted in NEPA and NEPA’s implementing rules, which provide sensible constraints mandating that environmental reviews be completed in advance of resource commitments and, indeed, that these reviews be leveraged to inform those commitments and compliance with other substantive, laws. In fact, NEPA provides that “the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this chapter,” which include, inter alia, the responsibility to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.” 42 U.S.C. §§ 4331, 4332. NEPA’s implementing rules specifically mandate that BLM must:

- “[T]o the fullest extent possible…Use all practicable means…to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.” 40 C.F.R § 1500.2(f).

- “[I]ntegrate the NEPA process with other planning at the earliest possible time to insure that planning and decision reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.” 40 C.F.R. § 1501.2.

- [N]ot commit resources prejudicing selection of alternatives before making a final decision (§ 1506.1).” 40 C.F.R. § 1502.2(f).

- Use NEPA analyses “as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.” 40 C.F.R. § 1502.2(g).

- Prepare NEPA analyses “early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify
decisions already made (§§ 1500.2(c), 1501.2, and 1502.2).” 40 C.F.R. § 1502.5.

- Take “no action concerning the proposal...which would: (1) Have an adverse environmental impact; or (2) Limit the choice of reasonable alternatives.” 40 C.F.R. § 1506.1.

Recognition that leases are contingent on NEPA analysis avoids predetermined decisions to allow development based on flawed expectations held by a lessee to conduct operations in a manner that is neither prudent nor reasonable or results in unnecessary or undue methane pollution and waste. See, e.g., Davis v. Mineta, 302 F.3d 1104, 1112 (10th Cir. 2002) (rejecting highway project decision where “defendants prejudged the NEPA issues”); Metcalf v. Daley, 214 F.3d 1135, 1142 (9th Cir. 2000) (rejecting action that agency had committed beforehand in writing to support because a NEPA analysis “must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made”); N. Cheyenne Tribe v. Hodel, 851 F.2d 1152, 1157 (9th Cir. 1988) (“bureaucratic rationalization and bureaucratic momentum are real dangers, to be anticipated and avoided by [federal agencies]”); Mont. Wilderness Assoc. v. Fry, 408 F. Supp. 2d 1032, 1037 (D. Mont. 2006) (“[T]he public's interest in the NEPA process will be degraded if the process is reduced to a series of hurdles to be cleared en route to a predetermined result”); Idaho ex rel. Kempthorne v. U.S. Forest Serv., 142 F. Supp. 2d 1248, 1261 (D. Idaho 2001); see also 43 U.S.C. 1732(b) (requiring that BLM “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.”).

Accordingly, the holder of federal mineral lease has, at most, an exclusive, but limited, right to develop any oil and gas that may be found on the leasehold. That grant of rights is “subject to” BLM’s direct oversight of lease operations and BLM’s retained duties and authorities to fulfill FLPMA’s multiple use mandate through the protection of non-mineral multiple uses such as “air and atmospheric” values; to balance resource use and impacts with resource protection through resource management planning; and, “by regulation or otherwise,” to “take any action necessary prevent unnecessary or undue degradation of the lands.” 43 U.S.C. §§ 1701(a)(8), 1712, 1732(b). These retained duties and authorities are reflected in explicit reservations articulated in BLM’s existing rule defining the scope of a lessee’s rights:

A lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to: Stipulations attached to the lease; restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed. To the extent consistent with lease rights granted, such reasonable measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures.

Similarly, the modern (1984 and following) standard lease form, currently Form 3100-11 (October 2008), enumerates the reserved rights that leases are “subject to”: “Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of the lease, the Secretary of Interior’s regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of the lease.”

Taken together, 43 C.F.R. § 3101.1-2 and Form 3100-11’s standard language expressly subject a lessee’s rights to: (1) stipulations in the specific lease; (2) specific, nondiscretionary statutes; (3) regulations and formal orders in effect at the date of lease issuance; and (4) subsequently issued regulations and orders that are not inconsistent with lease rights granted or specific provisions of the lease, and that deal with issues “not addressed in the lease stipulations at the time the operations are proposed.”

Relevant here, the BLM’s duty and authority, through this rulemaking, to impose modernized methane reduction requirements on not just future leases, but existing leases, in particular proposals for new development of those existing leases, is expressly and expansively authorized both by the provision that makes leases subject to “such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed,” 43 C.F.R. § 3101.1-2, and by the standard lease form language that makes leases subject to “formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of the lease,” BLM Form 3100-11. This is consistent with Supreme Court precedent providing that “[e]ven with respect to vested property rights, a legislature generally has the power to impose new regulatory constraints on the way in which those rights are used, or to condition their continued retention on performance.” U.S. v. Locke, 471 U.S. 84, 104 (1985).

Indeed, the very price of a federal oil and gas lease—often at rock bottom bid prices which start at $2.00 per acre and similarly low annual rental fees of $1.50 per acre that are far cheaper than oil and gas leases on state or private lands—reflects BLM’s retained duties and authorities. As the Federal Circuit has explained, the price of a federal fossil fuel lease must be accounted for in assessing the scope of BLM’s retained duties and authorities and whether or not there has been a taking of a lessee’s property (or contractual) right:

In this case, which involves a business engaged in a highly regulated industry, the plaintiff’s reasonable investment-backed expectations are an especially important consideration in the takings calculus. A party in Rith’s position necessarily understands that it can expect the regulatory regime to impose some restraints on its right to mine coal under a coal lease. The leases
themselves notified Rith of the uncertainty of obtaining permits to mine, and the low price that Rith paid for the leases may well reflect the widely understood risk that Rith would not be permitted to extract as much coal as it hoped from the leased properties. The likelihood of regulatory restraint is especially high with regard to possible adverse environmental effects, such as potentially harmful runoff from the mining operations, which have long been regarded as proper subjects for the exercise of the state’s police power.


Indeed, well operators have no reasonable expectation to vent or flare, in light of the long-recognized police power to control waste of natural gas. In a 1900 case, the Supreme Court upheld a state law prohibiting venting of natural gas for more than two days. Ohio Oil Co. v. Indiana, 177 U.S. 190 (1900). The Court was unmoved by the fact that the strict state law would cause the well operator to shut in a productive oil well, and rejected the operator’s contention that “as the oil could not be taken at a profit by one who made no use of the gas, therefore he must be allowed to waste the gas into the atmosphere.” Id. at 199, 211. Natural gas waste, the court found, was a proper subject for regulation, and waste regulation did not cause a taking even if it destroyed the economic viability of a well.

We provide this analysis because we anticipate that oil and gas industry interests will contend that BLM’s proposed rule somehow conflicts with their investment backed expectations and drilling rights by changing how BLM prevents methane pollution and waste relative to the weak framework that has been in place since 1979 via NTL-4A. But, as we demonstrate above, BLM’s duties and authorities are not constrained by the prior policy and practice provided by NTL-4A, even if oil and gas lessees have relied on such policy and practice in acquiring or investing in leases while mistakenly ignoring the plain language of the MLA; the typically limited scope of NEPA analyses prepared to justify lease sales; BLM’s rules retaining duties and authorities to prevent waste, lease stipulations, in particular those in Form 3100-11; and courts’ historic recognition of the appropriateness of methane waste regulation.

Moreover, the vehicle for a claim that investment-backed expectations have been frustrated—a takings claim—would likely fail at the outset. Takings law has limited application to claims against the government for violation of oil and gas leases; contract law applies instead. See, e.g., Sun Oil Co. v. United States, 572 F.2d 786, 818 (1978) (the takings theory “has limited application to the related rights of party litigants when those rights have been voluntarily created by contract. In such instances, interference with such contractual rights generally gives rise to a breach claim not a taking claim.”).

In the contract context, the government has broad authority to change contracting expectations where public resources are concerned. The question, generally, is not whether the government can impose new burdens on a contracting party, but whether it must pay to do so.
Mobil Oil Exploration, 530 U.S. 604 (2000). Here, however, no such analysis is required, as BLM acts well within lease terms in imposing new requirements via regulations promulgated under the authority of existing applicable statutory frameworks. BLM form 3100-11 (standard onshore oil and gas lease makes rights subject to “regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease”); Mobil Oil Exploration, 530 U.S. at 621 (2000) (in context of offshore oil and gas leases, lessees’ rights are subject to regulations promulgated under the authority of existing applicable statutory frameworks, as contemplated by the leases); Century Exploration New Orleans, LLC v. United States, 745 F.3d 1168 (Fed. Cir. 2014) (applying Mobil Oil to find no contract breach). Importantly, onshore oil and gas leases provide even more expansive authority regarding future regulation than the offshore oil and gas leases at issue in Mobil Oil and Century Exploration.

BLM’s retained duties and authorities to condition development of both existing and future leases, with a limited distinction made for existing wells and infrastructure, is reflected in our recommendations, in particular with regard to flaring limits and an operator’s ability to secure an alternative flaring limit (Sections II.D, III.C, III.D, and III.E), waste minimization plans (Sections II.F and III.A), and our recommendation that BLM link, through explicit recognition of retained duties and authorities, the final methane waste rule with the agency’s front-end planning and management framework (Sections II.G and III.G).

C. BLM SHOULD EXTEND WASTE PREVENTION AND MINIMIZATION MEASURES TO ALL OIL AND GAS WELLS

The proposed rule focuses heavily on the reduction of methane pollution and waste from oil wells through capture of associated gas. While we certainly agree that oil well operators must do a far better job of capturing and transporting to market natural gas produced in association with oil well operations, there is nonetheless significant waste of natural gas in from, perhaps ironically, natural gas exploration and production operations.

As Table 1 below shows, BLM’s estimates of methane losses from venting and flaring includes significant waste from gas production, including 5 Bcf from flaring and 16.01 Bcf from venting of pneumatic controllers and pumps, storage vessels, liquids unloading, drilling and well completions, and leaks.
Table 1: BLM Estimates of Venting, Flaring and Leaks

<table>
<thead>
<tr>
<th>Source</th>
<th>Gas Production (Bcf)</th>
<th>Oil Production (Bcf)</th>
<th>Total (Bcf)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flaring</strong></td>
<td>5</td>
<td>71</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td><strong>Venting Sources:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Pneumatic controllers</em></td>
<td>4.29</td>
<td>1.08</td>
<td>5.4</td>
<td>34%</td>
</tr>
<tr>
<td><em>Pneumatic pumps</em></td>
<td>2.29</td>
<td>0.16</td>
<td>2.5</td>
<td>16%</td>
</tr>
<tr>
<td><em>Storage vessels</em></td>
<td>1.82</td>
<td>0.95</td>
<td>2.77</td>
<td>17%</td>
</tr>
<tr>
<td><em>Liquids unloading</em></td>
<td>3.26</td>
<td>0.00</td>
<td>3.26</td>
<td>20%</td>
</tr>
<tr>
<td><em>Drilling/completions</em></td>
<td>0.69</td>
<td>1.39</td>
<td>2.08</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Venting Total</strong></td>
<td></td>
<td></td>
<td>16.01</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Leaks</strong></td>
<td>3.94</td>
<td>0.41</td>
<td>4.35</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td>1.64</td>
<td></td>
</tr>
<tr>
<td><strong>Total methane lost from venting, flaring and leaks</strong></td>
<td></td>
<td></td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

BLM’s duty and authority to prevent waste is, importantly, expansive, addressing not just oil but also natural gas; “[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land....” 30 U.S.C. § 225 (emphasis added).

Accordingly, the draft rule should broadly extend waste prevention and minimization measures to natural gas wells and better account for natural gas in assessing revenues and reserves in determining economic feasibility. Specifically:

- Constraints on flaring should extend to and account for natural gas wells in three ways, as detailed in more depth in Section II.D, in particular Sections II.D.1 and II.D.4, and Section II.E, below:
- First, flaring limits proposed by 43 C.F.R. § 3179.6(b) should be clearly and explicitly extended to natural gas wells.

- Second, calculations to determine compliance with the flaring limits set forth in 43 C.F.R. § 3179.6(b) should not be limited, as the proposed rule is currently drafted, to oil wells but should be extended to include gas wells.

- Third, benefit-cost tests for exemptions, such as the provision for alternative flaring limits in 43 C.F.R. § 3179.7, hinge on a determination of whether the costs of compliance would cause the operator to “abandon significant recoverable oil reserves under the lease.” The MLA’s prohibition against waste is not, however, limited to oil and extends to natural gas. 30 U.S.C. § 225. BLM, in the final rule, should therefore explicitly acknowledge and account for natural gas reserves in considering a request for an alternative flaring limit.

- BLM should mandate that operators complete waste minimization plans for proposed natural gas, not just oil, wells pursuant to 43 C.F.R. § 3162.1-3, as we detail in more depth in Section II.F below.

D. BLM SHOULD STRENGTHEN THE PROPOSED RULE BY MINIMIZING AND EVENTUALLY PHASING OUT FLARING

1. The Proposed Rule Should Presumptively Prohibit Flaring, Strengthen the Flaring Limit, Apply the Flaring Limit to Natural Gas Wells, Eliminate the Three-Year Phase-In Period, and Prohibit Flaring with a Ten-Year Phase-Out Period

Section 3179.6(b) of the proposed rule details the flaring volume limit and the phasing in of the proposed flaring limit. These provisions reflect a fundamental flaw in the proposed rule: that physical containment and disposal of natural gas through flaring is acceptable to satisfy the MLA’s prohibition against waste, a prohibition that instills duties on both the operator and BLM. 30 U.S.C. § 225. As proposed 43 C.F.R. § 3179.6 provides, “[t]he operator must flare rather than vent any gas that is not captured,” with “captured” defined as the containment for transport to market or productive uses. See 43 C.F.R. § 3179.3.

Flaring is waste. As demonstrated by Table 1 above, gas wells are the dominant source of vented methane waste while oil wells are the dominant source of flared methane waste. BLM estimates that a total of 98 Bcf gas was vented, flared, or leaked on BLM-administered lands in 2013. See 81 Fed. Reg. 6616, 6660; BLM Regulatory Impact Analysis (“RIA”) at p. 3. Of this total, 76 Bcf was flared, including 5 Bcf flared and 16.29 Bcf vented at gas wells and associated gas infrastructure and practices. According to the Fact Sheet issued along with Secretary Jewell’s
announcement of the proposed rule, “[o]verall, the rule would reduce flaring by an estimated 41–60 percent and venting by roughly 44–46 percent (compared to 2013 rates).” At this rate, reductions in venting would amount to roughly 9 Bcf. If these reductions were flared rather than sold, enough gas to heat about 120,000 homes would continue to be wasted. The rule needs to tackle methane waste from both oil and natural gas wells and require the capture—inclusive of transport of natural gas to market—as a means of keeping it out of the atmosphere.

Unfortunately, flaring is expressly permitted in the proposed rule as a default option not only for associated gas but also for well drilling (43 C.F.R. § 3179.101), well completions (43 C.F.R. § 3179.102), production tests (43 C.F.R. § 3179.103), pneumatic controllers (43 C.F.R. § 3179.201), pneumatic pumps (43 C.F.R. § 3179.202), storage vessels (43 C.F.R. § 3179.203), and liquids unloading (43 C.F.R. § 3179.204). Further, the rule is not clear as to whether these non-associated gas volumes would be covered under the proposed limits. Each of these sources wastes a significant amount of gas, and the blanket approvals to flare contained in the rule for these sources should be eliminated and accounted for in determining compliance with limits prescribed for flaring by 43 C.F.R. § 3179.6(b) or 43 C.F.R. § 3179.7. Again, flaring does not reduce methane waste and should, to the degree possible, be prohibited.

Even setting these concerns aside, 43 C.F.R. § 3179.6 and 43 C.F.R. § 3179.7 as written provide far too much latitude for operators to flare; set a flaring limit that is insufficiently stringent; provide operators with an unnecessary three-year phase-in period to achieve compliance; allow operators of existing leases to obtain an alternative, less-stringent flaring limit; and even allow operators on existing leases to obtain a renewable 2-year exemption from flaring limits. Moreover, the flaring limits mandated by 43 C.F.R. § 3179.6(b) exclude natural gas wells by virtue of calculating compliance based only on development oils.

BLM should therefore presumptively prohibit flaring; provide only a limited exception for wells (i.e., wells approved before the effective date of the final methane waste rule); strengthen the flaring limits for these wells and clearly extend them to natural gas wells; and establish a 10-year timeline requiring operators phase-out flaring entirely and to thereby require these operators to capture and transport to market all gas released from all oil and gas sources. Our recommendations regarding flaring, coupled with our recommendations regarding waste minimization planning, shift the burden from the public and BLM to operators to justify flaring from existing wells, which is effective since operators “have greater capacity to anticipate and plan for capture infrastructure to be ready at the time they shift from exploration to development in a given field.” 81 Fed. Fed. 6616, 6644. This, in turn, minimizes BLM administrative and oversight costs and inconsistencies between field offices.

Exceptions allowing flaring instead of capture should be provided only in limited circumstances when the operator demonstrates—and BLM agrees, after public review and comment—that the net costs of capture would result in the abandonment of reserves, accounting for public
benefits. In Sections II.D.2 thru II.D.5 below, we justify these recommendations. Specifically, we demonstrate:

- Using the Bakken as an example, the problematic implications of the 1800 Mcf flaring limit and the three-year phase-in period provided by 43 C.F.R. § 3179.6(b) relative to steep production decline rates common to all tight oil and shale gas wells (Section II.D.2).

- Why the phase-in provided by 43 C.F.R. § 3179.6(b) is not needed and why a more stringent flaring volume limit is reasonable (Section II.D.3).

- That compliance with permitted flaring limits should be calculated on a well-by-well basis that accounts for both oil and natural gas wells rather than on a lease, unit, or CA basis that only accounts for oil wells (Section II.D.4).

- Why, rather than a three-year phase-in to comply with the 1800 Mcf flaring limit provided by 43 C.F.R. § 3179.6(b), BLM should provide for a ten-year phase-out of all flaring (Section II.D.5).

2. BLM’s Proposed Flaring Limits Would Condone the Waste of a Significant Percentage of Natural Gas Produced by a Typical Well with a Steep Decline Rate on a Lease, Unit, or CA

a. Overview

The flaring limits proposed by 43 C.F.R. § 3179.6(b) have a serious, adverse, though unintended consequence: they allow oil and gas wells, such as those in the Bakken, to flare a significant proportion of their gas as oil and gas production declines and the well matures. This is a product of the proposed rule’s failure to consider the decline curves of oil and gas wells while providing a 3-year phase-in of flaring limits after the effective date of the rule.

In formations like the Bakken, a steep production decline occurs as soon as oil and gas wells are drilled. On average, Bakken wells produce approximately 300 bbl/day in the first year of production, also known as peak production.\(^2\) Peak production is then followed by steep production declines for the rest of the well’s life. By the fourth year, the typical Bakken well’s production typically declines to less than 75 bbl/day, with a shallower decline curve for the rest of the well’s life.\(^3\)

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\(^3\) Id.
Importantly, steep production declines are not isolated to the Bakken. According to the Energy Information Administration (EIA):

> Horizontal wells drilled into tight formations tend to have very high initial production rates, but they also have steep initial decline rates. With steep decline rates, constant drilling and development of new wells is necessary to maintain or increase production levels.⁴

The EIA has found that tight oil production in the Permian, Eagle Ford, Bakken, and Niobrara basins falls roughly 60% to 75% in the first year of the life of a well.⁵ Moreover, a 2014 study of seven major plays in the U.S. found that three-year tight oil well decline rates in the seven plays ranged from 60% to 91%.⁶ The report found that one-year average shale gas well decline rates in the seven plays ranged from 23% to 49%, and 3-year average well decline rates were between 74% and 88%.⁷ As BLM itself notes in the proposed rule’s preamble:

> New wells (especially in shale formations) often start out producing a relatively large amount of oil and/or gas at relatively high pressures, which then declines rapidly over time.


