ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements
Final Rule
DOI-BLM-WO310-2018-0001-EA

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1. Introduction

This Environmental Assessment (EA) examines the environmental impacts that may occur as a result of rescinding or revising certain requirements imposed by the Bureau of Land Management's (BLM) 2016 rule, "Waste Prevention, Production Subject to Royalties, and Resource Conservation" ("2016 rule") (See 81 FR 83008 (Nov. 18, 2016)). The 2016 rule applied nationwide to onshore Federal and Indian oil and gas development. The provisions of the 2016 rule relevant to this EA pertain to the loss of Federal and Indian natural gas through venting, flaring, and leaks.

The analysis in this EA examines the potential environmental impacts from the BLM's regulatory action to rescind or revise portions of the 2016 rule. This document is not intended to analyze site-specific effects that may result from venting and flaring activities. Potential impacts caused by specific venting and flaring operations will be analyzed as required at more appropriate levels of the BLM's decision-making process.

1.1 Background

The BLM's onshore oil and gas management program is a major contributor to our nation's oil and gas production. The BLM manages more than 245 million acres of land and 700 million acres of subsurface estate, making up nearly a third of the nation's mineral estate. In fiscal year (FY) 2016, sales volumes from Federal onshore production lands accounted for 9 percent of domestic natural gas production, and 5 percent of total U.S. oil production. Over $1.9 billion in royalty was collected from all oil, natural gas, and natural gas liquids transactions in FY 2016 on Federal and Indian lands. Royalties on production are shared with States or distributed to tribes and Indian allottee owners.

The BLM employs a tiered decision-making process when providing for the development of Federal oil and gas resources. First, the BLM develops land use plans (referred to as Resource Management Plans, or RMPs), which serve as the basis for all resource management decisions the BLM makes, including the leasing and production of Federal oil and gas resources. Establishment of an RMP requires preparation of an Environmental Impact Statement (EIS). In areas where oil and gas resources are located, the EIS that is prepared to support the RMP analyzes oil and gas development related impacts that may be expected to occur over the life of an RMP (typically 20 years). The RMP identifies terms and conditions under which the BLM would allow oil and gas development to occur in order to protect other resource values. Those terms and conditions may include mitigation measures that are implemented as stipulations incorporated into oil and gas leases. If necessary, certain lands may be closed to oil and gas leasing altogether when such use is incompatible with other planned uses. In addition to compliance with the National Environmental Policy Act (NEPA), the BLM must comply with the Endangered Species Act (ESA), 16 U.S.C. 1531 *et seq*., and the National Historic Preservation Act (NHPA), 54 U.S.C. 300101 *et seq*., and other applicable laws and regulations.

Before oil and gas activities may occur on Federal lands, interested parties must obtain a lease from the BLM. Oil and gas leases are acquired through an auction-style sale process in which

interested parties typically identify tracts of land that they would like to see leased. The BLM will conduct a preliminary evaluation to first determine whether the lands nominated for oil and gas leasing are under Federal jurisdiction and are open to leasing in accordance with the applicable RMP. The BLM will then conduct a second tier of NEPA review – typically through an EA – to address potential impacts that could be caused by oil and gas development within the nominated lease area. The NEPA review conducted at the leasing stage tiers to the EIS prepared for the RMP. If the BLM's analysis determines that the nominated tracts are suitable for leasing, the BLM would offer the tracts for lease during a competitive oil and gas lease sale auction. If any of the tracts are not bid upon during the lease sale auction, those tracts become available for non-competitive leasing by the first qualified applicant for a two year period that begins on the first business day following the last day of the lease sale. In addition to compliance with NEPA, the BLM also complies with NHPA and ESA at the leasing stage.

When Indian lands are involved, the tribe or individual Indian mineral owner and the Department of the Interior's ("DOI" or "the Department") Bureau of Indian Affairs (BIA) are responsible for land use planning and oil and gas leasing. Nonetheless, the BLM often serves as a cooperating agency during the development and the environmental review for such actions. Moreover, pursuant to delegations from the Secretary of the Interior (Secretary) and BIA regulations, the BLM regulates oil and gas operations on trust and restricted Indian lands, applying the same operating regulations that apply on Federal lands.