For new wells drilled in the Mancos Shale Formation in the San Juan Basin of New Mexico, the Farmington Field Office Reasonably Foreseeable Development Scenario has identified production declines from newly-drilled oil wells of approximately 80-90% in the first one hundred days of production. Gas wells show similar declines.⁸

Finally, the Regulatory Impact Analysis (“RIA”) cites a 2015 report by Carbon Limits that found that for wells sampled in the Bakken Formation, oil and gas production peaks at the second

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⁷ *Id.* at 11.

month with a 64% decline from the peak at the 12th month; an 86% decline from the peak at the 24th month; and a 93% decline from the peak at the 36th month.\(^9\)

As the BLM itself acknowledges (81 Fed. Reg. 6616, 6638), tight oil formations like the Bakken produce not just oil, but associated gas. Accordingly, to prevent waste, it is important to identify the amount of gas that will be produced and flared over time by using the ratio of the amount of associated gas produced to the amount of oil. Using the gas to oil ratio, or “GOR,” informs how much the waste of a given well’s production would be prevented by the flaring limit, inclusive of the three-year phase-in period proposed by 43 C.F.R. § 3179.6(b). In the Bakken formation, the GOR is approximately 1.1-1.2 gas to oil.\(^10\) This means that each barrel of oil produced in the Bakken also produces 1.1-1.2 times more in natural gas equivalent. For purposes of our calculations below, we will use a GOR of 1.15 for Bakken wells.

To calculate approximate natural gas production, we multiply oil production by the GOR. The universal conversion for oil to gas is called Barrel of Oil Equivalent (“BOE”). For example, if a Bakken well produced 200 barrels of oil in a month, the approximate amount of natural gas produced is determined by the following calculation:

\[
200 \text{ barrels/day} \times 1.15 \text{ (GOR)} = 230 \text{ Mcf of gas/day}
\]

To illustrate the implications of the flaring limit and three-year phase-in period proposed by 43 C.F.R. § 3179.6(b) to a tight oil well that produces associated gas, it is necessary to assess the production decline curve of that well over time. We assume that gas production declines at roughly the same rate as oil. In this way, the interaction between the flaring limit, the three-year phase-in period for that limit, and the interaction of that limit and phase-in period with production volumes can be understood.

To do this, we evaluate the three-year phase-in of flaring limits proposed by 43 C.F.R. § 3179.6(b) (7200/3600/1800 Mcf/month) over the first four years of production from an average Bakken well to determine the percentage of gas flared during a given production year, depending on what year of the phase-in is in effect. The main reason we do this is because the three-year phase-in period will impact wells at various stages of productivity from peak production (i.e., first year) to mature wells (year three to end of life).

We note that the flaring limits proposed by 43 C.F.R. § 3179.6(b) are calculated by totaling flaring volumes from all oil wells on a lease, unit, or CA and then dividing that total by the total number of oil wells on that lease, unit, or CA. The calculations below reflect how the flaring


limits interplay across a lease, unit, or CA. We recognize that some wells on a lease, unit, or CA may be in different stages in their life cycle and production decline, but, to show how the phase-in of limits affects the percentage of gas production flared, the calculations assume that wells on a lease, unit, or CA were drilled at the same time. So year one of the phase in would cover a leasehold with all of the wells in year one of production, and year two would cover a leasehold with all wells in year two of production and so on.

b. Calculations

**Production Year 1 (assumes production of 295 barrels oil/day):**

- Total natural gas production = 295 bbl/day x 1.15 GOR = 339.25 Mcf/day per well
- Volume and percentage of natural gas the operator is allowed to flare pursuant to 43 C.F.R. § 3179.6(b) by phase-in year:
  - **Year 1:** Operator can flare 240 Mcf/day or 70.7% of produced gas on unit, lease, or CA.
  - **Year 2:** Operator can flare 120 Mcf/day or 35.4% of produced gas on unit, lease, or CA.
  - **Year 3:** Operator can flare 60 Mcf/day or 17.6% of produced gas on unit, lease, or CA.

**Production Year 2 (assumes production of 116 barrels oil/day):**

- Total natural gas production = 116 bbl/day x 1.15 GOR = 133.4 Mcf/day per well
- Volume and percentage of natural gas the operator is allowed to flare pursuant to 43 C.F.R. § 3179.6(b) by phase-in year:
  - **Year 1:** Operator can flare 240 Mcf/day or more than 180% of produced gas on lease, unit, or CA.
  - **Year 2:** Operator can flare 120 Mcf/day or 90% of produced gas on unit, lease, or CA.
  - **Year 3:** Operator can flare 60 Mcf/day or 45% of produced gas on unit, lease, or CA.

**Production Year 3 (assumes production of 87.5 barrels oil/day):**

- Total natural gas production = 87.5 bbl/day x 1.15 GOR = 100.625 Mcf/day per well
- Volume and percentage of natural gas the operator is allowed to flare pursuant to 43 C.F.R. § 3179.6(b) by phase-in year:
- **Year 1**: Operator can flare 240 Mcf/day or more than 238% of produced gas on lease, unit, or CA.

- **Year 2**: Operator can flare 120 Mcf/day or more than 119% of produced gas on unit, lease, or CA.

- **Year 3**: Operator can flare 60 Mcf/day or 59.6% of produced gas on unit, lease, or CA.

**Production Year 4 (assumes production of 71.8 barrels oil/day):**

- Total natural gas production = 71.8 bbl/day x 1.15 GOR = 82.57 Mcf/day per well

- Volume and percentage of natural gas the operator is allowed to flare pursuant to 43 C.F.R. § 3179.6(b) by phase-in year:
  - **Year 1**: Operator can flare 240 Mcf/day or more than 290% of produced gas on lease, unit, or CA.
  - **Year 2**: Operator can flare 120 Mcf/day or more than 145% of produced gas on unit, lease, or CA.
  - **Year 3**: Operator can flare 60 Mcf/day or 72.6% of produced gas on unit, lease, or CA.

These calculations are depicted in Figure 1 below. Figure 1 shows the percentage of gas flared from wells during each of the projected first four years of production over the course of the proposed rule’s three-year phase-in period.
The percentage of gas flared—i.e., wasted—increases as the wells age and production declines. Regardless of the well’s maturity—i.e., production year—the percentage of gas flared is highest in year 1 of the proposed rule’s three-year phase-in period, where operators are allowed to flare 240 Mcf/day or 7200 Mcf/month; followed by year two, where operators are allowed to 120 Mcf/day or 3600 Mcf/month; and, finally, followed by year three, the final year of the phase-in period, where operators are allowed to 60 Mcf/day or 1800 Mcf/month.

The percentages of gas flared in year 1 and year 2 of the three-year phase-in period are very high, especially for wells that have matured beyond their first year of peak production. States like North Dakota are attempting to attack flaring via percentage goals. The ultimate goal of the North Dakota flaring policy is to get flaring down to 5 percent statewide by 2020.\textsuperscript{11} Based on these calculations, compliance with BLM’s proposed flaring volume limits would only satisfy the 5 percent goal set by North Dakota regulators if two conditions are met: (1) all wells on the lease, unit, or CA are in their first year of production; and (2) the lease, unit, or CA is subject to 60 Mcf/well/day limit provided for the final year of the three-year phase-in period (60 Mcf/day limit).

\footnotesize
\textsuperscript{11} Bakken/Three Forks Pool Field Rules to Restrict Oil Prod. to Reduce the Amount of Flared Gas, Order No. 24665, Case No. 22058 (N.D. Indus. Comm’n July 1, 2014) (hearing on a motion to consider amendments), available at https://www.dmr.nd.gov/oilgas/or24665.pdf.
3. The Proposed Three-Year Phase-In Period Is Flawed and BLM Should Adopt a More Stringent Flaring Volume Limit

Due to the high flaring percentages in years one and two of the phase-in, we are not convinced that BLM has provided a reasoned basis for the proposed three-year phase in period. If anything, the three-year phase-in period would condone flaring a large percentage of a well’s associated gas production. A strong limit imposed on the first day the final rule is effective would ensure that operators take immediate action to control excessive flaring. There is precedent for such action. Wyoming, for example, did not phase in its flaring limit when it imposed flaring volume limits in 2013.\(^\text{12}\) Wyoming has also taken action to make its flaring volume even more stringent, lowering the daily flaring volume limit to 20 Mcf/day.\(^\text{13}\) We therefore recommend that BLM eliminate the three-year phase-in period proposed by 43 C.F.R. § 3179.6(b) and, in the final rule, adopt Wyoming’s 20 Mcf/day flaring volume limit. Figure 2, below, depicts the positive impact of a 20-Mcf/day flaring limit relative to the percentage of gas flared from a typical Bakken well, taking into account production declines. Put simply, the 20-Mcf/day limit would constrain the total percentage of produced gas flared to between 6%-24%, a result that is significantly better than provided for by BLM’s proposed rule.

Figure 2: Percentage of gas flared from a typical Bakken well depending on the well’s production year and subject to a flaring limit of 20 Mcf/day.


\(^{13}\) Id.
4. **BLM Should Calculate Compliance with Flaring Volume Limits on a Well-by-Well Basis**

The proposed rule seeks to provide operators with flexibility by virtue of calculating compliance with the proposed flaring limits in 43 C.F.R. § 3179.6(b) on the basis of total flared gas from all oil wells across an entire lease, unit, or CA. This method of calculation condones methane pollution and waste from individual wells that may prove cumulatively significant and unnecessary and thus undermines the proposed rule’s intent and ability to conform to the MLA’s mandate to prevent waste.

In accord with BLM’s method of calculation, some wells on a lease, unit, or CA could flare 100% of produced gas, while other wells do not. For example, in year three of the phase-in period, BLM’s proposed rule would allow the operator of a lease, unit, or CA with two wells to flare up to 3600 Mcf/month from one of the wells so long as it captures and transports to market all of the gas from the other well. This does not, contrary to BLM’s rationale in the preamble of the proposed rule (see 81 Fed. Reg. 6616, 6639), provide the operator with flexibility but, rather, sanctions poor planning and excessive, unnecessary waste. We illustrate these concerns in Appendix A by reference to operations on the Buffalo Pad on the Fort Berthold Reservation in North Dakota.

The far better approach that we recommend would be to impose a flaring limit on a well-by-well basis. This incentivizes (and thus amplifies the efficacy of) waste minimization planning by the operator pursuant to 43 C.F.R. § 3162.3-1 to account for existing wells and to invest in capture infrastructure that encompasses for the entire unit, lease, or CA. It is in this way—by requiring a well-by-well flaring limit while requiring waste minimization planning across a lease, unit, or CA—that BLM can satisfy its duty to prevent waste while encouraging operators to identify effective economies of scale, which the agency, in its preamble, purports to optimize with the methane waste rule. See 81 Fed. Reg. 6616, 6639 (explaining that “[t]he economics of alternative on-site capture technologies improve as quantities of gas increase”). Such planning should involve, for example:

- Co-locating drilling infrastructure to maximize economies of scale, as recognized by BLM in Figure 2 on page 52 of the Regulatory Impact Assessment, which states that “well concentration improves economics”;

- Reducing waste from existing infrastructure;

- Aligning oil and gas production with construction of gas capture infrastructure on the lease, unit, or CA so that oil production does not outpace gas capture and thereby waste the gas resource; and
- Synchronizing upstream production operations with midstream gas pipeline and processing capacity to ensure that gas is transported to market for sale and use by consumers, not vented or flared into the atmosphere where it does not provide a single Btu of energy and, instead, contributes to climate change and negatively impacts air quality and public health.

BLM itself acknowledges, in the preamble to the propose rule, that flaring is a product of poor planning, lack of investment in capture infrastructure, rates of drilling new wells that outpace the capacity of capture infrastructure, lack of coordination and cooperation between upstream producers and midstream pipeline and processing operations, and questionable business models that assume that flaring is a prudent and reasonable option for dealing with methane. See 81 Fed. Reg. 6616, 6637-6638. While operators may not want to waste natural gas, it is self-evident that they do and their intent to prevent waste does not match their actual operations, in part because BLM has, to date, not adequately exercised its oversight duties and authorities.

Operators should not be able to ignore and effectively write off methane pollution and waste from some wells on a lease, unit, or CA while planning capture for others and otherwise choosing to emphasize investment in new wells to the detriment of investment in optimization of existing wells and associated infrastructure—a choice that contributes to waste. For example, new high-pressure wells may push older lower-pressure wells gas from pipelines, leading to capture of the former and flaring of the latter. Limits should apply to all of an operator’s wells, whether that well is the first or last in a particular lease, unit, or CA. Applying limits to each well creates incentives for development to proceed at a more measured pace and, as a consequence, helps prevent and at least truly minimizes the waste of the oil and natural gas resource. We therefore view a well-by-well calculation to determine compliance with flaring limits as an essential and critical recommended change to the proposed rule.

Our recommended changes to the proposed rule’s text are provided below, in Section III.D, which should be read in the context of our recommendations pertaining to retained duties and rights in Section III.G.

5. BLM Should Phase Out and Prohibit All Flaring within Ten Years of the Effective Date of the Final Rule

Consistent with our comments above, flaring, with the exception of emergency situations, should be phased out and thereby prohibited within 10 years of the effective date of the final rule. This will prevent methane pollution and waste while providing oil and gas operators with a reasonable period of time to plan, prepare, and retrofit their operations. We recommend that BLM structure this phase-out period in four 2.5-year blocks as depicted in Table 2, below.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Timeframe</th>
<th>Flaring Volume Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Rule is finalized to year 2.5 after rule is finalized</td>
<td>20mcf/day or 600mcf/month</td>
</tr>
<tr>
<td>Two</td>
<td>Year 2.5- Year 5</td>
<td>15 mcf/day or 450 mcf/month</td>
</tr>
<tr>
<td>Three</td>
<td>Year 5-Year 7.5</td>
<td>10mcf/day or 300 mcf/month</td>
</tr>
<tr>
<td>Four</td>
<td>Year 7.5-Year 10</td>
<td>5 mcf/day or 150 mcf/mo</td>
</tr>
<tr>
<td>Flaring Phased Out</td>
<td>Year 10</td>
<td>0 mcf/day or 0 mcf/month; flaring phased out.</td>
</tr>
</tbody>
</table>

Methodically phasing out flaring over a 10 year period provides operators with sufficient time to eliminate flaring, whether through more effective planning before new wells are drilled, investment in capture infrastructure, synchronization with midstream pipeline and processing companies (including new contracts), or otherwise.

BLM itself can facilitate a 10-year phase out through more effective front-end oil and gas planning and management by BLM, as we recommend in Section II.G below. Such planning and management provides a level playing field for all operators as they prepare waste minimization plans; basic oversight regarding the location and timing of new drilling; and a framework to secure necessary rights-of-way for pipeline infrastructure. For example, BLM could create maps and conduct at least an initial stage of environmental review to show, based on high, medium and low potential identified in Reasonably Foreseeable Development Scenarios, areas to avoid that have distant prospects for pipelines and processing capacity. By completing an initial stage of environmental review, BLM can guide development while better avoiding waste and other adverse impacts. Bottom line, a methodical ten-year phase-out period combined with more effective front-end planning and management can guide the siting and construction of gas capture infrastructure to render flaring unnecessary, thus optimizing efforts to prevent methane pollution and waste.

Specific recommended changes to the proposed rule’s text in 43 C.F.R. 3179.6(b) are provided in Section III.D.1 below.

**E. BLM SHOULD IMPROVE THE BENEFIT-COST TEST FOR EXEMPTIONS AND ALTERNATIVE LIMITS TO ENSURE CONSISTENT AND ACCURATE CALCULATIONS AND TO ACCOUNT FOR PUBLIC BENEFITS**
The draft rule includes recurring language allowing exemptions from a waste prevention measure “if the operator demonstrates, and the BLM agrees, that [the measure] would impose such costs as to cause the operator to cease production and abandon significant recoverable oil reserves under the lease.”\textsuperscript{14} See, e.g., 43 C.F.R. § 3179.7(a) (proposed). We find this language problematic.

To remedy this concern, the final rule should provide clear, standardized guidance to operators to ensure fair, consistent, and accurate calculations of costs and benefits. Such calculations should reflect BLM’s expansive authority and mandate to manage federal oil and gas resources in trust for the public. These calculations are essential to ensure that any exemptions are granted sparingly in accordance with strict criteria and that operators will not be granted exemptions for shoddy, suspect, or self-serving calculations of compliance costs. We note that industry, including the fossil fuel industry, often inflates compliance costs and deflates compliance benefits.\textsuperscript{15} Accordingly, BLM should take care to ensure that any benefit-cost calculations are defined by the rule rather than contrived by operators.

To achieve this, in Section III.B below, we recommend the addition of a definition for “economically infeasible” that identifies how revenues and costs should be used to determine if waste prevention measures, which involve either capture and delivery to a sales line or replacement of equipment, would meet the standard for an exemption. Importantly:

- Costs include the costs of capture infrastructure, or the costs of equipment replacement. The specific elements of capture infrastructure and replacement equipment are specified in the rule through proposed revisions to the definitions of “capture” and “capture infrastructure” in 43 C.F.R. 3179.3.
- Revenues should include the sale of oil and gas from all new and existing wells on the lease.

Public benefits should also be included on the revenue side of the equation. Research completed by the National Research Council has confirmed the fact that the negative impacts of the production and consumption of fossil fuels are not represented in the market price for those fossil fuels.\textsuperscript{16} In other words, failing to internalize the externalities of fossil fuel

\textsuperscript{14} There is one exception to this language: for liquids unloading the rule would provide an exemption from capture, and even from flaring, if “practices that maximize the recovery of gas for sale ... or flaring are technically infeasible or unduly costly.” 43 C.F.R. § 3179.204(a) (proposed). This different language for exemption from capture during liquids unloading is confusing and unnecessary.


\textsuperscript{16} National Research Council, Hidden Costs of Energy (2010); see also Nicholas Z. Muller et al., Environmental Accounting for Pollution in the United States Economy 101 Am. Economic Review 1649 (2011) (cost of economic harm from coal vastly exceeds market value generated by coal); Ben Machol & Sarah Razk, Economic Value of U.S.
production and combustion—such as the impacts to climate change and human health—has resulted in a market failure that requires government intervention. Executive Order 12866 directs federal agencies to assess and quantify such costs and benefits of regulatory action, including the effects on factors such as the economy, environment, and public health and safety, among others. See Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Sept. 30, 1993).\textsuperscript{17} The Ninth Circuit has ruled that agencies must include the climate benefits of a significant regulatory action in federal cost-benefit analyses to comply with EO 12866:

\begin{quote}
[T]he fact that climate change is largely a global phenomenon that includes actions that are outside of [the agency’s] control ... does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also affect global warming.
\end{quote}


The RIA takes a close look at the monetized social costs of increased greenhouse gas emissions and also identifies non-monetized impacts from methane waste. However, the BLM does not incorporate the benefits of reducing these costs into the mechanics of the rule; i.e., in the evaluation of the economic feasibility of capture. This is a mistake, both as a legal and as a practical matter. As a legal matter, BLM must account for social costs in determining what is a reasonable precaution to prevent waste, as we detail in more depth below. And, as a practical matter, BLM can require operators to incorporate an analysis of social costs in an efficient and necessary way by monetizing the benefits to the public of reducing the methane emissions that would result in compliance with the rule and thereby compare a more complete picture of benefits of methane reductions to the public with the cost to the public of royalties foregone by abandonment of reserves that are otherwise economically recoverable.

In estimating the net benefits of the rule, the RIA recognizes both private and public costs and benefits of reducing methane waste. The monetized private costs considered include engineering compliance costs and equipment replacement costs. Public monetized costs include additional carbon dioxide emissions from flaring gas that would otherwise have been vented. On the benefits side, private benefits include revenues from the sale of captured gas,
while public benefits include “the environmental benefits of reducing the amount of greenhouse gasses and other pollutants released into the atmosphere.”\(^{18}\)

The RIA also identifies non-monetized benefits of reducing methane waste. These include the health effects of co-pollutants released along with methane, the environmental benefits of productive use of gas downstream rather than combusting it upstream, and other non-monetized climate benefits. We note that the RIA did not, however, include more localized community impacts such as noise and light pollution and landscape impacts to ecological and community resources, including cultural resources, from fragmented development. While the RIA says that it “examines” these non-monetized costs and benefits, it does not explain how this was done or disclose the results of this examination. We strongly encourage BLM to account for these localized community impacts, whether in the rule or, at the very least, through field-level planning and management.

Regardless, the RIA estimates that the rule will, overall, deliver average net monetary benefits of $270-$354 million per year. Of that amount, the RIA estimates the monetized value of methane reductions due to the rule of $194 million per year in 2017-2019, $235 million per year in 2020-2024, and $276 million per year in 2025-2026 (assuming that EPA does not finalize Subpart OOOOa and at a 3% discount rate). These benefits from avoiding the impacts of climate change are roughly 2.5 times the private benefits realized under the rule.

To calculate the monetized benefits of avoiding climate impacts by reducing methane waste, the RIA uses estimates of “the quantity of methane reductions and monetizes the benefit of these reductions using estimates of the social cost of methane.”\(^{19}\) These monetary benefits are based on estimates of the social cost of carbon and methane that have been developed by the Interagency Working Group on Social Cost of Carbon and recent work on the social cost of methane.\(^{20}\) The social cost of carbon has been widely used to provide a monetary value for future economic impacts of climate change, and to estimate the social cost of methane by adjusting carbon costs by the GWP of methane. Updated approaches to estimating the social cost of methane have provided more accurate estimates by use of methodologies that are more consistent with those used to estimate the social cost of carbon and by incorporating methane’s higher effective radiative forcing.

The RIA identifies the pathway from emissions to monetary damages as:

\[^{18}\text{RIA p. 5.}\]

\[^{19}\text{RIA p. 32.}\]

Damages are monetized using several integrated assessment models to capture these dynamics. Climate impacts quantified in these models include increased air and ocean temperatures, changes in precipitation patterns, melting and thawing of global glaciers and ice, increasingly severe weather events, such as hurricanes of greater intensity, and sea level rise, among other impacts. Socio-economic impacts include net changes in agricultural productivity and human health, property damage from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning.\textsuperscript{21}

The monetary values calculated for an avoided marginal increase in methane emissions in a given year are $1300/metric ton in 2020 and $1500/metric ton values at a 3\% discount rate in 2012 dollars. These are slightly higher than the social cost of carbon of $45/metric ton in 2020 and $49/metric ton in 2025 adjusted for methane’s global warming potential. Given limitations in the models used to derive these estimates, such as the exclusion of catastrophic impacts and other unquantified damages, these are likely to underestimate the benefits of avoiding methane emissions.

Excluding the social cost of methane from the determination of economic feasibility operates to value the benefits to the public of avoiding climate impacts at zero. This is indefensible, and we thus recommend that these benefits be incorporated into the analysis required for operators to seek exemptions under the rule. They are easily monetized by multiplying the volume of methane that would be captured through compliance by the social cost of methane and adding this to the net revenues forecast by the operator. This figure can then be compared with the costs of compliance for the operator and the cost to the public from loss of royalty revenue from the abandonment of recoverable reserves to provide a more accurate comparison of the benefits and costs of compliance.

As manager of public oil and gas resources for the benefit of the public, the BLM should expand the net revenue-cost calculation beyond private revenues and costs to include benefits and costs to the public. We do note, importantly, that BLM’s authority and responsibility to prevent methane waste—as provided by the MLA and reinforced by FLPMA—is not limited to action that is cost-effective (i.e., has net negative costs) for a particular oil and gas lessee or operator, in particular where cost-effectiveness is determined by valuing the benefits of methane reduction to the public at zero. The MLA instead mandates that “all reasonable precautions to prevent waste” are taken, not just those precautions that oil and gas lessees or operators deem cost effective. 30 U.S.C. § 225. BLM itself echoes this notion in its preamble for the proposed rule, which explains that:

\textsuperscript{21} Regulatory Impact Analysis, p. 33
A focus on oil development rather than gas capture may be a rational decision for an individual operator, but it does not account for the broader impacts of venting and flaring, including the costs to the public of losing gas that would otherwise be available for productive use, the loss of royalties that would otherwise be paid to States, tribes, and the Federal Government on the lost gas, and the air pollution and other impacts of gas wasted through venting or flaring. A single operator’s focus on its own operations can also produce a skewed assessment of the returns on investment in capture infrastructure across an entire area, where shared infrastructure may lower costs relative to the returns from the sale of gas.

Thus, a decision to vent or flare that may make sense to the individual operator may constitute an avoidable loss of gas and unreasonable waste when considered from a broader perspective and across a entire field.


FLPMA explicitly provides that BLM must manage the public lands not simply as a resource for exploitation, but for the broader public:

in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition, that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.

43 U.S.C. § 1701(a)(8) (emphasis added). To safeguard the public interest, BLM must also manage the oil and gas resource to “best meet the present and future needs of the American people” and ensure that management of the oil and gas resource “takes into account the long-term needs of future generations for...non-renewable resources, including....minerals.” 43 U.S.C. § 1702(c). Furthering these objectives, Resource Management Plans (“RMPs”) must, inter alia, specifically “use and observe the principles of multiple use and sustained yield,” “consider present and potential uses of the public lands,” and “weigh long-term benefits to the public against short-term benefits.” 43 U.S.C. §§ 1712(c)(1), (5), (7). Inherent in this framework is identifying, in the words of Gifford Pinchot, who laid the philosophical basis for multiple use, “the greatest good for the greatest number in the long run.”22

Additional support for the proposition that the public interest must be accounted for in quantifying costs and benefits of oil and gas development is found in NEPA. NEPA mandates

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that BLM take a hard look at the direct, indirect, and cumulative impacts of actions on the “human environment.” 40 C.F.R. §§ 1502.16(a), (b); 1508.25(c). This hard look, in turn, informs BLMs consideration of alternatives, helping the agency “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14. NEPA analyses have shown that methane waste causes a variety of impacts—a loss of the oil and gas resource itself, climate impacts, public health impacts, impacts on water resources and wildlife, increased pressure to lease and drill additional lands to assuage demand for oil and gas, etc. And courts have expressly held that federal agencies must account for the costs of climate pollution through NEPA. High Country Conservation Advocates v. U.S. Forest Service, 52 F.Supp.3d 1174 (D.Colo. 2014).

At a minimum, we therefore recommend that BLM use the SCC as a proxy for the benefits of avoiding methane pollution and waste impacts on the revenue side of the equation and expand the consideration of exemptions beyond the private revenues and costs of the operator. If the BLM excludes this analysis, it risks a court determination that the rule, or as-applied decision to allow or approve the waste of methane through an exception or exemption from the methane waste rule’s provisions, is arbitrary and capricious. 5 U.S.C. §§ 706(2)(A), (D).

For forecasting future revenues and costs, we provide guidance on the time period for the analysis, the source for oil and gas price forecasts23, base case scenarios (which can be adjusted for market conditions at the lease), escalation of future costs24, and a standard discount rate of the social cost of capital of 3% for calculating present values. Use of this discount rate is supported by BLM’s Regulatory Impact Analysis on page 40 (with emphasis added):

OMB Circular A-94 (Revised) “Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs” provides guidance to Federal agencies when conducting analyses, including regulatory impacts analyses.

Circular A-94 directs agencies to use a discount rate of 7% for baseline analyses. It states, “this rate approximates the marginal pretax rate of return on an average investment in the private sector in recent years.” It also recommends that agencies show sensitivity of the discounted net present value and other outcomes using additional discount rates. Literature suggests that there is a divergence between the private (considered by firms or industry) and social (considered by society) discount rates, with the private rates exceeding the social rates. This difference is considered to result from a difference in risk premiums; meaning the cost of capital is higher as the risk increases. From society’s perspective, the risk may be lower or there may be no-risk, in which case a lower discount rate would be appropriate. It is common for regulatory impact analyses


to analyze outcomes using a 3% discount rate, particularly for proposed regulations with expected environmental benefits.

If the calculation results in net negative private and public costs, the operator is then required to demonstrate that these costs are sufficient to cause the operator to permanently cease production by shutting in the well(s) and permanently abandoning reserves. This demonstration also should show that the reserves cannot be produced by any other well(s) on the lease and that other economic alternatives to flaring, such as curtailment of production, are not available to the operator.

F. BLM SHOULD STRENGTHEN WASTE MINIMIZATION PLANNING REQUIREMENTS AND EXTEND THOSE REQUIREMENTS TO APPLICATIONS FOR PERMIT TO DRILL NATURAL GAS WELLS

1. Overview

We appreciate the proposed rule’s requirement that operators submit waste minimization plans concurrent with applications for permit to drill. This requirement reflects the expansive nature of BLM’s and operator’s duty to prevent waste. 30 U.S.C. § 225 (“[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land....”); see also 30 U.S.C. § 187 (“Each lease shall contain...a provision...for the prevention of undue waste....”). BLM is also required “to promote the orderly and efficient exploration, development and production of oil and gas.” 43 C.F.R. § 3160.0-4.

We have several recommendations to strengthen and improve the effectiveness of these plans which are detailed in Section II.F.2 and Section II.I below, with specific recommended changes to the text of the proposed rule at 43 C.F.R. § 3162.3-1 provided in Section III.A below. To summarize these recommendations:

- BLM should condition the approval of applications for permit to drill (“APDs”) on compliance with waste minimization plans consistent with the agency’s authority in 43 C.F.R. Subpart 3179 and, specifically, pursuant to the retained duties and authorities we have recommended for inclusion at 43 C.F.R. § 3179.10.

- Operators should prepare and submit waste minimization plans for proposed natural gas, not just oil, wells.

- The rule should require that waste minimization plans elaborate on operators’ strategy to comply with 43 C.F.R. Subpart 3179 to control venting, flaring, and leaks. Waste minimization plans should, in particular, provide detailed actions and timetables regarding
capture infrastructure, equipment, and operating practices that demonstrate compliance with 43 C.F.R. subpart 3179.

- Waste minimization plans should account for and evaluate production, methane emissions, and opportunities to prevent waste from all existing, proposed, and reasonably foreseeable wells and associated infrastructure on the lease, unit, or CA. Fixating on proposed new wells to the exclusion of existing wells and capture infrastructure across a lease, unit, or CA does not promote economies of scale and obscures opportunities to maximize waste prevention.

- Waste minimization plans should be made available to the public and subject to public comment as part of BLM’s review of APDs and compliance with NEPA.

To help illustrate the importance of these recommendations, Appendix A attached to these comments provides an analysis of certain oil and gas wells in North Dakota.

### 2. BLM Should Ensure Enforcement of Waste Minimization Plans Through Conditions of Approval Attached to Approved APDs

BLM should bind operators to commitments made in waste minimization plans—and take action to prevent waste on the basis of the agency’s independent review of those plans pursuant to, e.g., NEPA—through imposition of conditions of approval on APDs. We thus reject BLM’s contention that making waste minimization plans enforceable “might create an unintended incentive for operators to understate the degree of capture they anticipate achieving, or to write a very general plan, with few specifics” and that “more can be achieved by requiring operators to develop a thorough and practical plan prior to submitting their Applications for Permits to Drill.” 81 Fed. Reg. 6616, 6642. As an initial matter, it is revealing that BLM apparently does not trust operators to complete accurate waste prevention plans if those plans would then serve as a basis for BLM to change how operators conduct their drilling operations on federal and tribal lands. If this is the case, we fail to see how rendering these plans voluntarily remedies that concern.

More importantly, it is our strong view that a “thorough and practical plan” is a plan that is implemented and enforced, not a plan that does not inform BLM conditions of approval and is ignored or shelved by the operator once an APD is approved, leaving BLM and the public with little recourse. Based on our experience, this is a serious risk that undercuts BLM and the public’s ability to hold operator’s accountable for unnecessary and undue waste. Operators must, fundamentally, change their behavior to become part of the solution, and holding operators accountable to their commitments in waste minimization plans is essential to this shift. Accordingly, the proper check on BLM’s concern that operator’s might understate capture opportunities involves three elements. First, BLM should verify and assess the waste minimization plan through NEPA and, where necessary, deny an APD accompanied by an insufficient waste minimization plan to the operator. Second, BLM should provide the public...
with the opportunity to review and submit comments on waste minimization plans through BLM’s approval process for that APD. And, third, BLM should independently review waste minimization plans through NEPA and impose conditions of approval on APDs on the basis of that review.

Fundamentally, by making the waste minimization plan voluntary, BLM undercuts its own authority, duty, and discretion as well as the right of the public to voice their perspective regarding action to prevent methane pollution and waste. BLM, notably, provides no basis, whether by reference to scientific or technical literature or otherwise, demonstrating the efficacy of voluntary measures or the reasonableness of its position that rendering waste minimization plans voluntary would work. If anything, the oil and gas industry has demonstrated a deep reluctance to take advantage of voluntary methane reduction programs, such as the U.S. Environmental Protection Agency’s Natural Gas STAR program. As our colleagues at the Environmental Defense Fund have shown, EPA’s Natural Gas STAR Program “has achieved a meager one percent participation rate in the oil and gas industry.” For example, of the 475 natural gas producers in New Mexico, fewer than 10 have joined EPA’s Natural Gas STAR Program. Moreover, this problem is not isolated to smaller companies; EDF surveyed 65 of the largest oil and gas companies and found that none have publicly disclosed their methane emission reduction targets and less than a third report any methane emission at all. This data shows that BLM cannot and should not rely on industry voluntarily developing and complying with waste minimization plans. While voluntary programs have their place, they are not a substitute, here, for waste minimization planning as a basis for enforceable conditions of approval attached to APDs.

As a component of BLM’s retained duties and authorities to condition the approval of APDs contained in 43 C.F.R. § 3179.10, BLM should, where appropriate, limit production to minimize waste. Notably, BLM, in section 4 of the standard oil and gas lease form, Form 3100-11 (October 2008), expressly “reserves [the] right to specify rates of development and production in the public interest ... if deemed necessary for proper development and operation of area, field, or pool embracing these leased lands.” BLM’s Regulatory Impact Analysis, on pp. 48-49, recognizes that operators may choose to reduce production to comply with flaring limits:

We believe that if an operator expects to exceed the flaring limit for a development oil well, the operator might also curtail production from the well to reduce the amount of gas co-produced and flared until capture infrastructure

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27 Supra note 25.
becomes available, uses alternative capture technologies, or until the well production declines to a level that would not exceed the flaring limit.

Any curtailed production is not lost. Rather, it is deferred from the present to the future. We expect any potential deferment to be temporary, with the amount and duration of the deferment depending on the operator’s response, the individual characteristics of the well, and the readiness of the operator to deliver the gas to the market or bolster existing infrastructure to meet levels of production, among other factors. Any curtailment would slow the flaring of oil-well gas, a substantial portion of which would be conserved for potential delivery to the market.

Curtailing production to meet venting and flaring limits and otherwise minimize waste should not, however, be at the discretion of the operator. Rather, BLM, where appropriate, should impose production restrictions when waste minimization plans indicate that controls would not be in place to meet the requirements of the rule. This approach has been adopted by North Dakota:

Well payout and economics should not be used to determine production restrictions. Some spacing units are being developed where the operator is aware that the existing gas gathering infrastructure is insufficient to allow surplus gas to be processed through the gas gathering system. In instances where significant amounts of surplus gas are flared due to the insufficient collection system, production should be restricted unless significant amounts of surplus gas are captured for beneficial consumption, or utilized in a value-added process.28

3. BLM Should Expand the Scope and Strengthen the Required Content of Waste Minimization Plans

In addition to ensuring enforcement of waste minimization plans, we recommend that BLM expand the scope and strengthen the required content of waste minimization plans in five ways.

First, operators should prepare and submit waste minimization plans for proposed natural gas, not just oil, wells, for the reasons explained in Section II.C above. Waste occurs from natural gas wells just as it occurs from oil wells and it is prudent and reasonable for operators to prepare plans that minimize waste from both. As proposed, the rule problematically limits waste minimization plans to oil wells. See 43 C.F.R. § 3162.3-1(j) (proposed). We find no valid basis for this limit and it should be remedied. Of note, the two states that have adopted gas capture planning, North Dakota and Wyoming, require such plans for gas wells. The North Dakota

guidance requires Gas Capture Plans for all applications for a permit to drill, and the recent changes to WY’s flaring rule adopting a gas capture planning requirement does not exclude gas wells from coverage. See Bakken/Three Forks Pool Field Rules to Restrict Oil Prod. to Reduce the Amount of Flared Gas, Order No. 24665, Case No. 22058 (N.D. Indus. Comm’n July 1, 2014); WY Rules and Regulations OIL GEN Ch. 3 section 39.

Second, waste minimization plans should better detail and substantiate operators’ strategies to control methane venting, flaring and leaks. The current waste minimization planning requirements are too limited in scope to achieve the waste minimization provision’s core purpose. Operators, through waste minimization plans, should demonstrate how they will comply with 43 C.F.R. Subpart 3179 through inclusion of detailed actions and milestones that implement the plan on the lease, unit, or CA. WMPs should also include specific information on the capture infrastructure to be put in place, the emissions reduction equipment to be deployed, and the operating practices to be adopted to minimize waste. Further, the strategy should address all of the methane waste prevention measures covered by the rule, not just prevention of venting and flaring of associated gas. These include the capture and sale of gas released from well drilling, well completions, production tests, storage tanks, and liquids unloading, and prevention of waste through installation of low-emissions pneumatic controllers and pumps and leak detection and repair. In particular, steep decline rates for gas wells carry implications for waste from liquids unloading. The need for liquids unloading increases as production and reservoir pressures decline. As part of a waste minimization plan strategy, operators should identify what practices they will use to maximize the recovery of gas for sale as the need for liquids unloading grows.

Third, waste minimization plans should inform and provide BLM with the information needed to guide the timing, pace, and location of new wells and to otherwise assess opportunities for additional action to prevent methane pollution and waste beyond what the rule specifically provides for. This includes an assessment of all existing, proposed, and reasonably foreseeable oil and gas wells on the lease, unit, or CA as well as critical information regarding midstream pipeline and processing facilities. In this context, waste minimization plans provide BLM with a strategic tool to guide future lease sales and APD approvals towards locations in established fields where enough certainty exists about production to stimulate investment in capture infrastructure. The Regulatory Impact Assessment, in Figure 2 on page 52, recognizes the importance of well location, stating that “well concentration improves economics.”

Fourth and relatedly, BLM should expand the scope of the information included in the plan to improve coordination and communication between producers and midstream pipeline and gas processor operators. As proposed, the rule requires information for a proposed well or wells on a multi-well pad, but not for the operator’s production from existing and planned wells on a lease, unit, or CA. As the Discussion of the Proposed Rule observes:
The primary alternative to flaring associated gas from oil wells is to capture, transport, and process that gas for sale, using the same technologies that are used for natural gas production. The capture and sale of associated gas is viable where there is sufficient gas production to offset the costs of connecting to or expanding existing pipeline infrastructure.

81 Fed. Reg. 6616, 6619. It makes no sense to plan for one well or well pad at a time when opportunities to minimize waste are affected by the operator’s other drilling plans.