The procedures followed when issuing leases to develop Indian oil and gas resources may be similar to, or different from, the leasing process used for Federal lands, depending upon a number of different factors. For example, when tribal oil and gas resources are leased under the authority of the Indian Mineral Leasing Act of 1938 (IMLA), 25 U.S.C. 396a *et seq*., the BIA typically conducts a competitive lease sale process that shares many similarities with the leasing process for Federal lands. In contrast, the Indian Mineral Development Act of 1982 (IMDA), 25 U.S.C. 2101 *et seq.*, allows Indian mineral owners to forego the competitive auction-style leasing process and negotiate directly with potential operators for agreements to develop their oil and gas resources.[1] However, for both IMLA and IMDA authorized leases and agreements, the approval of the Indian mineral owner and the BIA or the DOI is required.[2] Much like with oil and gas leasing actions involving Federal lands, authorizations pursuant to the IMLA and the IMDA to develop Indian oil and gas resources are subject to compliance with applicable Federal statutes, including NEPA. The procedures for issuing leases and other development agreements for Indian oil and gas resources are outlined in the BIA's regulations at 25 CFR parts 211 (IMLA leasing), 212 (agreements for allotted lands), and 225 (IMDA agreements).

After a lease is issued, oil and gas operators must seek approval from the BLM to perform drilling, completion, and production operations for leases on both Federal and Indian lands by submitting an Application for Permit to Drill (APD). At the APD stage, the BLM performs

[1] The IMDA authorizes Indian tribes and individual Indian mineral owners to enter into leases, as well as other types of agreements, to explore for and develop their oil and gas resources. 25 U.S.C. 2102(a). Indian allotted lands may also be leased for mineral development pursuant to 25 U.S.C. 396.

[2] In certain situations, IMDA agreements may only be approved by the Secretary of the Interior or the Assistant Secretary (of the Interior) for Indian Affairs. *See* 25 U.S.C. 2103(d) and 25 CFR 225.3.

another tier of NEPA review for an operator's proposal to develop Federal and Indian oil and gas resources, which may be for a single well, a group of wells, or for an entire field. For large field development projects, EISs are generally prepared and provide a refined level of site-specific detail at a broad scale. Proposals to drill a single well or a small group of wells may require an EIS or an EA tiered to an EIS prepared for a land use plan or a leasing decision. In all cases, the environmental analysis will identify potential impacts from an operator's proposed action. Through the analysis performed, the BLM will develop any necessary conditions of approval to mitigate those potential impacts, which typically would then be attached as a part of the terms of the approved APD that the operator must follow. Operators are not permitted to conduct surface disturbing operations to develop oil and gas resources from a Federal or Indian oil and gas lease without an approved APD. At the APD stage, the BLM must again assure compliance with NEPA, NHPA and ESA, and other applicable Federal laws and regulations.

The venting or flaring of some natural gas is a practically unavoidable consequence of oil and gas development. Whether during well drilling, production testing, well purging, or emergencies, it is not uncommon for gas to reach the surface that cannot be feasibly used or sold. When this occurs, the gas either must be combusted ("flared") or released to the atmosphere ("vented"). Depending on the circumstances, operators may also flare natural gas on a longer-term basis from production operations, predominantly in situations where an oil well co-produces natural gas (or "associated gas") in an exploratory area or a field that lacks adequate gas-capture infrastructure to bring the gas to market. Still other venting or flaring of gas from production equipment may occur by design and as a substitute for other power-generated facilities at the wellsite.

In response to oversight reviews[3] and in recognition of increased flaring from Federal and Indian leases, the BLM developed the 2016 rule, which was published in the *Federal Register* on November 18, 2016. See 81 FR 83008 (Nov. 18, 2016). The rule replaced the BLM's existing policy at that time, Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases, Royalty or Compensation for Oil and Gas Lost (NTL-4A), which had been in place for more than 30 years.

The 2016 rule was intended to: Reduce waste of natural gas from venting, flaring, and leaks during oil and natural gas production activities on onshore Federal and Indian leases; clarify when produced gas lost through venting, flaring, or leaks is subject to royalties; and clarify when oil and gas production may be used royalty-free on-site. The 2016 rule became effective on January 17, 2017. However, many of the rule's provisions that were expected to cause the most substantial compliance burdens were to be phased-in over time, becoming operative on January 17, 2018.

Immediately after the 2016 rule was issued, petitions for judicial review of the rule were filed by industry groups and States with significant BLM-managed Federal and Indian minerals. The petitioners in this litigation are the Western Energy Alliance (WEA), the Independent Petroleum

[3] GAO (2010). Federal oil and gas leases: Opportunities exist to capture vented and flared natural gas, which would increase royalty payments and reduce greenhouse gases (GAO-11-34). October 2010. Available at http://www.gao.gov/new.items/d1134.pdf.

Association of America, and the States of Wyoming, Montana, North Dakota, and Texas. This litigation has been consolidated and is now pending in the U.S. District Court for the District of Wyoming. *Wyoming v. U.S. Dep't of the Interior*, Case No. 2:16-cv-00285-SWS (D. Wyo.). Petitioners assert that the BLM was arbitrary and capricious in promulgating the 2016 rule and that the rule exceeds the BLM's statutory authority. Shortly after filing petitions for judicial review, petitioners filed motions for a preliminary injunction, seeking a stay of the rule pending the outcome of the litigation. These motions were denied by the court on January 16, 2017, and the rule went into effect the following day.

Although the court denied the motions for a preliminary injunction, it did express concerns that the BLM may have usurped the authority of the Environmental Protection Agency (EPA) and the States under the Clean Air Act, and questioned whether it was appropriate for the 2016 rule to be justified based on its environmental and societal benefits, rather than on its resource conservation benefits alone.

In the Regulatory Impact Analysis (RIA) prepared for the 2016 rule, the BLM estimated that the requirements of the 2016 rule would have imposed compliance costs, not including potential cost savings for product recovery, of approximately $114-279 million per year (2016 RIA at 4). The BLM had concluded that while many of the requirements were consistent with or very similar to EPA regulations for new sources, current industry practice, or similar to the requirements found in some existing State regulations, the 2016 rule would have been an economically significant rule with estimated costs and benefits exceeding $100 million per year (2016 RIA at 138).

Comments received from many oil and gas companies and trade associations representing members of the oil and gas industry suggested that the BLM's proposed and final rules were unnecessary and would have caused substantial harm to the industry. During the litigation following the issuance of the 2016 rule, the petitioners argued that the BLM underestimated the compliance costs of the final rule and that the costs would drive the industry away from Federal and Indian lands, thereby reducing royalties and harming State and tribal economies. The petitioners also argued that the final rule would have caused marginal wells to be shut-in, thereby ceasing production and reducing economic benefits to local, State, tribal, and Federal governments.

On March 28, 2017, the President issued Executive Order (EO) 13783, entitled, "Promoting Energy Independence and Economic Growth." Section 7(b) of EO 13783 directs the Secretary of the Interior to review four specific rules, including the 2016 rule, for "consistency with the policy set forth in section 1 of [the] order and, if appropriate…publish for notice and comment proposed rules suspending, revising, or rescinding those rules." Section 1 of EO 13783 states that "[i]t is in the national interest to promote clean and safe development of our Nation's vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation."

To implement EO 13783, Secretary of the Interior Ryan Zinke issued Secretarial Order (SO) No. 3349, entitled, "American Energy Independence," on March 29, 2017. Among other things, SO No. 3349 directs the BLM to review the 2016 rule to determine whether it is fully consistent with the policy set forth in Section 1 of EO 13783.

On October 5, 2017, the BLM published in the *Federal Register* a proposal to temporarily suspend or delay certain requirements contained in the 2016 rule until January 17, 2019, thereby allowing the BLM additional time to review the 2016 rule for possible revision or rescission. After a public comment period, the BLM finalized this rule on December 8, 2017. 82 FR 58050 (Dec. 8, 2017). This temporary suspension or delay of certain requirements was intended to avoid the imposition of compliance costs on operators for requirements that may be rescinded or significantly revised in the near future. Subsequently, the U.S. District Court for the Northern District of California enjoined the Suspension Rule. *State v. Bureau of Land Management*, 286 F. Supp. 3d 1054 (N.D. Cal. 2018). Following that injunction, the U.S. District Court for the District of Wyoming issued an order staying implementation of the "phase-in" provisions of the 2016 rule. *Wyoming v. U.S. Dep't of the Interior*, 2:16-CV-0285-SWS (D. Wyo.) (April 4, 2018).