Fifth, operators should provide the same information in a waste minimization plan that they must provide to secure an alternative flaring limit. This would include identifying information for proposed new wells and the leases where they would be located, and a location map showing the entire lease, unit, or CA and the surrounding lands to a distance and on a scale that shows the broader field in which existing and proposed new well(s) and existing and proposed new pipelines that could transport the gas from the existing or proposed new well(s) are or would be located.

Waste minimization planning is gaining traction in North Dakota and Wyoming, where this type of information is giving regulators a broader perspective as they begin to tackle ways to reduce venting and flaring, because it is sensible, prudent, and reasonable. At one recent hearing of the Wyoming Oil and Gas Conservation Commission, where an application to flare in excess of state limits was considered and denied, a Commissioner “questioned why the [oil] well had been drilled so far away from the area’s gas collection system.”

Waste minimization plans can provide tools to avoid such after-the-fact questions.

We believe that, with the recommendations we provide herein, waste minimization planning will ensure that operators are aware of and commit to investment in capture infrastructure and adopt operating practices to prevent waste from all of the methane emissions sources on their leaseholds before they commence drilling.

4. **Time Is of the Essence for Operators to Prepare Waste Minimization Plans**

Time is of the essence to require waste minimization plans given BLM’s projections of new oil and gas drilling. On page 73 of the Regulatory Impact Assessment, BLM estimates that the rule would cover 2,500 oil well completions in 2016, growing at 3% thereafter. While the timing and magnitude of new drilling will depend on new technologies and the market price of oil and gas,
it is inevitable that public lands will see new drilling. Waste minimization plans provide an essential tool to prevent waste from this new drilling activity.

A look at reasonably foreseeable development scenarios for public lands around the Western U.S. illustrates the magnitude of potential future development and the immediate need for waste minimization planning. According to analysis by BLM field offices that manage oil and gas resources in several major Western basins, 63,176 new oil and gas wells are reasonably foreseeable over the next decade and a half. Table 3 below shows drilling forecasted for seven selected field offices in these basins:

Table 3: New oil and gas wells forecasted for select BLM field offices.

<table>
<thead>
<tr>
<th>Field Office</th>
<th>Number of Wells</th>
<th>Date of RFD</th>
<th>Forecast Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buffalo(^{30})</td>
<td>21,957</td>
<td>2012</td>
<td>2028</td>
</tr>
<tr>
<td>Casper(^{31})</td>
<td>2800</td>
<td>2005</td>
<td>2020</td>
</tr>
<tr>
<td>Miles City(^{32})</td>
<td>1699</td>
<td>2015</td>
<td>2030</td>
</tr>
<tr>
<td>CO River Valley(^{33})</td>
<td>5768</td>
<td>Undated</td>
<td>n/a</td>
</tr>
<tr>
<td>Uncompahgre(^{34})</td>
<td>1271</td>
<td>2012</td>
<td>2030</td>
</tr>
</tbody>
</table>


<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernal</td>
<td>25,721</td>
<td>2012</td>
<td>n/a</td>
</tr>
<tr>
<td>Farmington</td>
<td>3960</td>
<td>2014</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>63,176</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although many of these RFDs are relatively recent, future market conditions and advances in horizontal drilling and fracking technology create considerable uncertainty about the pace of future drilling. Nevertheless, RFDs provide the basis for BLM planning and management and predict tremendous growth in new drilling in the coming years. The reductions in drilling activity spurred by low oil and gas prices provide BLM with an opportunity to get ahead of the next wave of drilling by having an effective waste minimization planning process in place before market conditions change and new drilling accelerates.

Time is also of the essence to mandate waste minimization planning given dramatic shale oil and gas production declines, detailed in Section II.D.2.a. Since production drops off steeply once a well begins producing, the bulk of potential methane waste from new oil wells occurs early in the life of the well. Steep decline rates also drive additional drilling. Accordingly, waste minimization plans must be completed and ready for implementation to ensure compliance with 43 C.F.R. Subpart 3179 before drilling begins. Implementation of these plans later in the life of a well is too little too late.

These robust findings regarding steep decline rates for oil and gas wells provide strong support for waste minimization planning to ensure that gas reserves are not squandered by delaying action to prevent waste from the very beginning of a well’s life.

**G. BLM SHOULD PREVENT METHANE POLLUTION AND WASTE BY COMMITTING TO AN INTEGRATED APPROACH THAT LEVERAGES BLM’S PLANNING AND MANAGEMENT FRAMEWORK**

We very much appreciate BLM’s inclusion of an operator-based requirement to submit waste minimization plans concurrent with applications for permit to drill. However, we are very disappointed that BLM has not included a necessary complement to that requirement: BLM planning and management to prevent methane waste and pollution.

As explained in the preamble to the proposed rule, BLM “does not intend to make any changes

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36 *Supra* note 8 at p. 16.
to BLM land use planning regulations (43 CFR subparts 1601 and 1610) or to any BLM planning or NEPA guidance as part of this rulemaking” but nonetheless explained that:

The BLM is considering the integrated approach suggested by the commenters. The BLM agrees that the land use planning and NEPA processes are important to sound oil and gas development on Federal land. Flaring sometimes results from development of oil wells in advance of gas capture infrastructure. In other cases, flaring occurs when existing gas capture and processing infrastructure is inadequate, or when operators find flaring easier or less costly than connecting to existing gas capture infrastructure. Part of the solution to flaring, therefore, is to align the timing of well development with that of capture and processing infrastructure development, and to create incentives for operators to capture rather than flare.

The land use planning and NEPA review processes could be used to achieve these improvements....

81 Fed. Reg. 6616, 6662. We appreciate these statements but emphasize that our previous comments to BLM regarding this rulemaking focused on integration of planning and management with methane pollution and waste reduction and did not require changes to BLM’s land use planning regulations or guidance. Instead, and more fundamentally, it is our position that BLM should—with this rulemaking—forge a clear, rational connection between the methane waste rule and the agency’s planning and management framework, in particular relative to BLM’s retained duties and authorities. In Section III.G below, we specifically recommend that BLM make this connection through changes to the proposed rule in 43 C.F.R. § 3179.10. The fact that BLM does not intend to make changes to the land use planning regulations through this specific rulemaking is therefore a red herring.

Moreover, despite BLM’s representation in the proposed rule’s preamble that it “is considering the integrated approach” we have recommended—which implies that BLM would in fact consider changes to the land use planning regulations in 43 C.F.R. Subpart 1600—BLM’s proposed rule to revise 43 C.F.R. Subpart 1600 contains no mention of action to reduce methane pollution and waste. See 81 Fed. Reg. 9674 (Feb. 25, 2016). Thus, at this stage, it is entirely unclear precisely how in fact BLM “is considering the integrated approach” we have recommended. It may be the case that BLM will provide that consideration in its soon-to-be released proposal to revise the Land Use Planning Handbook, H-1601-1. At this time, we caution BLM that segregating the agency’s methane waste rulemaking from the agency’s foundational planning and management framework is a mistake and does not foster the very “integrated approach” BLM, at least rhetorically, agrees is “important to sound oil and gas development on Federal land.” 81 Fed. Reg. 6616, 6662.
This underscores the need for BLM, in this rulemaking, to link the final rule to the agency’s planning and management framework. Linkage signals to operators and the public that BLM intends to take complementary, integrated action to reduce methane pollution and waste above and beyond the source-specific requirements contained in the proposed waste rule based on site-specific circumstances, conditions, and analysis. Linkage thus complements and helps shape waste minimization planning by operators, providing sideboards and guidance to improve the efficacy of waste minimization plans on leases, units, and CAs within a particular field office or planning area.

Specifically, we have recommended that BLM make use of its planning and management framework—RMPs, Master Leasing Plans (“MLPs”), lease stipulations, approval of unitization agreements, and approval of APDs—to reduce methane pollution and waste by controlling the timing, pace, and location of development to maximize economies of scale; reducing methane pollution and waste from existing drilling infrastructure; aligning oil and gas production with construction of gas capture infrastructure on the lease, unit, or CA so that oil production does not outpace gas capture; and synchronizing upstream production operations with midstream gas pipeline and processing capacity to ensure that gas is transported to market for sale and use by consumers. Such controls “promote the orderly and efficient exploration, development and production of oil and gas.” 43 C.F.R. § 3160.0-4. We notably echo the scope of such controls in Section II.F and Section III.A regarding operator-prepared waste minimization plans.

BLM’s planning and management framework is perhaps the singular most distinctive component of the agency’s duties and authorities to prevent methane pollution and waste relative to other federal and state regulatory agencies, such as the U.S. Environmental Protection Agency. We are concerned that BLM, by not linking to its planning and management framework, undermines our collective ability to maximize methane pollution and waste and risks unnecessary or undue degradation of lands and the resources and values they provide. In this context, BLM expressly cites 43 U.S.C § 1732(b) as authority for its proposed rule (see 81 Fed. Reg. 6616, 6679), but the actual text of the proposed rule, at best, only weakly reflects the agency’s this duty—i.e., to “take any action necessary to prevent unnecessary or undue degradation.” Linkage of planning and management to the agency’s efforts to prevent methane pollution and waste provides an important mechanism for BLM to comply with its duty to prevent unnecessary or undue degradation. This is particularly important because the emission or combustion of methane through oil and gas venting, flaring, and leaks is not merely a waste issue, but a pollution issue that impacts climate change, public health, and land, water, and air quality protection.

Controls on development that reduce methane can also reduce the footprint of oil and gas production infrastructure to better protect, e.g., the climate; ecological health and connectivity; water and air quality; public health; and wildlife. Thus, BLM can and should not only reduce the footprint of oil and gas development to prevent methane waste, but locate and constrain such development to avoid conflicts with other resources. This should, notably, extend beyond
public lands to avoid conflicts with private farms, ranches, and communities. Where conflicts cannot be remedied—and it bears emphasis that oil and gas development cannot always be managed to mitigate impacts within acceptable limits, e.g., in special, sensitive, or beloved lands that lack the resources or knowledge to do so—BLM should not authorize oil and gas leasing or development, period.

The fact that methane is both a pollution and a waste issue that impacts myriad resources underscores the importance of not only planning through FLPMA, but of taking a hard look at the impacts caused by methane pollution and waste from oil and gas development and considering reasonable alternatives, with public involvement, to address those impacts through NEPA. In part, NEPA—as well as inventories completed for RMPs—helps do this by refining our understanding of methane pollution and waste based on specific lands and operations. 43 U.S.C. § 1711(a); 40 C.F.R. §§ 1502.14, 1502.16, 1508.7, 1508.8, 1508.25. This helps remedy, as BLM explained in its proposed rule, problems associated with the fact that “there is no single definitive estimate on the volume of [methane] losses from Federal and Indian [oil and gas] leases.” 81 Fed. Reg. 6616, 6630. In part, the lack of a definitive estimate reflects the fact that oil and gas development extends across landscape-scale regions and involves thousands of often individually minor but collectively significant sources—i.e., equipment and practices—of methane pollution and waste. Front-end planning and management carried out pursuant to FLPMA and NEPA can help address this complexity and to thereby protect public lands from unnecessary or undue degradation.

These ideas are pragmatic and supported by BLM’s own experience. For example, BLM’s proposed RMP/FEIS for the Colorado River Valley Field Office illustrates how front-end planning and management can facilitate both methane capture and marketing, as well as avoid and mitigate impacts to other resources:

In areas of federal and mixed mineral ownership, an exploratory unit can be formed before a wildcat exploratory well is drilled. The boundary of the unit is based on geologic data and attempts to consolidate the interests in an entire structure or geologic play. The developers of the unit enter into an agreement to develop and operate as a single entity, regardless of separate lease ownerships. Costs and benefits are allocated according to agreed-upon terms. Development in a unitized field can proceed more efficiently than in a field composed of individual leases because competition between lease operators and drainage considerations is not a primary concern. Unitization also can reduce surface use requirements because all wells are operated as though under a single lease, and operations can be planned for more efficiency. Duplication of field processing facilities is eliminated, and consolidation of facilities into more efficient systems is probable. Unitization can also involve wider spacing than usual, or spacing based on reservoir factor rather than a set rule, which could result in fewer wells and higher recovery efficiency. Through planning, access roads are usually
shorter and better organized, facilities are usually consolidated, and well efficiency is maximized to a degree not seen in individual lease operations.  

H. **BLM SHOULD STRENGTHEN LEAK DETECTION AND REPAIR PROVISIONS**

We hereby adopt and incorporate by reference the comments submitted by Clean Air Task Force *et al.* regarding leak detection and repair. In Section III.Q below, we reflect these comments in our recommended changes to BLM’s proposed rule text.

I. **BLM SHOULD PROVIDE FOR PUBLIC INVOLVEMENT**

Oil and gas development on public and tribal lands now receives more public scrutiny than perhaps ever before. In part, this reflects increased concerns that oil and gas operations on public lands are wasting significant and valuable energy resources, reducing the amount of energy available for use, losing royalties that should be paid to federal and state governments to support essential public services, and exacerbating climate change and public health impacts.

This interest is reflected in polling completed by Colorado in its annual Conservation in the West poll.  

38 In 2016, 80% of western voters expressed strong support for reducing methane emissions from oil and gas development and, in general, increased safeguards for land and water as a condition of continued drilling.

We therefore recommend that BLM incorporate provisions to provide for public involvement in the decisions to address methane pollution and waste. We specifically recommend that BLM provide for public involvement in the following circumstances and manner, consistent with our other recommended changes to the proposed rule:

- Waste minimization plans should be available for public review and a minimum 30-calendar day public comment period in accord with BLM’s review of an operator’s application for permit to drill and accompanying NEPA analysis.

- Operator requests to flare, whether pursuant to the presumptive limit established by 43 C.F.R. § 3179.6(b) or a proposed alternative limit permitted by 43 C.F.R. § 3179.7, should be subject to public review and a minimum 30-calendar day public comment period.

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38 [https://www.coloradocollege.edu/stateoftherockies/conservationinthewest/](https://www.coloradocollege.edu/stateoftherockies/conservationinthewest/)
- Operator requests for two-year renewable exemption from the flaring limit provided by 43 C.F.R. § 3179.7(d), to the degree this provision is retained in the final rule, should be subject to public review and a minimum 30-calendar day public comment period.

- State and tribal requests for a variance should be subject to public review and a minimum 45-calendar day public comment period.

These recommendations, and specific, recommended changes to the text of the proposed rule, are further detailed below in Sections III.C and III.R below.

J. BLM’S RULE SHOULD FOSTER COORDINATION WITH STATES AND TRIBES

BLM, to improve the effectiveness of the final rule’s implementation and enforcement, should consider the inclusion of a formal and transparent process to foster coordination with state and tribal regulatory agencies. This rulemaking process provides the opportunity to identify and outline those processes. Alternatively, the BLM could execute Memoranda of Understanding (MOUs) with state oil and gas agencies shortly after publication of the rule.

Both BLM and states have the authority to regulate methane waste on federal lands. The law of preemption entitles BLM to override state regulations where they conflict with federal regulations. Nevertheless, there is a history of cooperation and comity between the federal government and states on oil and gas regulation, and we expect this to continue after finalization of the rule. In light of this, we encourage BLM to take the opportunity that the rule provides to clarify its relationship with state oil and gas conservation agencies, either in the rule itself or through MOUs with individual state oil and gas agencies.

The proposed rule includes two barebones provisions concerning the relationship between the BLM and the states, but otherwise the rule is silent regarding how BLM and the states will work together. First, the proposed rule includes a provision allowing states or tribes to obtain a variance from any requirement of the rule if the state or tribal provision is at least as stringent as, and consistent with, federal requirements. 43 C.F.R. § 3179.401. As discussed below, this provision must be revised to provide a more transparent, clearly-delineated, and stringent process for the coordination of state and federal rules. Second, the proposed rule provides that, if a BLM enforcement action under the rule adversely affects production of oil or gas from non-federal mineral interests, BLM will coordinate with state agencies “on a case-by-case basis.” § 3179.11. These provisions provide little guidance regarding how the BLM can best coordinate with States to prevent waste in light of concurrent jurisdiction over oil and gas wells. The second provision, providing for coordination with state agencies, should be clarified to require the federal government to merely notify a state of an impact on production of non-federal units; the provision should not be construed as an opportunity for states to override the federal rule.
Some states’ oil and gas conservation agencies regulate methane waste. Although this regulation is limited and differs state to state, coordination of the federal rule with state rules is important to provide clarity for operators of what is required, provide operators with straightforward processes that encourage compliance, and ensure enforcement of both state and federal requirements.

For example, North Dakota operators submitting an APD would be required to submit a waste minimization plan pursuant to the new federal rule, and a gas capture plan pursuant to state policy. (A new rule in Wyoming also requires operators to submit gas capture plans with applications to vent or flare over certain volume limits.) Some states use a different yardstick than the federal rule for measuring waste by imposing a time, rather than volume, limitation on flaring (North Dakota allows flaring for only one year), or by limiting the production of wells that flare gas (Montana). States also may impose different requirements for exemptions from venting or flaring. Compare, e.g., proposed 43 C.F.R. § 3179.7 (alternative limits on venting and flaring) with N.D. Cent. Code Ann. § 38-08-06.4. The federal government should proactively address overlaps and discrepancies between state and federal rules to ensure that operators know how to comply with both sets of rules, and to clarify and ensure enforcement.

Some states (such as Colorado) have already developed MOUs that provide limited information about how responsibility for preventing oil and gas waste is shared between the state agency and the BLM. However, in the absence of specific guidance in the rule itself, we recommend that the BLM develop MOUs with the states that specifically address shared methane waste regulation in light of the new rule.

K. BLM SHOULD CONTINUE TO CUT METHANE WASTE ACROSS ALL LANDS WITHIN A FEDERALLY-APPROVED UNIT OR CA

We are pleased to see that the proposed rule applies to state or private tracts in a federally-approved unit or communitization agreement. 43 C.F.R. §§ 3182.2(a)(4), 3189.2(a)(4). This is sensible and in keeping with BLM’s long-acknowledged authority to regulate waste produced by wells under federal unit or communization agreements. See Draft BLM Manual Section 3180 - Unitization (Exploratory) at .12R. It is a well-accepted principle in oil and gas law that a well owner must be prevented from wasting the common reservoir. See 38 Am. Jur. 2d Gas and Oil § 152. Whenever unit operations include and thereby affect Federal or Indian lands, BLM has the authority and duty to prevent waste from that unit. The application of the rule to federally-approved units, including state or private tracts within those units, is therefore appropriate and necessary.

L. BLM SHOULD ELIMINATE OR AT LEAST IMPROVE THE STATE AND TRIBAL VARIANCE PROVISION
The proposed rule includes a provision allowing states or tribes to obtain a variance from any requirement of the rule if the state or tribal provision is at least as stringent as, and consistent with, federal requirements. 43 C.F.R. § 3179.401. At the outset, we question whether a variance provision is appropriate in a standard intended to promote national uniformity, update the current national standard provided by NTL-4a, and remove the variability created by differing state requirements as applied to federally-managed public and tribal lands.

Even if appropriate, the provision as currently framed provides too much freedom to the states, too much discretion to the BLM, and too little public oversight. Because the variance provision threatens to undermine the efficacy of federal methane prevention action and undermine consistency between field offices, it should not be included in the final rule. To the degree BLM retains a variance mechanism, the final rule should include adequate criteria and boundaries to ensure that BLM satisfies its duty to prevent methane pollution and waste. Specifically, we recommend the following:

- State and tribal requests for a variance should be subject to public review and a minimum 45-calendar day public comment period, and BLM should eliminate the administrative review exemption for variances.

- BLM should (1) retain enforcement authority to enforce any state law approved under a variance, (2) retain the authority to revoke a variance if evidence reveals the variance is not being enforced, and (3) provide a mechanism for the public to play an active role in enforcement.

- The rule should require more specificity from state or tribal applicants in demonstrating why a variance is justified.

- BLM should require more specificity from state or tribal applicants in demonstrating how the state or tribal rule satisfies federal requirements.

- BLM should provide a written determination on each variance request that details how the BLM arrived at its decision, how relevant considerations were addressed, and—if the variance is granted—how the state or tribal requirement will satisfy the federal requirement and how the requirement will be enforced.

- The rule should mandate consideration of the specific factors that are “relevant” to the variance determination.

First, as discussed above, any variance provision should provide an opportunity for public participation in the variance application process and an opportunity to appeal the approval of a variance prior to any action being taken pursuant to the variance. Currently, BLM’s proposed rule contains no opportunity for public participation and explicitly makes the provision not
subject to appeal. 43 C.F.R. § 3179.401(b) (proposed). Public oversight mechanisms serve as safeguards that deter and prevent mistakes and abuse. Here, they are necessary to ensure the integrity of the BLM rule and to prevent it from being riddled with inadequate state-by-state exceptions. State and tribal requests for a variance should therefore be subject to public review and a minimum 45-calendar day public comment period. Additionally, BLM should eliminate the administrative review exemption provided in the proposed rule for variances. Id. Variances should be appealable via 43 C.F.R. part 4, as other BLM decisions are.

Second, the BLM should: (1) retain enforcement authority over the matters within the scope of any variance; (2) retain the authority to revoke a variance if evidence reveals the variance is not being enforced; and (3) provide a mechanism for the public to play an active role in enforcement. Enforcement is key to the implementation of the rule, and states may lack the incentive or resources to properly enforce the rule. Even if a state rule is demonstrably equal to or better than BLM’s rule on its face, the state rule will still fall short if the state does not have adequate enforcement mechanisms and capacity. In addition to retaining enforcement authority and the authority to revoke a variance that is not being enforced, BLM should create a formal process to invite complaints and information about violations from the public and should commit to investigate credible leads.

Third, the rule should require more specificity from state or tribal applicants in demonstrating why a variance is justified. A variance may be justified if the state or tribal rule reduces burdens on states or tribes while still reducing the same or more methane, for example by reducing the same or more methane for less cost or by accounting for specific conditions in a state or on tribal lands.

Fourth, the rule should spell out what showing the state or tribe is required to make regarding “how the State or tribal requirement would satisfy” the federal requirement. § 3179.401(a)(2)(iv). We contend that, at the very least, the State or tribal rules must demonstrably reduce at least an equivalent amount of methane pollution or waste as BLM’s rules over the projected lifetime of the lease, unit, or CA. Depending on the particular provision of the federal rule from which the state or tribe is requesting a variance, this demonstration might involve consideration of the volume of venting reduced, the amount of flaring reduced, the frequency of inspections, the timeframe for repairing leaks, or what equipment, processes, and components are addressed by the state or tribal regulations.

Fifth, the rule should provide more specificity about the written grant or denial that BLM is required to make. Currently, the rule simply provides that the BLM must provide a written grant or denial of a variance request. The rule must detail what this document would involve to ensure that the letter and spirit of the BLM’s duty to prevent methane waste and pollution will be observed and the public interest in conservation of the federal mineral resource protected. For example, the written decision should include a transparent explanation from the BLM of how it arrived at its decision, how relevant considerations were addressed, and—if the variance
is granted—how exactly the state or tribal requirement will satisfy the federal requirement and how the requirement will be enforced.

Sixth, the rule should mandate consideration of specific “relevant factors,” including the following:

- Whether the federal provision at issue includes reporting requirements that would generate publically-available information (whether available online or via a Freedom of Information Act request), and, if so, whether replacement of the federal provision with a state provision would cause the information to be harder for the public to access or unavailable.

- Whether the federal provision at issue includes a public oversight mechanism, including an opportunity for judicial review, and, if so, whether replacement of the federal provision with a state provision would cause the public to have less or no opportunity for participation, oversight, or appeal.

- With respect to provisions involving agency discretion (e.g., discretion to grant an exemption based on consideration of factors), whether the state agency has the same level of experience and neutrality that the BLM has, or whether by contrast the agency is suffering from “capture,” or industry influence or control.

- Whether there exist any loopholes or exceptions in the state and tribal regulations.

- Whether the state or tribal regulation imposes penalties for violations.

- Whether the state or tribe has a demonstrated track record of enforcement (although BLM should retain primary enforcement authority), and of cooperating with federal regulators.

We can place these considerations into context by considering whether the gas capture planning requirements of North Dakota and Wyoming would qualify for a variance from the federal waste minimization plan provision at 43 C.F.R. § 3162.3-1. The Wyoming Oil and Gas Conservation Commission recently adopted new rules requiring operators to submit gas capture plans with applications to vent or flare over certain volume limits. WY Rules and Regulations OIL GEN Ch. 3 section 39. Similarly, gas capture plans are required by North Dakota Industrial Commission Policy. See Bakken/Three Forks Pool Field Rules to Restrict Oil Prod. to Reduce the Amount of Flared Gas, Order No. 24665, Case No. 22058 (N.D. Indus. Comm’n July 1, 2014).

Neither the North Dakota nor the Wyoming gas capture plan requirement “meets or exceeds the requirements” of the federal waste minimization plan, as required by the variance provision at 43 C.F.R § 3179.401(b). Of particular note, neither state rule is keyed to the federal flaring limits in 43 C.F.R. § 3179.6(b). That is, neither state rule requires operators to “set forth a
strategy for how the operator will comply with” the federal limits, as the federal waste minimization plan would. Notably, North Dakota provides industry target goals to reduce flaring on a percentage basis, while the federal rule requires reductions on a volume basis. While there are benefits and drawbacks to each approach, a plan keyed to percentage reductions does not satisfy the requirements of a plan keyed to volume reductions.

North Dakota’s informational requirements for gas capture plans generally do track the proposed informational requirements for federal waste minimization plans, requiring operators to provide most—but not all—of the information that the federal rule requires, although we emphasize that these federal requirements should be strengthened, as addressed elsewhere in these comments. However, North Dakota does not require operators to provide “[t]he expected production decline curve of both oil and gas from the proposed well” or “[t]he expected Btu value for gas production from the proposed well,” as the federal rule does. 43 CFR § 3162.3-1(j)(5)(iii)-(iv). The Wyoming gas capture plan requirement does not track the federal waste minimization plan requirement well at all: the federal rule requires significantly more information than the state requirement.

We are concerned that, by exercising the discretion explicitly provided by the proposed variance provision, BLM might grant a variance to Wyoming or North Dakota, despite the discrepancies between those states’ gas capture plan requirements and the federal waste minimization plan requirements. This is especially problematic given that questions have been raised about the consistency of North Dakota’s enforcement of its methane waste rules, as we discuss in Appendix A attached to these comments. For example, North Dakota has curtailed a number of wells that exceed the state’s flaring percentage targets, but has allowed others to continue flaring for years, including one for 7 years and 9 months, to date. More boundaries on the variance provision—including, for example, provisions for public oversight, a commitment by BLM to exercise joint enforcement, a provision requiring states to demonstrate why a variance is needed, a more specific test for showing that the state rule meets or exceeds the federal rule, and a requirement of a written justification by BLM, and consideration of specific relevant factors—would help ensure that the federal rule is not undermined by state-by-state exceptions.
III. **RECOMMENDED CHANGES AND BASIS FOR CHANGES TO THE PROPOSED RULE’S TEXT**

Each section below provides recommended changes to BLM’s proposed text (subsection 1) and the basis for those proposed changes (subsection 2). These recommended changes and the basis for these recommended changes should be read in the context of our core recommendations detailed in Section II above.

Recommended language for inclusion in the final rule is identified in blue underline while language proposed for deletion in the final rule is identified in red strikethrough.

**A. WASTE MINIMIZATION PLANS (43 C.F.R. § 3162.3-1)**

1. **Recommended Changes to Proposed Text**

We recommend BLM change the text of 43 C.F.R. 3162.3-1 regarding waste minimization plans as follows:

§ 3162.3-1 Drilling Applications and plans.

...  

(j) When submitting an Application for Permit to Drill an oil or gas well, the operator must concurrently also submit a waste minimization plan to minimize waste of natural gas from that well. The waste minimization plan must accompany, but would not be part of the Application for Permit to Drill. The waste minimization plan will be made available to the public, including for review concurrent with opportunities for public involvement provided by the BLM approval process for an application for permit to drill. The waste minimization plan must set forth a strategy for how the operator will comply with the requirements of 43 CFR subpart 3179 regarding control of waste from venting, flaring, and leaks for all existing, proposed, and reasonably foreseeable oil and gas wells on the lease, unit, or CA, and must explain how the operator plans to capture associated gas upon from all proposed new wells at the start of oil production, or as soon thereafter as reasonably possible. The strategy must provide detailed actions and timetables for operating practices and the use of existing or the construction of new capture infrastructure to minimize waste. The strategy must specifically address well drilling, well completions and production tests; pneumatic controllers and pumps; storage vessels; liquids unloading; associated gas production from oil wells; and leak detection and repair. BLM will Failure to submit a complete and adequate waste minimization plan is grounds for denying or disapproving an Application for Permit to Drill that is not accompanied by a waste minimization plan. BLM, upon review of a waste minimization
plan, may also condition the approval of an Application for Permit to Drill consistent with its authority in 43 CFR subpart 3179, including the retained duties and authorities set forth in 43 CFR § 3179.10. The waste minimization plan must include the following information:

(1) The name, number, and location of each proposed new well(s), and the number of the lease, unit, or CA with which it is associated and the anticipated completion date of the proposed new well(s);

(2) The anticipated gas production rates of the proposed new well(s), including:
   (i) The anticipated date(s) of first production;
   (ii) The expected oil and gas production rates and duration from the proposed well(s). If the proposed well is on a multi-well pad, the plan should include the total expected production for all wells being completed;
   (iii) The expected production decline curve of both oil and gas from the proposed well(s) over their projected lifetime; and
   (iv) The expected Btu value for gas production from the proposed well(s).

(3) A location map showing the entire lease, unit, or CA and surrounding lands to a distance and on a scale that shows existing and reasonably foreseeable new well(s) and capture infrastructure that could transport the gas from these well(s). A gas pipeline system location map of sufficient detail, size, and scale as to show the field in which the proposed well will be located, and all existing gas pipelines within 20 miles of the well. The map should also contain:
   (i) The name and location of the gas processing plant(s) closest to the proposed well(s), and of the intended destination processing plant, if different;
   (ii) The location and name of the operator of each gas pipeline within 20 miles of the lease, unit, or CA where the proposed well(s) would be located;
   (iii) The proposed route and tie-in point that connects or could connect the subject proposed new well(s) to an existing or reasonably foreseeable proposed gas pipeline;
(iv) The name and location of other capture infrastructure, including compression;

(4) Information on the existing or reasonably foreseeable capture infrastructure gas pipeline to which the operator plans to connect, including:

(i) Maximum current and reasonably foreseeable daily capacity of the pipeline, accounting for current and reasonably foreseeable compression;

(ii) Current and reasonably foreseeable throughput of the pipeline;

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

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

(v) Certification that the operator has provided one or more midstream processing companies with gas processing plant(s) closest or most accessible to the proposed well(s) with information about the operator’s production plans, including the anticipated completion dates and gas production rates of the proposed well or wells;

(vi) Certification that, for pipelines not owned by the operator but adjacent or proximate to the operator’s lease, unit, or CA, the operator has provided the operators of those pipelines with information about the operator’s production plans, including the anticipated completion dates and gas production rates of the proposed well(s);

(vi)(vii) Any reasonably foreseeable plans known to the operator for expansion of pipeline gas capture capacity for the area that includes the proposed well, with documentation that the operator has contacted the relevant pipeline or other regulatory agency regarding expansions;

(5) A description of anticipated production, including:

(i) The anticipated date of first production;

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

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

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

(6) An evaluation of opportunities for alternative on-site capture approaches, if pipeline transport is unavailable.

(7) An evaluation of opportunities to capture gas from existing and reasonably foreseeable oil and gas wells and associated infrastructure on the lease, unit, or CA, accounting for expected production declines, by using existing capture infrastructure or by scaling and locating proposed new capture infrastructure to allow for capture of gas from existing and reasonably foreseeable oil and gas wells.

2. Basis for Recommended Changes

In 43 C.F.R. § 3162.3-1(j), operators should be required to prepare waste minimization plans for not only proposed oil, but proposed natural gas, wells and infrastructure. Operators vent and flare from both, with, by BLM’s estimates, 5 Bcf of natural gas flared 16.29 Bcf vented from natural gas infrastructure. It is prudent and reasonable for operators to plan capture infrastructure to prevent avoidable methane pollution and waste from oil and natural gas development. See 43 C.F.R. § 3179.4(a)(1) (proposed rule providing that gas is “unavoidably lost...where the operator has taken prudent and reasonable steps to avoid waste....”). Waste minimization plans are also just the sort of “reasonable precautions to prevent waste of oil or gas developed in the land” encompassed by 30 U.S.C. § 225. We further note that waste minimization plans also reflect “prudent and reasonable steps to avoid waste” that operators of both oil and natural gas wells should take. We substantiate the virtues of front-end planning, whether by the operator or BLM, in Sections II.D.4, II.F, and II.G above.

In 43 C.F.R. § 3162.3-1(j), we recommend that BLM provide operator-prepared waste minimization plans to the public for review and, in addition, comment, in particular where BLM has initiated a public involvement process, such as for the NEPA analysis prepared in conjunction with the agency’s review of an APD. The public will have insight that neither the operator nor BLM has, in particular relative to the placement of capture infrastructure. In providing the public with waste minimization plans and the opportunity to provide comment on them, BLM also takes proactive steps to head off and ideally resolve avoidable otherwise conflicts that the construction and operation of capture infrastructure may cause with public
and private resources, such as wildlife habitat, water resources, farms, ranches, and non-
federal public infrastructure, such as schools.

To shift away from well-by-well drilling approvals towards a more comprehensive, planned
approach to oil and gas development, we recommend changes to 43 C.F.R. § 3162.3-1(j)
requiring that operators account for all existing, proposed, and reasonably foreseeable oil and
gas development. This reflects the core purpose of BLM’s drilling regulations to “to promote
the orderly and efficient exploration, development and production of oil and gas.” 43 C.F.R. §
3160.0-4. When operators—and the BLM—do not plan for development and, instead,
myopically fixate on a single well, operators and BLM fail to capitalize on efficiencies of scale for
a particular lease, unit, or CA. For example, a waste minimization plan that considers existing
wells on a lease, unit, or CA is in a better position to identify opportunities to cluster and scale
capture infrastructure to prevent flaring both from a proposed well and existing wells. We thus
recommend that BLM expressly require, in 43 C.F.R. § 3162.3-1(j)(7), that the waste
minimization plan assess opportunities to prevent waste from existing oil and gas wells and
associated infrastructure. Of course, by clustering and scaling capture infrastructure, such as
pipeline and compression capacity, operators can also contemplate and thereby proactively
prevent waste from reasonably foreseeable future wells.

Recommended changes to 43 C.F.R. §§ 3162.3-1(j)(1)-(5) restructure, consolidate, clarify, and
amplify the proposed rule’s mapping and information requirements for waste minimization
plans. In significant part, our recommended changes further our recommendation that the final
rule broaden the operator’s lens to all existing, proposed, and reasonably foreseeable
development on a lease, unit, or CA, in particular gas capture infrastructure. We specifically
recommend that BLM:

- Build out the information requirement in 43 C.F.R. § 3162.3-1(j)(1) for the proposed new
  well(s) to improve clarity and ensure consideration of the broader lease, unit, or CA the
  well(s) are proposed for.

- Consolidate 43 C.F.R. § 3162.3-1(j)(5) into 43 C.F.R. § 3162.3-1(j)(2). We also note,
  specifically, that we provide analysis and calculations regarding a typical Bakken oil well
demonstrating the fundamental importance of production decline curves to waste
prevention in Section II.D.2. We thus strongly recommend that BLM retain the requirement
for operators to assess production decline curves in waste minimization plans.

- Delineate the area for waste minimization planning in 43 C.F.R. § 3162.3-1(j)(3) on the basis
  of the entire lease, unit, or CA and “surrounding lands” rather than limiting that analysis to
  pipelines within specific 20-mile distance. We also recommend that BLM ensure
  information regarding all gas capture infrastructure, not just pipelines.
Better account for not only pipelines, but all gas capture infrastructure, in 43 C.F.R. § 3162.3-1(j)(4) and better define the scope of the informational and certification requirements to do the same. We specifically recommend that BLM explicitly account for not only pipeline, but compression, capacity in 43 C.F.R. § 3162.3-1(j)(4)(i). In the Bakken, gas gathering systems are often in place but gas capture nonetheless does not occur because there is insufficient compression power to transport all contained gas to midstream processing facilities. This is a product of production declines in existing, mature wells with decreased well pressure relative to new wells such that the transport of physically contained gas from the existing, mature wells is pushed off the gathering line. More generally, we recommend that BLM ensure that operators are reaching out to and engaging with other pipeline and processing companies to further coordination and collaboration in the service of maximizing gas capture, including transport to market for sale.

B. DEFINITIONS (43 C.F.R. § 3179.3)

1. Recommended Changes to Proposed Text

§ 3179.3. Definitions and Acronyms.

...

Capture means the physical containment of natural gas and transportation to a sales line, separation of natural gas liquids, power generation, conversion into compressed natural gas, or productive use of natural gas use as fuel on a lease, and includes reinjection into the subsurface reservoir, or use for gas-lift, and royalty-free on-site uses pursuant to subpart 3178.

Capture infrastructure means any separators, dehydrators, green completion equipment, pipelines, compressors, and surface piping and manifold systems facilities, or other equipment (including temporary or mobile equipment) used to capture, transport, or process natural gas. Capture infrastructure includes, but is not limited to, equipment that compresses or liquefies natural gas, removes natural gas liquids, or generates electricity from gas.

...

Development oil well or development gas well means any well drilled to produce that is producing either oil or gas for sale, including any well that is connected to and providing oil or gas to a pipeline for sale, from an established field in which hydrocarbons have been discovered and are being produced at a profit or expected profit. For purposes of this subpart, the BLM will determine when a well is a development oil well or development gas well in the event of a disagreement between the BLM and the operator. A development oil well or development gas well need not have been drilled with the intention to produce, nor have been drilled within an established unit or CA.
Economically infeasible means that total revenue less operating expenses, lease rentals and royalties from oil and gas sold from all the wells on the lease, unit, or CA and the monetary benefits based on the social cost of methane from avoiding the marginal increases in methane from non-compliance do not exceed the cost of compliance with a particular provision of 43 CFR subpart 3179 over the anticipated remaining period in which the operator will produce from the Federal or Indian lease, unit, or CA and compliance would thereby cause the operator to permanently cease production on the lease, unit, or CA by plugging and abandoning the well(s) and abandoning a significant amount of the lease, unit, or CA’s recoverable oil and gas reserves and the cost of royalties foregone by the public from the abandonment of recoverable reserves.

...

Significant amount of recoverable oil and gas reserves means more than 20% of the proven reserves as defined by the Security and Exchange Commission (SEC).

2. Basis for Recommended Changes

First, we recommend changes to BLM’s definition of “capture” to specify allowed disposition of natural gas once it is physically contained.

Second, we recommend changes to BLM’s definition of “capture infrastructure” to better specify what equipment is needed to capture, inclusive of transport to market for sale of natural gas.