On February 22, 2018, the BLM published a proposed rule that would rescind certain provisions of the 2016 rule and substantially revise others in a manner that would essentially reinstate the requirements of NTL-4A, with the modification that the BLM would defer to State and tribal regulations to determine when operators should owe royalties on the flaring of associated gas. See 83 FR 7924 (Feb. 22, 2018).

1.2 Purpose and Need for the Proposed Action

Pursuant to EO 13771, EO 13783, and SO 3349, the BLM has found that many provisions of the 2016 rule would have added regulatory burdens and substantial compliance costs that unnecessarily encumber energy production, constrain economic growth, and prevent job creation.

The purpose of and need for the proposed action analyzed in this EA is to eliminate unnecessary regulatory requirements in order to more efficiently manage oil and gas operations on Federal and Indian lands. The proposed action is needed at this time to balance the BLM's interest in managing the risks of venting and flaring operations on Federal and Indian lands with the compliance burden on the industry in light of State and tribal regulations, industry practices, and other factors. The proposed action is needed to reduce the administrative burden and implementation costs of the 2016 rule, and to ensure that operators do not incur substantial and unnecessary compliance costs associated with regulatory requirements.

1.3 Scoping and Identification of Issues

The primary environmental issues associated with venting and flaring during oil and gas production were discussed in the EA that accompanied the 2016 rule (the "2016 EA"). *See generally* Environmental Assessment: Waste Prevention, Production Subject to Royalties, and Resource Conservation (DOI-BLM-WO-WO2100-2017-001-EA) (Nov. 10, 2016).[4] In analyzing the impacts of the 2016 rule, the 2016 EA focused on:

[4] For ease of reference, the 2016 EA is attached to this EA as Appendix B.

- Climate Change;
- Air Quality;
- Noise and Light;
- Wildlife Resources;
- Threatened and Endangered Species and Critical Habitat; and
- Socioeconomic Effects.

Internal scoping by the BLM for the current proposed action indicated that the key issues analyzed in the 2016 EA remain the key issues to analyze for the current proposed action. As such, this EA follows the 2016 EA by analyzing the environmental impacts of the proposed action with a focus on those key issues identified above.

The BLM made a draft of this EA available to the public for review and comment during the 60-day public comment period for the proposed revision of the 2016 rule (83 FR 7924 (Feb. 22, 2018)). The BLM received a number of comments on the draft EA. The BLM has summarized and responded to these comments in a separate Response to Comments document, which will be published at www.regulations.gov. Although this EA has been revised since being published in draft form, the BLM did not make substantive changes to this EA in response to the comments received.

2. Proposed Action and Alternatives

This EA examines the following alternatives:

1. Alternative A – No Action. Under this alternative, the BLM would continue implementation of the 2016 rule in its entirety, including the "capture percentage," flaring measurement, pneumatic equipment, storage tank, and LDAR provisions whose implementation is currently stayed by court order.

2. Alternative B – Rule Revision (Proposed Action). Under this alternative, the BLM would revise the existing regulatory requirements of 43 CFR part 3160 and 3170 and subparts 3162 and 3179 contained in the 2016 rule and replace them with requirements similar to those contained in NTL-4A, while deferring to the State and tribal regulations for routine flaring of associated gas.

3. Alternative C – Revise Rule, but Retain Gas-Capture Requirements. Under this alternative, the BLM would retain the gas-capture and associated requirements of 43 CFR 3179.7-.10 while rescinding the operational and equipment requirements of 43 CFR 3179.101-.105, .201-.204, and .301-.305, which primarily address low-pressure venting.

2.1 Description of Alternative A: No Action

The No-Action alternative would maintain the regulatory requirements of 43 CFR part 3170,

subparts 3178 and 3179, as well as the amendments to 43 CFR parts 3100 and 3160, contained in the 2016 rule as published in the *Federal Register* on November 18, 2016 (81 FR 83008). All of these requirements would apply to Federal and Indian (other than Osage Tribe) oil and gas leases; the requirements in subparts 3178 and 3179 would apply to federally approved units and communitization agreements as well.