Third, we recommend changes to BLM’s definition of “development oil well” and “development gas well” to:

- Expressly contemplate that an “exploratory” well may become “developmental,” a possibility recognized by the Interior Board of Land Appeals. Southern Utah Wilderness Alliance et al., 108 IBLA 318, 325 n. 4 (1989). Under BLM’s proposed definition, to qualify as a “development well,” the well must be “drilled to produce.” That suggests that a well may only qualify as a development well if, at the time of drilling, the intention of the operator was to produce from that well. BLM’s definition in the proposed rule is too narrow, suggesting that a well drilled with the intention to explore cannot later become a “development well,” even if it turns out to be productive.

- Expressly contemplate that “a proposed well might be justified as a ‘development well’ based on compelling geologic data from other producing wells, even where the producing wells are situated some distance from the proposed wellsites.” SUWA, 108 IBLA at 325 n. 4. Under the currently proposed definition, to qualify as a “development well,” the well must
be drilled within an “established field.” If “established field” means one that adheres to spacing regulations and field development requirements, then a well that is drilled at a distance from the proposed wellsite but that is justified as a development well based on geologic data could be excluded from the definition of “development well.” BLM’s definition in the proposed rule is thus, again, too narrow.

- Recognize that a development well is not always preceded by a producing well, and that, in some cases, seismic testing will already have “proven” a field. *SUWA*, 108 IBLA at 325 n. 4, 324-35. BLM’s definition in the proposed rule is too narrow because it provides that, to qualify as a development well, the well must be drilled in a field where oil or gas is already “being produced.”

Fourth, we recommend that BLM include a definition of “economically infeasible,” which is used to determine when an operator can seek an exception from requirements, such as 43 C.F.R. 3179.6(a)’s presumptive mandate that an operator must capture all gas, inclusive of containment and transport to market for sale. This proposed definition reflects the need to provide more direction to operators on the calculation of revenues and public benefits. This calculation must include the benefits to the public of avoiding future damages from climate impacts as measured by the social costs of methane. In addition to weighing the private benefits of additional revenue with the private costs of abandoned reserves, the public benefits of avoided climate damage should be weighed against the loss to the public of royalty payments on abandoned reserves.

For this reason, we also recommend extending the time horizon for determining whether compliance is economically infeasible to encompass the projected lifetime of the lease, unit, or CA. This encourages operators to assess potential economies of scale across the lease, unit, or CA and aligns the calculation with BLM’s duty to manage the oil and gas resource to “best meet the present and future needs of the American people” and ensure that management of the oil and gas resource “takes into account the long-term needs of future generations for...non-renewable resources, including....minerals.” 43 U.S.C. § 1702(c); see also 43 U.S.C. §§ 1712(c)(1), (5), (7) (providing that RMPs must “use and observe the principles of multiple use and sustained yield,” “consider present and potential uses of the public lands,” and “weigh long-term benefits to the public against short-term benefits.”).

The proposed definition also reflects the importance of calculating, for purposes of assessing the prospects that an operator will choose to plug and abandon a well, all recoverable oil and gas reserves, not just oil reserves. Fixated on oil wells, the proposed rule purports to assess the prospects of abandonment by only assessing abandonment of recoverable oil reserves. However, BLM’s rules expressly define “[m]aximum ultimate economic recovery” as “the recovery of oil and gas from leased lands which a prudent operator could be expected to make from that field or reservoir given existing knowledge of reservoir and other pertinent facts and utilizing common industry practices for primary, secondary or tertiary recovery operations.” 43
C.F.R. § 3106.0-5. Both BLM and the operator are obliged to ensure “maximum ultimate recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources.” 43 C.F.R. §§ 3161.2, 3162.1.

Thus, any determination of whether or not an exception should be provided on the basis that oil and gas resources would otherwise be abandoned needs to consider both oil and natural gas, even if the well is considered an oil, not natural gas, development well. For purposes of the MLA, the intent is to maximize, in the public interest, recovery of both oil and natural gas and to conserve both oil and natural gas. There may be instances where recovery of associated gas from an oil well is required by prudent and reasonable operations and to comply with the MLA and BLM’s implementing rules, even if the operator would plug and abandon a development oil well with gas capture infrastructure sooner than a development oil well without that gas capture infrastructure. This would occur where the net benefit of capturing associated gas or leaving that associated gas in the ground, accounting for public benefits, exceeds the net benefit of maximizing the production of oil through flaring of the associated natural gas.

Fifth, we recommend that BLM provide a specific definition of “significant amount of recoverable oil and gas reserves” that references the Security and Exchange Commission’s definition of proven reserves. See 17 C.F.R. § 210.4-10. We recommend the 20% threshold by reference to our understanding that operators typically require production of at least 80% of reserves to recoup their investment and therefore would not cease production prior to recovering this percentage without compliance costs causing them to operate at a loss.

C. FLARING (43 C.F.R. § 3179.6(a))

1. Recommended Changes to Proposed Text

§ 3179.6 When flaring or venting is prohibited.

(a) The operator must capture all natural gas from all wells. After providing the public with a minimum of 30 calendar days to provide comment, BLM may, however, approve flaring from a well approved before the effective date of this regulation in accord with § 3179.6(b) or, if appropriate, § 3179.7 where the operator submits to BLM a written request demonstrating, and the BLM agrees, that capture is technically or economically infeasible. BLM, in reviewing a flaring request, whether pursuant to § 3179.6(b) or § 3179.7, shall consider and account for the public costs and adverse impacts of flaring. The request must be made available to the public for its review for a minimum 30 calendar day comment period and certify that oil and gas reserves under the lease, unit, or CA cannot be recovered by any other well(s) on the lease, unit, or CA; that there is no other economic alternative to permanent well abandonment; that the operator will minimize the amount of flared gas to the lowest level technically and economically feasible; that the duration of any flaring will be limited to the shortest possible time.
technically and economically feasible; and that, notwithstanding the limits established by the presumptive limit provided by § 3179.6(b) or, if appropriate, an alternative limit established by § 3179.6(c), a flare efficiency of at least 98% will be achieved. The operator must flare rather than vent any gas that is not captured except:

(1) When flaring the gas is technically infeasible, such as when the gas is not readily combustible or the volumes are too small to flare;

(2) Under emergency conditions when the loss of gas is uncontrollable or venting is necessary for safety, subject to § 3179.105, where an emergency is defined as an unforeseen problem that could cause or threaten immediate substantial adverse impact on public health and safety or the environment;

(3) When § 3179.203 does not require the combustion or flaring of gas vapors from storage vessels; or

(4) When the gas is vented through operation of a natural gas-activated pneumatic controller or pump that meets the requirements of §§ 3179.201 and 3179.202, respectively.

2. Basis for Recommended Changes

We recommend that BLM structure 43 C.F.R. § 3179.6 to create a presumptive mandate to capture all natural gas—i.e., a presumptive prohibition against both venting and flaring and from both oil and natural gas wells consistent with Sections II.C and II.D above, where we demonstrate that BLM should take much stronger action to prevent methane waste caused by flaring, rather than capturing, natural gas. We are candidly quite troubled that the proposed rule, while creating a presumptive prohibition against venting creates a presumptive allowance for flaring, even if constrained within prescribed limits.

Under our recommended changes, flaring would still be allowed, but only for wells approved before the effective date of BLM’s final rule. This reflects our assessment in Section II.B that BLM’s retained rights and authorities to prevent waste relative to existing leases are substantial and that BLM may prohibit flaring on existing leases and only provide an exception for flaring from existing wells on existing leases. Even for existing wells, flaring should only be permitted as an exception to the presumptive prohibition against flaring if the operator demonstrates to BLM’s satisfaction that capturing natural gas is technically or economically infeasible. Separately, in Sections II.E, we have recommended that BLM adopt a more clearly defined test to gauge what is or is not economically infeasible and, in Section III.B, we recommend the inclusion of a specific definition for “economically infeasible.” Here, we only emphasize that this test must be refined to ensure harmony with both BLM and operators’ duties to conserve both
the oil and natural gas resource and to not elevate one resource, e.g., oil, over the other, e.g.,
natural gas.

Importantly, and reflecting of our comments in Section II.I, we recommend that BLM involve
the public in considering an operator’s request to flare. We specifically recommend a minimum
30-calendar day time period to allow the public to review and provide comment regarding an
operator’s request to flare or vent.

Subject to the presumptive prohibition against flaring, we retain, with modest recommended
modifications to improve clarity and conformance with existing rules, provisions allowing
venting, rather than flaring, in limited circumstances, such as emergencies.

When flaring is permitted, whether in accord with the base limit prescribed by 43 C.F.R. §
3179.6(b) or an alternative limit allowed pursuant to 43 C.F.R. § 3179.7, BLM should make sure
that operators nonetheless endeavor to minimize waste and thereby not flare up to their flaring
limit unless: (a) they cannot recover natural gas with other wells and capture infrastructure; (b)
there is no economic alternative to permanent well abandonment; (c) the duration of flaring is
limited to the shortest technically and economically feasible time period; and (d) flaring is
carried out with a t least a 98% efficiency rate.

D. FLARING LIMITS AND PHASE OUT (43 C.F.R. § 3179.6(b))

1. Recommended Changes to Proposed Text

§ 3179.6 When flaring or venting is prohibited.

... 

(b) Subject to § 3179.6(a), and unless an alternative flaring limit is established pursuant to Excep
Exception as provided in § 3179.7, an operator must not flare or vent gas from a well
approved before the effective date of this regulation in excess of the following amounts,
inclusive of gas flared from all sources representing the total volume of gas flared or
vented over a production month from all development oil wells on a lease, unit, or CA,
divided by the number of development oil wells contributing production for at least 10
days during that month: (1) 600 7,200 Mcf, for each month during the period from
[EFFECTIVE DATE OF FINAL RULE] until [1 YEAR 30 MONTHS AFTER EFFECTIVE DATE OF
FINAL RULE]; (2) 450 3,600 Mcf, for each month during the period from [30 MONTHS 1
YEAR AFTER EFFECTIVE DATE OF FINAL RULE] until [60 MONTHS 2 YEARS AFTER
EFFECTIVE DATE OF FINAL RULE]; (3) 300 Mcf, for each month during the period from
[60 MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE] until [90 MONTHS AFTER
EFFECTIVE DATE OF THE FINAL RULE]; (4) 150 Mcf, for each month during the period
from [90 MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE] until [120 MONTHS

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AFTER EFFECTIVE DATE OF THE FINAL RULE; and (5) (3) 1,800 0 Mcf, for each month thereafter. To meet these limits, BLM may require the curtailment or restriction of production on the lease, unit, or CA.

2. Basis for Recommended Changes

We recommend, in accord with Section II.D, that BLM mandate far more stringent flaring limits. Our recommended limit for the first 30 months after the date of the rule is modeled on Wyoming’s daily flaring volume limit of 20 Mcf/day. This constraint reduces the total percentage of produced gas flared to between 6%-24%, which improves significantly upon the reduction provided by BLM’s proposed rule. We further recommend that BLM, also in accord with Section II.D, phase out flaring entirely within ten years (rather than phase in flaring limits).

Notably, we are concerned that BLM’s proposed flaring limit is premised on the agency’s inclusion of an arbitrary and capricious factor: the desire to balance flaring reductions “while minimizing the number of affected leases.” 81 Fed. Reg. 6616, 6640. The MLA explicitly mandates “[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land....” 30 U.S.C. § 225 (emphasis added). Thus, “minimizing the number of affected leases” runs directly contrary to the MLA’s mandate to reduce waste from all oil and gas leases.

Importantly, operators subject to this flaring limit must still: (a) endeavor to recover natural gas with other wells and capture infrastructure on the lease, unit, or CA; (b) demonstrate that flaring should be allowed because there is no economic alternative to permanent well abandonment; (c) constrain the duration of flaring to the shortest technically and economically feasible time period; and (d) flare gas with a 98% efficiency rate.

E. ALTERNATIVE FLARING LIMITS (43 C.F.R. §§ 3179.7(a)-(c))

1. Recommended Changes to Proposed Text

§ 3179.7 Alternative limits on venting and flaring.

(a) With respect to wells approved leases issued before the effective date of this regulation, the BLM may approve an alternative rate-based flaring limit on venting and flaring from a lease, unit, or CA that is flaring at a rate that exceeds the applicable limit under § 3179.6(b), if the operator written request submitted by the operator pursuant to § 3179.6(a) demonstrates, and the BLM agrees, that the applicable limit under § 3179.6(b) is not technically or economically feasible would impose such costs as to cause the operator to cease production and abandon significant recoverable oil reserves under the lease.
(b) A written request to establish an alternative flaring limit must include, in addition to the requirements provided by § 3179.6(a), To support such a demonstration, the operator must submit a Sundry Notice that include the following information:

(1) Information regarding the operator’s wells under the lease, unit, or CA that produce Federal or Indian gas, including:

   (i) The name, number, and location of each well, and the number of the lease, unit, or CA with which it is associated;

   (ii) The depths and names of producing formations;

   (iii) The gas production volume and rate for level of each of the operator’s wells for the most recent production month for which information is available as well as the expected production decline curve of oil and gas over the remaining projected lifetime of these wells; and

   (iv) The total volume and rate volumes of gas being vented and flared from each of the operator’s wells for the most recent production month for which information is available;

(2) Map(s) showing:

   (i) The entire lease, unit, or CA and the surrounding lands to a distance and on a scale that shows the field in which the well or wells are or will be located (if applicable), and all pipelines that could transport the gas from the well or wells;

   (ii) All of the operator’s producing oil and gas wells, which are producing from Federal or Indian leases (both on Federal or Indian leases and on other properties) within the map area;

   (iii) Identification of all of the operator’s wells within the lease, unit, or CA from which gas is flared or vented, and the location and distance of the nearest gas pipeline(s) to each such well, with an identification of those pipelines that are or could be available for connection and use; and

   (iv) Identification of all of the operator’s wells within the lease, unit, or CA from which gas is captured;
(3) Data that show existing and reasonably foreseeable pipeline capacity and the operator’s projections of the cost associated estimate for new capture infrastructure on the lease, unit, or CA based on at least three competitive bids consistent with the requirements of § 3162.7 and using the Producer Price Index, published by the U.S. Department of Labor’s Bureau of Labor Statistics, to estimate future costs, with installation and operation of gas capture infrastructure and alternative methods of transportation that do not require pipelines;

(4) The operator’s projections of gas prices, gas production volumes, gas quality (i.e., heating value and H2S content), revenues derived from gas production, and royalty payments on gas production over the next 15 years or the life of the operator’s lease, unit, or CA, whichever is less, anticipated remaining period in which the operator will produce from the Federal or Indian lease, unit, or CA. Projections must be consistent with the operator’s applicable surface use plan of operations and all reasonably foreseeable plans for new wells and capture infrastructure for the lease, unit, or CA and use pricing data from the Energy Information Administration in the U.S. Department of Energy; and

(5) The operator’s projections of oil prices, oil production volumes, costs, revenues derived from oil production, and royalty payments from the operator’s oil and gas operations within the lease, unit, or CA over the anticipated remaining period in which the operator will produce from the Federal or Indian lease, unit, or CA. Projections must be consistent with the operator’s applicable surface use plan of operations and all reasonably foreseeable plans for new wells and capture infrastructure for the lease, unit, or CA and use pricing data from the Energy Information Administration in the U.S. Department of Energy. lesser of:

(i) The next 15 years; or

(ii) The anticipated remaining period in which the operator will produce from the Federal or Indian lease, unit, or CA.

(6) The operator’s projections of the time period wherein the alternative flaring limit is necessary and a plan to capture all gas and to thereby eliminate the need for the alternative flaring limit as soon as economically feasible and no later than [120 MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE].

(c) In establishing an alternative volume limit on venting and flaring limit under this section for wells approved before the effective date of this regulation, the BLM shall will aim to set the limit at the lowest most stringent level that the BLM determines, in accord with § 3179.6(a) and considering the information identified provided in paragraph (b) of this
section, will not cause the operator to cease production and abandon significant recoverable oil reserves under the lease. In no circumstances shall the alternative volume limit exceed the § 3179.6(b) limit by more than a factor of four or allow flaring to continue beyond [120 MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE].

2. Basis for Recommended Changes

To flare at a rate higher than prescribed by 43 C.F.R. § 3179.7(b)(6) for an well approved before the effective date of the final rule, an operator would effectively go through the same process provided by 43 C.F.R. § 3179.6(a). In short, the operator would submit a written request that is made available to the public demonstrating that the capture of natural gas was technically and economically infeasible. However, to justify the alternative flaring limit, the operator would have to provide additional information specified in 43 C.F.R. § 3179.7(b)-(c). As provided by our recommendations for by 43 C.F.R. § 3179.7(c), BLM would be required to set (rather than merely “aim to set,” which we find virtually meaningless) the alternative flaring limit at the most stringent level feasible and could not approve an alternative flaring limit more than four times greater than the limits, accounting for the 10-year phase out period, provided by 43 C.F.R. 3179.6(b).

We also recommend changes to the information and analysis an operator must provide to justify an alternative flaring limit, including:

- An extension, in 43 C.F.R. § 3179.7(b)(1), of the operator’s analysis to an entire unit or CA, not just the specific lease where the wells are located.

- Replacement, in 43 C.F.R. § 3179.7(b)(1)(iii), of “production level,” which we find overly vague, with “production volume and rate” and a similar change in 43 C.F.R. § 3179.7(b)(1)(iv) through replacement of “volumes” with “total volume and rate.”

- The addition, in 43 C.F.R. § 3179.7(b)(1)(iii), of a requirement that the operator provide information regarding expected production decline curves, which, as we explain in Section II.D above, are essential to setting prudent and reasonable flaring limits.

- Avoiding, in 43 C.F.R. § 3179.7(b)(3), inaccurate or self-serving cost estimates by requiring the operator to submit three competitive bids it has received to construct capture infrastructure, with those bids consistent with existing provisions in 43 C.F.R. § 3162.7 and the U.S. Department of Labor’s Bureau of Labor Statistics to ensure apples-to-apples evaluation by BLM.

- Improvements to the gas price, production volume, quality, revenue, and royalty information required by 43 C.F.R. § 3179.7(b)(4) by: (a) requiring that the information be provided for the anticipated remaining period of production rather than 15 years or the life...
of the lease, which provides a better basis for assessing the need for an alternative flaring limit than the provisions BLM has proposed; (b) using pricing data from EIA; and (c) ensuring consistency between the operator’s request for an alternative flaring limit and the operator’s plan of operations.

- Improvements to oil price, production volume, cost, revenue, and royalty information required by 43 C.F.R. § 3179.7(b)(35) by: (a) requiring that the information be provided for the anticipated remaining period of production rather than 15 years or the life of the lease; (b) using pricing data from EIA; and (c) ensuring consistency between the operator’s request for an alternative flaring limit and the operator’s plan of operations.

- A requirement, in 43 C.F.R. § 3179.7(b)(6), to explain how long the alternative flaring limit is needed, with a hard ten-year limit on flaring.

Importantly, operators who secure an alternative flaring limit pursuant to 43 C.F.R. § 3179.7 must still: (a) endeavor to recover natural gas with other wells and capture infrastructure on the lease, unit, or CA; (b) demonstrate that flaring should be allowed because there is no economic alternative to permanent well abandonment; (c) constrain the duration of flaring to the shortest technically and economically feasible time period; and (d) flare gas with at least a 98% efficiency rate.

F. TWO-YEAR EXEMPTION FROM FLARING LIMITS (43 C.F.R. § 3179.7(d))

1. Recommended Changes to Proposed Text

§ 3179.7 Alternative limits on venting and flaring.

...  

(d) Instead of an alternative limit under paragraph (a) of this section, a lease issued before the effective date of this regulation will receive a renewable, 2-year exemption from the applicable flaring limit specified in § 3179.6 if the authorizing officer verifies that all of the following terms and conditions are met:

(i) The lease, unit, or CA is not connected to a gas pipeline;

(ii) The closest point on the lease, unit, or CA is located more than 50 straight-line miles from the nearest gas processing plant;
(iii) In the most recent production month, the lease, unit or CA flared or
vented at an average rate that exceeds by at least 50 percent the
applicable flaring limit specified in § 3179.6; and

(iv) The operator submits to the BLM a Sundry Notice with an affidavit
certifying that it meets the conditions in paragraphs (d)(i) through (iii) of
this section.

2. Basis for Recommended Changes

We recommend that BLM delete the proposed rule’s provisions providing for a renewable, two-
year exemption. BLM’s proposed rule focuses on the containment of natural gas but fails to
ensure that captured gas from existing leases and operations is transported to market for sale
or otherwise beneficially used. Instead, BLM’s proposed rule relies far too heavily on flaring,
presumptively allowing flaring up the limits set by 43 C.F.R. § 3179.6(b). The proposed rule also
provides operators with the opportunity to obtain an “alternative” (i.e., less stringent) flaring
limit pursuant to 43 C.F.R. §§ 3179.7(a)-(c).

Above, we have recommended changes to the proposed rule to ensure that gas is
presumptively contained and transported to market for sale, as well as a tighter, more effective
limit that becomes more stringent over a ten-year time period. At the conclusion of that
“phase-out” period, all flaring would be prohibited. This structure is sufficient to accommodate
operator interests.

We notably reject BLM’s premise for the exemption, that “[h]olders of these leases have, until
now, had no notice of the proposed flaring limit.” 81 Fed. Reg. 6616, 6620. As exhaustively
explained in Section II.B above, lessees are expressly under notice that BLM may take action to
prevent waste in accord with the plain language of the MLA; BLM’s rules retaining duties and
authorities to prevent waste, lease stipulations, in particular those in BLM’s standard lease form
(Form 3100-1); by virtue of the typically limited scope of NEPA analyses prepared to justify
lease sales; and courts’ historic recognition of the appropriateness of methane waste regulation.
No specific notice of a specific flaring limit is required as a precondition of BLM’s compliance
with and exercise of duties and authorities to prevent waste. BLM’s language in the preamble,
and this basis for the 2-year exemption, should therefore be stricken.

Fundamentally, the renewable, 2-year exemption provided by 43 C.F.R. § 3179.7(d) is
unnecessary; based on an incorrect understanding of what notice lessees must be provided;
confusing relative to the existing provisions for alternative flaring limits provided by 43 C.F.R. §§
3179.7(a)-(c) that we propose BLM, with modification, retain; and facilitates flaring waste. It
should therefore be eliminated from the final rule. To the degree this provision is retained in
the final rule, BLM should subject any request to obtain the exemption to public review and a
minimum 30-calendar day public comment period, as noted in Section II.I above.
G. RETAINED WASTE PREVENTION RIGHTS, DUTIES, AND AUTHORITIES (43 C.F.R. § 3179.10)

1. Recommended Changes to Proposed Text

§ 3179.10 Other waste prevention measures.

(a) If production from an oil well newly connected to a gas pipeline results, or is expected to result, in one or more producing wells operated by a different company already connected to the pipeline being forced off the line, the BLM may will exercise existing authority to limit the production level from the new well until the pressure of gas production from the new well stabilizes at levels that allow transportation of gas from all wells connected to the line. In no circumstance shall new wells added to an existing pipeline result in an increase in flared or vented gas volumes from existing wells already connected to existing pipelines.

(b) If production from a well newly connected to a gas pipeline results, or is expected to result, in one or more of the operator’s existing wells already connected to the pipeline being forced off the line, the operator may preferentially produce the new well. However, if the operator chooses to do so, the operator must limit the production level from the operator’s existing wells connected to the same pipeline until the pressure of gas production from the existing wells stabilizes at levels that allow transportation of gas from all wells connected to the line. In no circumstance shall new wells added to an existing pipeline result in an increase in flared or vented gas volumes from existing wells already connected to existing pipelines and the operator may not, therefore, seek an alternative limit for those wells pursuant to § 3179.7.

(bc) If adequate gas capture capacity infrastructure is not yet available on a given lease, unit, or CA, the BLM may will exercise existing authority to deny the APD, delay action on the APD for that lease, or approve the APD with conditions requiring for gas capture infrastructure to be in place and operational prior to producing any oil or gas authorized by the APD to ensure that gas, consistent with § 3179.6, is neither vented nor flared, or limitations on production. If the lease for which the APD is submitted is not yet producing, the BLM may direct or grant a lease suspension under 43 CFR 3103.4–4.

(d) BLM retains the duty and authority to develop and require reasonable measures to prevent waste of oil and gas and to otherwise take action to prevent unnecessary or undue degradation in addition to or more stringent than those measures required by 43 CFR subpart 3179 through resource management plans, master leasing plans, lease stipulations, approvals of unit or communitization agreements, and approvals of
applications for permit to drill and in accord with environmental reviews completed pursuant to the National Environmental Policy Act.

2. Basis for Recommended Changes

Relative to our recommendations for 43 C.F.R. §§ 3179.10(a) and (b), we recommend that BLM bifurcate its retained authority to limit production levels based on whether or not the operator controls or does not control the gas capture infrastructure:

- Where the operator does not control the gas pipelines, 43 C.F.R. § 3179.10(a) provides that BLM must limit the operator’s production from a proposed new well until the pressure of gas production from that well stabilizes to allow transport of gas from all wells and the operator is prohibited from adding wells to an existing pipeline such that flared or vented gas volumes of existing wells connected to that pipeline increase.

- Where the operator does control the gas pipelines, the operator may choose, on its own, how to produce from existing and new wells so long as it does not cause an increase in vented or flared methane emissions. In addition, the operator, if it chooses to preferentially produce from a new well, must in fact limit production from existing wells to ensure that vented and flared emissions do not increase, and cannot seek an alternative flaring limit.

For 43 C.F.R. § 3719.10(c) (renumbered from (b) to account for the above recommendations), we recommend that the final rule use the term “infrastructure” rather than “capacity” to align the provision with the definitions in 43 C.F.R. § 3179.3 and to include the descriptive term “adequate” to better convey what is meant by the provision. We also recommend that BLM better delineate the actions it may take when gas capture infrastructure is not available, including to deny the APD or to condition approval of the APD on the actual construction of infrastructure necessary to capture gas before production begins.

We also recommend that BLM delete the reference to “existing authority” in this section. We find this language unnecessarily limiting and overly vague. The provision may also have the unintended consequence of limiting BLM’s future ability to prevent methane waste, delimiting where the agency may, for example, limit production based on the authority existing as of the effective date of the final rule. We find no basis for this limitation and, indeed, the MLA and FLPMA are both structured to provide continuing oversight, including through modernization of existing authority and, even, promulgation of new regulatory authority to advance statutory duties and authorities to account for changing circumstances and conditions.

We also recommend that BLM include a new provision, 43 C.F.R. § 3179.10(d), to explicitly convey that the agency retains the duty and authority to develop and require waste prevention measures in accord with the agency’s oil and gas planning and management framework and obligation, pursuant to 43 U.S.C. § 1732(b), to prevent “unnecessary or undue degradation of
the land.” These measures may be either: (1) in addition to the provisions provided by the methane waste rule; or (2) more stringent then the provisions provided by the methane waste rule, if justified by site-specific circumstances and conditions.

We substantiate the value of the planning and management framework in Section II.G above. As we explain in this section, BLM’s compliance with its planning and management framework, such as NEPA reviews for APDs, may reveal that it is prudent and reasonable for operators to comply with additional waste reduction measures—such as clustering and phasing of oil and gas development to take advantage of economies of scale or to synchronize upstream production with midstream pipeline and processing capacity—or more stringent measures—such as, for existing wells where flaring is permitted, a more stringent flaring limit or tighter phase-out period for flaring. Regarding the inclusion of language pertaining to unnecessary or undue degradation, BLM expressly cites 43 U.S.C. § 1732(b) as authority for its proposed rule, including the rule’s provisions for waste minimization plans in 43 C.F.R. § 3162.3-1 and the particular venting, flaring, and leak provisions in 43 C.F.R. subpart 3179. See 81 Fed. Reg. 6616, 6679. However, the rule, as structured, only weakly if at all reflects this authority and, indeed, mandatory duty to protect lands (and the resources, including oil and gas, they contain and provide).

This provision also ensures that BLM does not structure the proposed rule as a one-way street. Operators should not be able to secure exceptions or exemptions from the proposed rule while BLM is forbidden from taking additional or more stringent action based on site-specific circumstances and conditions to ensure that operators take all prudent and reasonable action to prevent methane waste or, more broadly, to ensure that BLM prevents unnecessary or undue degradation. To the degree that BLM does not retain such duties and authorities, the agency risks undermining the lawfulness of the rule but creating “a subtle, but nevertheless real, inertial presumption in favor of” weakened methane waste reduction action and imprudent and unreasonable waste. Natl. Wildlife Federation v. Morton, 393 F.Supp. 1286, 1292 (D.D.C. 1975).

H. WELL DRILLING (43 C.F.R. § 3179.101)

1. Recommended Changes to Proposed Text

§ 3179.101 Well drilling.

(a) Except as provided in § 3179.6 of this subpart, gas that reaches the surface as a normal part of drilling operations must be captured:

(1) Captured and sold;
(2) Directed to a flare pit or flare stack equipped with an automatic igniter to combust any flammable gasses;

(3) Used in operations on the lease, unit, or CA; or

(4) Injected.

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

2. Basis for Recommended Changes

Our recommended changes to this section further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. We also recommend, for 43 C.F.R. § 3179.101(b), that BLM, to improve clarity and precision, replace “lost” with “flared or vented to the atmosphere.”

I. WELL COMPLETIONS AND RELATED OPERATIONS (43 C.F.R. § 3179.102)

1. Recommended Changes to Proposed Text

§ 3179.102 Well completion and related operations.

(a) Except as provided in § 3179.6(a), gas that reaches the surface during well completion and post-completion, drilling fluid recovery, or fracturing or refracturing fluid recovery operations must be captured.

(1) Captured and sold;

(2) Directed to a flare pit or flare stack equipped with an automatic igniter to combust any flammable gasses, subject to the volumetric limitations in § 3179.103(a)(3);

(3) Used in operations on the lease, unit, or CA; or

(4) Injected.
(b) In lieu of compliance with the requirements of paragraph (a) of this section, an operator may demonstrate to the BLM on a Sundry Notice that it is in compliance with the requirements for control of gas from well completions established under 40 CFR part 60 subpart OOOOa.

2. Basis for Recommended Changes

Our recommended changes to this section regarding well completions and related operations further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. Our recommended changes to the definition of “capture” include green completion equipment which should be required to route gas released during completion to a sales line. Flaring would only be allowed in an emergency in accord with 43 C.F.R. § 3179.101.

J. INITIAL PRODUCTION TESTING (43 C.F.R. § 3179.103)

1. Recommended Changes to Proposed Text

§ 3179.103 Initial production testing.

(a) Gas flared during a new oil or new gas well’s initial production test is royalty-free under §§ 3179.4(a)(1)(iii) and 3179.5(b) of this subpart until one of the following occurs:

(1) the operator determines that it has obtained adequate reservoir information for the well; or production begins.

(b) An initial production test may not exceed 72 hours. Thirty days have passed since the beginning of the production test, except as provided in paragraph (b) and paragraph (c) of this section.

(3) The operator has flared 20 million cubic feet (MMcf) of gas, when volumes flared under this section are combined with volumes flared under § 3179.102(b); or

(4) Production begins.

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

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

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

2. Basis for Recommended Changes

Our recommended changes to this section further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. Our understanding is that production tests commonly last for 24 – 48 hours in which time an operator can obtain adequate information about the production characteristics of a well. An additional 24 hours would provide sufficient time to stabilize and clean up a well.

K. SUBSEQUENT WELL TESTS (43 C.F.R. § 3179.104)

1. Recommended Changes to Proposed Text

§ 3179.104 Subsequent well tests.

Flaring is not allowed for any well tests subsequent to the initial well test, except for wells approved before [the effective date of the final rule] and only if permitted by BLM pursuant to § 3179.6 and § 3179.7. If approved by BLM, flaring will be limited to a maximum of 24 hours. Any gas flared from subsequent well tests must achieve a flare efficiency rate of at least 98% and the volume of gas flared shall count towards the flaring limit provided by § 3179.6(b) or, if applicable, an alternative flaring limit established pursuant to § 3179.7.

During well tests subsequent to the initial production test, the operator may flare gas for no more than 24 hours royalty free under §§ 3179.4(a)(1)(iv) and 3179.5(b) of this subpart, unless the BLM approves or requires a longer period. If the operator requests a longer period, it must submit a Sundry Notice.

2. Basis for Recommended Changes

Our recommended changes to this section further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. We propose to that BLM set to a hard, 24-hour limit on flaring during subsequent well tests. Additionally, gas flared from subsequent well tests on wells approved before the effective date of the final methane waste rule would have to be justified consistent with 43 C.F.R. §§ 3179.6, 3179.7 and would count towards determining compliance with flaring limits, whether set by 43 C.F.R. § 3179.6 or 43 C.F.R. § 3179.7.
L. **EMERGENCIES (43 C.F.R. § 3179.105)**

1. **Recommended Changes to Proposed Text**

   **§ 3179.105 Emergencies.**

   (a) An operator may flare or, if flaring is not feasible given the emergency, vent gas royalty-free under § 3179.6(a) of this subpart during a temporary, short-term, infrequent, and unavoidable emergency.

   (b) The operator may flare or vent gas royalty free for up to 24 hours per incident (unless the BLM extends the period), and for no more than three emergencies one emergency for a lease, unit, or CA within any 30-day period. If flaring is permitted from wells approved before [the effective date of the final rule], the volume gas flared or vented pursuant to this subsection shall count towards the flaring limits provided by § 3179.6(b) or, if applicable, alternative flaring limits established pursuant to § 3179.7.

   (c) **Emergency is defined as an unforeseen problem that could cause or threaten immediate substantial adverse impact on public health and safety or the environment.** The following do not constitute emergencies under this section:

   (1) More than 3 failures of the same equipment within any 365-day period;

   (2) The operator’s failure to install appropriate equipment of a sufficient capacity to accommodate the volume of gas being produced;

   (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; ef

   (5) Operator negligence; or

   (6) Problems the operator should have foreseen.

   (d) The operator must 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.

2. **Basis for Recommended Changes**
In 43 C.F.R. § 3179.105(c), we recommend that royalty-free flaring be limited to a 24-hour period for one emergency only since, as the proposed rule states in (a) of this section, emergencies are temporary, short-term, infrequent, and unavoidable. We also recommend clarification of what constitutes an emergency, centered on risks to public health, safety, and the environment. Additionally, gas flared from wells approved before the effective date of the final methane rule would, where flaring is permitted, count towards determining compliance with flaring limits, whether set by 43 C.F.R. § 3179.6 or 43 C.F.R. § 3179.7.

M. PNEUMATIC CONTROLLERS (43 C.F.R. § 3179.201)

1. Recommended Changes to Proposed Text

§ 3179.201 Equipment requirements for pneumatic controllers.

(a) All new, modified, or reconstructed pneumatic controllers installed on or after October 15, 2013, must meet the requirements of 40 CFR 60.5360 through 60.5390. An existing pneumatic controller installed before October 15, 2013 that uses natural gas produced from a Federal or Indian lease, or from a unit or CA that includes a Federal or Indian lease, is subject to this section if the pneumatic controller:

(1) Has a continuous bleed rate greater than 6 standard cubic feet (scf) per hour; and

(2) Is not subject to 40 CFR 60.5360 through 60.5390.

(b) The operator must replace a pneumatic controller subject to this section with a pneumatic controller having a bleed rate of 6 scf per hour or less within the timeframes set forth in paragraph (c) of this section, unless:

(1) The operator notifies the BLM through a Sundry Notice that use of a pneumatic controller with a bleed rate greater than 6 scf per hour is required based on functional needs described in the Sundry Notice, that may include, but are not limited to, response time, safety, and positive actuation;

(2) The operator notifies the BLM through a Sundry Notice that the pneumatic controller exhaust is routed to a flare device; or

(3) The operator notifies the BLM through a Sundry Notice and demonstrates, and the BLM agrees, based on the information identified in § 3179.7(b), that replacement of a pneumatic controller subject to paragraph (a)(1)(i) of this section would impose such costs as to cause the operator to cease production and abandon significant recoverable oil reserves under the lease submits to BLM.
a written request demonstrating, and the BLM agrees, that pneumatic controller replacement is economically infeasible. If a pneumatic controller is not replaced, the operator must connect the controller to a flare device with a combustion efficiency rate of at least 98%. The volume of gas flared from a pneumatic controller shall count towards the presumptive flaring limit provided by § 3179.6(b) or, if applicable, an alternative flaring limit established pursuant to § 3179.7.

(c) The operator must replace the pneumatic controller(s) installed before October 15, 2013, no later than 1 year after the effective date of this section as required under paragraph (b) of this section except that if the well or facility that the pneumatic controller serves has an estimated remaining productive life of 3 years or less from the effective date of this section, the operator must take the pneumatic controller permanently out of service at the end of that three-year period notify the BLM through a Sundry Notice and replace the pneumatic controller no later than 3 years from the effective date of this section.

(d) The operator must ensure all pneumatic controllers are functioning within manufacturers’ specifications and must immediately shut-down and repair or replace pneumatic controllers that are not operating within manufacturers’ specifications.

2. Basis for Recommended Changes

Our recommendations regarding pneumatic controllers further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. However, in 43 C.F.R. § 3179.201(b), we do provide operators with the opportunity, for wells approved before the effective date of the final methane waste rule, to seek an exception where replacement of pneumatic controllers is economically infeasible subject to the conditions that the controller would be connected to a flare device with a 98% efficiency rate and that the volume of flared gas would count towards determining compliance with flaring limits, whether set by 43 C.F.R. § 3179.6 or 43 C.F.R. § 3179.7.

N. PNEUMATIC CHEMICAL INJECTION PUMPS AND PNEUMATIC DIAPHRAGM PUMPS (43 C.F.R. § 3179.202)

1. Recommended Changes to Proposed Text

§ 3179.202 Requirements for pneumatic chemical injection pumps or pneumatic diaphragm pumps.

(a) A pneumatic chemical injection or pneumatic diaphragm pump is subject to this section if it:
(1) Uses natural gas produced from a Federal or Indian lease, or from a unit or CA that includes a Federal or Indian lease; and

(2) Is not subject to 40 CFR part 60, subpart OOOOa.

(b) The operator must replace a pneumatic pump subject to this paragraph with a zero-emissions pump or route the pump to a flare device within the timeframes set forth in paragraph (d) of this section.

(c) The requirement in paragraph (b) of this section does not apply if: the operator submits to BLM a written request demonstrating, and the BLM agrees, that pneumatic pump replacement is not economically feasible. If a pneumatic pump is not replaced, the operator must connect the pump to a flare device with a combustion efficiency rate of at least 98%. The volume of gas flared from a pneumatic pump shall count towards the flaring limit provided by § 3179.6(b) or, if applicable, an alternative flaring limit established pursuant to § 3179.7.