2.2 Description of Alternative B: Rule Revision (Proposed Action)

Under Alternative B, the BLM would revise the existing regulatory requirements of 43 CFR parts 3160, subpart 3162, and part 3170, subpart 3179, and replace them with requirements similar to those contained in NTL-4A. The final rule will address routine flaring of associated gas by deferring to State or tribal regulations where possible and employing a standard, similar to the NTL-4A standard, for royalty-free flaring where no applicable State or tribal regulation exists. The following provisions would be removed in their entirety:

- Waste Minimization Plan (§ 3162.3-1);
- Gas Capture Requirements (§ 3179.7);
- Alternative Capture Requirement (§ 3179.8);
- Other Waste Prevention Measures (§ 3179.11);
- Coordination with State Regulatory Authority (§ 3179.12);
- Well Drilling and Completions (§§ 3179.101 and 3179.102);
- Pneumatic Controllers and Pumps (§§ 3179.201 and 3179.202);
- Storage Vessels (§ 3179.203);
- Leak Detection and Repair (§§ 3179.301 to 3179.305); and
- State or Tribal Requests for Variances (§ 3179.401).

The following requirements in the 2016 rule would be modified and/or replaced with requirements that are similar to those that were in NTL-4A:

- Gas-capture requirements listed above would be revised to conform with policy similar to that found in NTL-4A;
- Downhole well maintenance and liquids unloading requirements; and
- Measuring and reporting volumes of gas vented and flared.

The remaining requirements in the 2016 rule would either be retained, modified only slightly, or removed, but the impact of the change would be small relative to the items listed previously.

Even though the BLM would not implement the 2016 rule requirements to capture additional natural gas, reduce the waste of natural gas from venting and flaring operations relative to the amount vented or flared under NTL-4A, or reduce leaks that may occur during oil and natural gas production activities on onshore Federal and Indian leases, the rule revision would not leave venting, flaring, and leaks unregulated. States with the most significant BLM-managed oil and gas production currently have regulations in place that restrict or limit the waste of oil and gas resources and the flaring of natural gas. Summaries of these State regulations can be found in the RIA for the Proposed Action (Section 2.8), as well as a separate Information Memorandum,

both of which are available on www.regulations.gov. State laws and regulations apply on Federal lands, except when they are preempted by Federal law. If the requirement of a State regulation is more stringent than that of a Federal regulation, the operator would comply with both State and Federal requirements by meeting the more stringent State requirement.

In addition, the EPA's New Source Performance Standards (NSPS) subparts OOOO and OOOOa[5] regulate pneumatic controllers, storage tanks, gas wells completed using hydraulic fracturing, pneumatic pumps, fugitive emissions from well sites and compressor stations, and oil wells completed using hydraulic fracturing.

Some tribes with oil and gas resources have also engaged in the regulation of venting and flaring on their lands. The Department of the Interior encourages tribes to exercise their sovereignty over their lands and mineral resources, which includes the regulation of venting and flaring operations.

Finally, the BLM notes that, under the final rule, the BLM will retain regulations imposing royalties on "avoidably lost" gas, thereby maintaining a financial incentive for operators to limit venting and flaring.

See Appendix A for a section-by-section discussion of the Proposed Action.

2.3 Description of Alternative C: Retain Gas Capture Requirements

Under this alternative, the BLM would retain the gas-capture and associated requirements of 43 CFR 3179.7-.10 while rescinding the operational and equipment requirements of 43 CFR 3179.101-.105, .201-.204, and .301-.305, which primarily address low-pressure venting. All of the regulatory requirements under Alternative C would apply to Federal and Indian (other than Osage Tribe) oil and gas leases as well as federally approved units and communitization agreements.