(1) The operator notifies the BLM through a Sundry Notice that:

   (i) Use of a pneumatic pump is required based on functional needs, described in the Sundry Notice; and

   (ii) There is no existing flare device on site or routing to such a device is technically infeasible; or

(2) The operator submits a Sundry Notice to the BLM that:

   (i) Provides an economic analysis that demonstrates, and the BLM agrees, based on the information identified in § 3179.7(b), that installation of a zero-emissions pump(s) would impose such costs as to cause the operator to cease production and abandon significant recoverable oil reserves under the lease; and

   (ii) Demonstrates to the BLM that there is no existing flare device on site or routing to such a device is technically infeasible.

(d) The operator must replace the pneumatic pump(s) or connect to a flare device no later than 1 year after the effective date of this section, or if an exception is approved by BLM under (c) of this section, connect to a flare device with a combustion efficiency rate of at least 98%, except that if the well or facility that the pneumatic pump serves has an estimated remaining productive life of 3 years or less from the effective date of this
section, the operator must **take the pneumatic pump permanently out of service at the end of that three-year period** notify the BLM through a Sundry Notice and replace the pneumatic pump no later than 3 years from the effective date of this section.

(e) The operator must ensure all pneumatic pumps are functioning within manufacturers’ specifications, **and must immediately shut-down and repair or replace pneumatic pumps that are not operating within manufacturers’ specifications.**

2. **Basis for Recommended Changes**

Our recommendations regarding pneumatic pumps further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. However, in 43 C.F.R. § 3179.202(c), we do provide operators with the opportunity, for wells approved before the effective date of the final methane waste rule, to seek an exception where replacement of pneumatic pumps is economically infeasible subject to the conditions that the controller would be connected to a flare device with a 98% efficiency rate and that the volume of flared gas would count towards determining compliance with flaring limits, whether set by 43 C.F.R. § 3179.6 or 43 C.F.R. § 3179.7.

O. **CRUDE OIL AND CONDENSATE STORAGE VESSELS (43 C.F.R. § 3179.203)**

1. **Recommended Changes to Proposed Text**

§ 3179.203 Crude oil and condensate storage vessels.

(a) A crude oil or condensate storage vessel is subject to this section if the vessel:

(1) Contains production from a Federal or Indian lease, or from a unit or CA that includes a Federal or Indian lease;

(2) Is not subject to 40 CFR part 60, subpart OOOO; and

(3) Has a rate of total VOC emissions equal to or greater than 6 tons per year (tpy).

(b) The operator must determine the rate of emissions from the storage vessel within 60 days after the effective date of this section, and **within 30 days after before** any new source of production is added to the tank **after the effective date of this section.**

(c) No later than 6 months after the effective date of this section, the operator must **route capture** all tank vapor gas from a storage vessel that is subject to this section. **The operator may, however, route the gas to a flare device combustion device or continuous**
flare, or to a sales line unless if the operator submits to BLM a written request demonstrating, and the BLM agrees, that capture of all tank vapor gas from a storage vessel is not economically feasible. Any tank vapor gas from a storage vessel that is flared must be flared with a combustion efficiency of at least 98% and shall count towards the presumptive flaring limits provided by § 3179.6(b) or, if applicable, alternative flaring limits established pursuant to § 3179.7, an economic analysis to the BLM through a Sundry Notice that demonstrates, and the BLM agrees, based on the information identified in 3179.7(b), that compliance with this requirement would impose such costs as to cause the operator to cease production and abandon significant recoverable oil reserves under the lease.

(d) If the rate of total uncontrolled gas release from a storage vessel declines to 4 tpy or less for any continuous 12 month period, the requirements of this section no longer apply.

2. Basis for Recommended Changes

Our recommendations regarding storage vessels further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. However, in 43 C.F.R. § 3179.203(c), we do provide operators with the opportunity, for wells approved before the effective date of the final rule, to seek an exception where replacement of pneumatic controllers is economically infeasible subject to the conditions that the controller would be connected to a flare device with a 98% efficiency rate and that volumes of flared gas would count towards determining compliance with flaring limits, whether set by 43 C.F.R. § 3179.6 or 43 C.F.R. § 3179.7.

P. DOWNHOLE WELL MAINTENANCE AND LIQUIDS UNLOADING (43 C.F.R. § 3179.204)

1. Recommended Changes to Proposed Text

§ 3179.204 Downhole well maintenance and liquids unloading.

(a) Gas must be captured during downhole well maintenance and liquids unloading operations on all wells, the operator must use practices that maximize the recovery of gas for sale and must flare gas not recovered except where such practices or flaring are technically infeasible or unduly costly. The operator may, however, route gas produced during downhole well maintenance and liquids unloading operations for wells approved before [the effective date of the final rule] to a flare device if the operator submits to BLM a written request supported by an affidavit demonstrating, and the BLM agrees, that capture of all gas from downhole well maintenance and liquids unloading is not technically or economically feasible. Any gas flared pursuant to this subsection shall
achieve a combustion efficiency rate of at least 98% and shall count towards the presumptive flaring limit provided by § 3179.6(b) or, if applicable, an alternative flaring limit established pursuant to § 3179.7. Before the operator purges a well for the first time after the effective date of this section, the operator must document that other methods are technically infeasible or unduly costly, and provide that information as part of the Sundry Notice required under paragraph (d) of this section.

(b) For wells drilled after the effective date of this section, the operator may not conduct liquids unloading by well purging, except where the operator is returning a well to production following a well workover or following a shut-in for more than 30 days.

(eb) For any liquids unloading by well purging approved by BLM, the operator must:

(1) Be present on-site throughout the event to ensure that any venting to the atmosphere is limited to no more than the amount and duration approved by BLM what is practically necessary, unless the operator uses an automatic control system that relies on real-time pressure or flow, timers, or other well data to minimize limit venting to the amount and duration approved by BLM;

(2) Record the cause, date, time, duration, and estimated volume of each venting event; and

(3) Maintain the liquids unloading records for the period required under § 3162.4–1 of this title and make them available submit them annually to the BLM, upon request with an affidavit certifying that the BLM approved limit was not exceeded.

(d) The operator must notify the BLM by Sundry Notice within 10 calendar days after the first liquids unloading event by well purging conducted after the effective date of this section. This requirement applies to each well the operator operates.

(e) The operator must notify the BLM by Sundry Notice, within 14 calendar days, if:

(1) The cumulative duration of well purging events for a well exceeds 24 hours during any production month; or

(2) The estimated volume of gas vented in liquids unloading by well purging operations for a well exceeds 75 Mcf during any production month.

(f)(c) For purposes of this section, “well purging” means blowing accumulated liquids out of a wellbore by gas pressure where the gas is vented to the atmosphere.
(a)(d) Total estimated volumes vented as a result of downhole well maintenance and liquids unloading during the production month must be included in volumes reported to ONRR as vented.

2. **Basis for Recommended Changes**

Our recommendations regarding downhole well maintenance and liquids unloading further our intent to presumptively prohibit flaring from oil and gas operations on federal public or tribal lands as explained in Section II.D above. However, in 43 C.F.R. § 3179.204(a), we do provide operators with the opportunity, for wells approved before the effective date of the final methane waste rule, to seek an exception where capturing gas during downhole maintenance and liquids unloading is economically infeasible subject to the conditions that the controller would be connected to a flare device with a 98% efficiency rate and that volumes of flared gas would count towards determining compliance with flaring limits, whether set by 43 C.F.R. § 3179.6 or 43 C.F.R. § 3179.7

**Q. LEAK DETECTION AND REPAIR (43 C.F.R. §§ 3179.301-3179.305)**

1. **Recommended Changes to Proposed Text**

§ 3179.301 Operator responsibility.

...

(b) The operator is responsible, as prescribed in §§ 3179.302 and 3179.303 of this subpart, to inspect for gas leaks on the following:

(1) All equipment and equipment components at the wellhead;

(2) All facilities that the operator operates including capture infrastructure; and

(3) All compressors located on the lease, unit, or CA that the operator owns, leases, or operates.

...

§ 3179.302 Approved instruments and methods.

...
(b) If an operator operates 500 or more wells within the jurisdiction of a single BLM field office, the operator may only use one or more of the methods identified in paragraph (a)(1), (2), or (3) of this section to detect leaks.

§ 3179.303 Leak detection inspection requirements for natural gas wellhead equipment, facilities, and compressors.

(a) Except as provided below or otherwise authorized in paragraph (b) of this section, the operator must inspect at least semi-annually quarterly for leaks the wellhead equipment, facilities, and compressors identified in § 3179.301 (b) of this subpart. For purposes of §§ 3179.301 through 3179.305, the term “site” means a discrete area containing wellhead equipment, facilities, and compressors, which is suitable for inspection in a single visit.

(b) The BLM may approve an alternative leak detection device, program, or method under § 3179.302(a)(2) or 3179.302(a)(3) of this subpart, if the BLM finds that the alternative would meet or exceed the effectiveness for leak detection of the approach specified in §§ 3179.302(a)(1) and 3179.303(a) of this subpart. Before approving a request for an alternate leak detection device, program, or method, the BLM must provide the public with a minimum of 30 calendar days to review and provide comment on the request. The operator must submit its request for an alternative leak detection device, program, or method of this section through a Sundry Notice.

2. Basis for Recommended Changes

Leaks are the second largest source of all vented methane emissions, estimated by the BLM at 4.35 Bcf and accounting for over 20% of vented gas. According to the RIA, LDAR delivers on average $104 million in annual benefits, almost 30% of total benefits and larger than the benefits of any of the other requirement in the proposed rule. Sources of leaks include connections between equipment, valves and controllers. The occurrence of leaks is not predictable, nor are they directly related to oil or gas production volumes. They can occur in any components or pieces of equipment at well sites and in capture infrastructure. Accordingly, we recommend adding “capture infrastructure” to the requirement for inspections in §3179(b)(2).

The most important leaks to detect, high-volume leaks also called super-emitters, occur randomly. Given this unpredictability, we recommend that LDAR requirements apply to all wells and capture infrastructure, including low producing wells which should not be excluded given their large numbers and the likelihood that they are older wells with aging equipment. The inability to predict where and when leaks will occur also justifies more frequent LDAR surveys.
We recommend that the language in §3179.303(a) be changed to require operators to conduct surveys at least quarterly.

Achieving the waste reduction potential of LDAR programs depends on the rigor of the inspection method. Therefore, we recommend deleting § 3179.302(b). We also recommend that requests by operators for approval of alternative methods of leak detection trigger a 45-day period for public review and comment period in § 3179.303(b).

R. STATE AND TRIBAL VARIANCES (43 C.F.R. § 3179.401)

1. Recommended Changes to Proposed Text

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

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

(2) A State or tribal variance request must:

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

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

(iii) Explain why the variance is needed and justified, including on the basis of specific conditions in a state or tribe that make compliance with the federal rule burdensome, or on account of efficiencies or innovations achieved by a state or tribal rule that reduce burdens on state or tribal administrators while satisfying or exceeding the requirements of the federal rule;

(iv) Demonstrate how the State or tribal requirement would satisfy or exceed the requirement of the particular provision from which the State or tribe is requesting the variance, including by showing that the state or tribal provision will reduce at least an equivalent amount of methane pollution or waste as this rule.
(v) Demonstrate that replacement of the federal provision with the state or tribal provision would not limit the public’s access to information available pursuant to federal law;

(vi) Demonstrate that replacement of the federal provision with the state or tribal provision would not limit the public’s appeal or judicial rights available pursuant to federal law;

(v) Demonstrate the capacity of the State or tribe to enforce the state or tribal provision;

(vi) Demonstrate that the state or tribal provision does not contain exceptions or exemptions that would undermine its effectiveness, and that no other provision of state law would undermine its effectiveness; and

(vii) Demonstrate that the state or tribal regulation imposes penalties for violations that are equivalent to or exceed the penalties imposed by federal law.

(b) The BLM State Director, after considering all relevant factors including the required elements of the variance request provided by paragraph (a)(2) of this section, may approve the request for a variance, or approve it with one or more conditions, only if the BLM determines that the State or tribal regulation or rule meets or exceeds the requirements of the provision(s) from which the State or tribe is requesting the variance, and is consistent with the terms of the affected Federal or Indian leases and applicable statutes. Before approving a request for a variance, the BLM must provide the public with a minimum of 45 calendar days to review and provide comment on the request. The decision to grant or deny the variance will be in writing and must explain the basis for BLM’s decision, including how the relevant factors in paragraph (a)(2) of this section were addressed is within the BLM’s discretion. The decision on a variance request is not subject to administrative appeal under 43 CFR part 4.

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

(d) The BLM reserves the right to rescind a variance or modify any condition of approval.

(e) BLM reserves the right to enforce a state or tribal provision approved for use in lieu of any individual provision of this subpart.

(f) BLM reserves the right to revoke a variance if evidence reveals that the variance is not
Members of the public may file a complaint providing information about suspected violations. BLM will investigate all credible complaints filed by the public.

2. Basis for Recommended Changes

As described above in Section II.L, if BLM chooses to provide a variance provision, it must be strengthened to provide more transparency, more stringent criteria for the granting of a variance, and more public involvement and appeal rights.

The changes above reflect our recommendations for:

- public review and a minimum 45-calendar day public comment period;
- the elimination of the administrative review exemption for variances;
- the BLM’s retention of enforcement authority and of authority to withdraw a variance in the absence of enforcement;
- a provision providing an opportunity for the public to play an active role in enforcement;
- more specificity as to the showing needed to justify a variance;
- more stringency as to the showing that the state or tribal rule satisfies federal requirements;
- more specificity regarding the BLM’s written determination on each variance request; and
- an enumeration of the specific factors that are “relevant” to the variance determination.

****************************
APPENDIX A

CASE EXAMPLES

I. OVERVIEW

The case examples below underscore the importance of strong waste minimization plans, consistent enforcement of production curtailments when companies exceed flaring volume limits, corroborate why flaring volumes should be enforced on a well-by-well basis, and explain why North Dakota should not get a variance with regard to the BLM rule. Each case example is illustrative of chronic, persistent flaring in North Dakota despite the state’s passage in 2014 of a flaring policy.

The first example examines the Buffalo Pad in Mandaree, North Dakota on the Fort Berthold Reservation. It highlights the need for strong waste minimization plans, why flaring volume limits need to be enforced well-by-well, and the why the BLM should retain the authority to curtail production if a company flares over the limit consistently. The second example involves the Mollet well located near Tioga, North Dakota. Case example two highlights why North Dakota should not get a variance with regard to the BLM rule.

II. CASE EXAMPLE 1: BUFFALO PAD IN MANDAREE, NORTH DAKOTA ON THE FORT BERTHOLD RESERVATION

Oil and gas wells are flaring continuously on federal public and tribal lands. In order to illustrate this problem, we investigated a leasehold with development that we refer to as the Buffalo Pad on the Fort Berthold Indian Reservation. The Buffalo Pad has ten producing wells, five of which were drilled in February of 2013, and five of which were drilled in September 2013. We highlight the Buffalo Pad because members of the Dakota Resource Council who live on Fort Berthold identified it as an example of well where flaring was taking place since the inception of drilling.

By searching through production data on the North Dakota Department of Mineral Resources website corresponding to the wells on the leasehold, we were able to ascertain what months wells on the leasehold were flaring and how much they were flaring. The owner of the Buffalo Pad began drilling for oil and gas on the Buffalo Pad in February 2013 when the first five wells were drilled. Subsequently five more wells were drilled in September 2013. There are 36 months of available production data for the Buffalo Pad for the period beginning February 2013 and ending February 2016. By searching through the production data for the Buffalo Pad, we discovered that, since the leasehold was first drilled in February 2013, that there was only a single month where all the wells on the leasehold were capturing 100 percent of their

39 North Dakota Industrial Commission Well Numbers 23093-23102 Production History Data, also see figure 1
associated gas, in November 2014, and as illustrated in Figure 1 below. Thus, flaring has occurred on at least one well on the leasehold for 35 of the 36 months in which the Buffalo Pad has been producing oil and gas. Again based on production data, we also found that flaring occurred continuously on at least one well on the Buffalo Pad for the first 21 months of its existence.40

This finding is alarming and highlights the need for waste minimizations plans that force companies to demonstrate how they are going to capture gas from the start of drilling operations. The Buffalo Pad also shows how providing flexibility to companies regarding how they can comply with flaring volume limits can have the unintended consequence of facilitating excessive flaring, despite the fact that other wells on the same leasehold are capturing the majority of associated gas. This underscores the importance of calculating compliance with flaring limits on a well-by-well basis, rather than on a lease, unit, or CA basis. Operations on the Buffalo Pad also show, however, that a company can comply with flaring limits provided by BLM’s proposed rule, despite flaring gas on the leasehold for 35 of 36 months. Specifically, it is likely that the Buffalo Pad would have complied with BLM’s proposed flaring volume limits presently set out by the draft rule during seven months (February 2013, July 2013, August 2013, September 2013, October 2013, November 2013, and November 2014). This is despite the fact that in three of those seven months (September 2013, October 2013, and November 2013) flaring was occurring at five out of ten wells on the leasehold.

The Buffalo Pad also further highlights the need for BLM to deny, defer, or condition the approval of APDs with production or other limitations, such as phased development, to prevent waste if capture infrastructure is not yet available for a given leasehold. In the case of the Buffalo Pad, it is clear that when the wells were drilled there was not sufficient infrastructure to capture associated gas, which operated to cause waste through flaring.

II. **CASE EXAMPLE 2: MOLLET WELL IN THE EAST TIOGA FIELD OF NORTH DAKOTA**

Our second case example is the Mollet well. We provide this example because a landowner and member of the Northwest Landowners Association in North Dakota testified in 2015 at a legislative hearing at the North Dakota Legislature about a well called the “Mollet Well” that had been flaring, apparently without interruption, for seven years.41 Here, we corroborate the landowners’ testimony to highlight why BLM should scrutinize state and tribal requests for a variance and ensure strong criteria to govern when a variance is appropriate.

The Mollet well, drilled in May 2008, is owned by Hess Corporation. Production data from the North Dakota Department of Mineral Resources reflected in Figure 2 below shows that the Mollet well has been almost flaring associated gas virtually nonstop since it was drilled in 2008, aside from a few months where it produced little oil and gas. The Mollet well, like the Buffalo

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40 North Dakota Industrial Commission Well Numbers 23093-23102 Production History Data, also see figure 1
Pad, is in the established Tioga Field, less than 15 miles away from the Hess Corporation Tioga Gas Plant, as illustrated by Figure 3 below. The Mollet well has nonetheless been provided flaring exemptions on a yearly basis by the North Dakota Industrial Commission, allowing it to flare 100% of the associated gas produced by the well over its 7+ year lifetime, with no curtailment required by North Dakota regulators.

In April 2015, the Western Environmental Law Center and Western Organization of Resource Councils submitted an open record request to the North Dakota Industrial Commission (“NDIC”) in order to obtain information on all of the wells that the NDIC has curtailed since the start of its “Flaring Policy,” information we depict in Figure 4 below. The Mollet well was not on the list of wells that the NDIC curtailed. The fact that North Dakota regulators curtailed some wells but not the Mollet well suggests inconsistencies regarding North Dakota’s enforcement of its flaring policy.

**FIGURE 1:** Flaring on the Buffalo Pad

**Key:**
- Red = Flaring
- Green = Not Flaring
- Blank = well not drilled yet

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**FIGURE 2:** Flaring from the Mollet Well

**Key:**
- Red = Flaring
- Green = Not Flaring
- Purple = No oil production
- Blue = Oil production <10 Bbl
- Blank = well not drilled yet
FIGURE 3: Map showing the driving distance between an approximate location of Mollet well based on its location in the East Tioga Field to the Tioga Gas Plant owned by Hess. Driving distance is 13.3 miles.
**FIGURE 4:** Wells curtailed by NDIC in 2015 due to wells flaring in excess of NDIC Order # 24665

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