2.4 Alternatives Considered but Eliminated from Further Analysis

The BLM considered additional alternatives for waste-minimization plans, the gas-capture requirements, and the requirements aimed at reducing venting. These additional alternatives were eliminated from further consideration because they do not meet the purpose and need of the proposed action. Specifically, pursuing these alternatives would not eliminate all unnecessary

[5] In 2012, the EPA finalized Oil and Natural Gas Sector: NSPS, which established standards for EPA's regulation of Volatile Organic Compound (VOC) emissions from "new", "reconstructed", or "modified" sources in the oil and natural gas sectors. In 2016, the EPA finalized NSPS 40 CFR part 60, subpart OOOOa, which addresses additional sources of emissions from new, reconstructed, and modified sources in the oil and natural gas sector (81 FR 35824). The EPA has recently proposed to delay the fugitive emissions, pneumatic pumps at well sites, and professional engineer certification for close vent system requirements for two years (82 FR 27645 and 82 FR 27641). The EPA has not finalized this proposal. The EPA has already begun a process to reconsider the final OOOOa rule (82 FR 25730 (June 5, 2017)).

regulatory burdens on onshore oil and gas development. The alternatives considered but eliminated from further analysis are as follows:

Waste Minimization Plans (43 CFR 3162.3-1) – The BLM considered streamlining the waste-minimization plan requirement by simply requiring the operator to certify that it contacted a midstream company or attest that it considered a checklist of factors. The BLM found that even a streamlined waste-minimization plan would impose unnecessary regulatory burdens because it would be duplicative of State requirements in the States with the most flaring and duplicative of other information-based safeguards in the flaring regulations of a number of other States.

Gas-Capture Requirements Aimed at Reducing Flaring (43 CFR 3179.7-8) – The 2016 rule requires the operator to meet gas-capture targets, which increase over time. The operator may flare a certain volume of gas per well ("flaring allowable"), which decreases over time. The operator calculates its capture percentage by averaging production and flaring across wells in a lease, county, or State. Excess flaring is royalty bearing and the operator could be subject to assessments, penalties, shut-in or lease cancellation (enforcement mechanisms provided for outside of subpart 3179). The BLM considered retaining the capture percentage framework, but adjusting the capture percentages and flaring allowables. Ultimately, the BLM has chosen to reduce regulatory burdens by deferring to State restrictions on flaring rather than maintaining the gas-capture requirements and modifying the capture percentages and/or flaring allowables. In any event, the BLM believes that its analysis of Alternatives A and C explain the likely environmental impacts of retaining any capture target scheme of sufficient stringency to alter operator flaring practices.

Operational and Equipment Requirements Aimed at Reducing Venting (43 CFR 3179.101-.105, .201-.204, and .301-.305) – The 2016 rule requires operators to meet standards by replacing or modifying production equipment or operations, covering: Well drilling and completions, pneumatic controllers and pumps, storage tanks, liquids unloading, and leak detection and repair. The BLM considered limiting the scope of these provisions to wells that sell gas to market, wells that would receive positive returns from compliance, or wells that are not marginal. The BLM concluded that, in light of analogous EPA and State regulations, such an approach would not meet its goal of eliminating unnecessary regulatory burdens.

3. Affected Environment

This section describes the existing baseline condition of the human environment that may be affected by implementing the Proposed Action (Alternative B). In large part, this section summarizes and incorporates-by-reference the more detailed discussion of the affected environment contained in the EA for the 2016 rule. The 2016 EA is attached as Appendix B for reference. Because the 2016 EA was signed on November 10, 2016, and there have been no significant environmental changes since that time, the BLM believes that the description of the affected environment in the 2016 EA remains accurate and adequate for analyzing the environmental impacts of regulatory actions pertaining to venting and flaring during Federal and Indian oil and gas production.

The BLM is incorporating-by-reference the explanation of the affected environment found in Section 3 of the 2016 EA (excluding section 3.3, which discussed the existing regulatory framework at the time).[6] Section 3 of the 2016 EA broadly described the environment in which BLM-administered oil and gas leases affected by the 2016 rule and the Proposed Action are located. Section 3 also described existing trends related to environmental impacts of venting and flaring operations on Federal and Indian oil and gas leases. Section 3 explained that the BLM manages hundreds of millions of acres of public lands and mineral estate and that lands managed by the BLM are extraordinarily diverse. The BLM manages these lands for a variety of resource values and uses, including recreation, conservation, mining, livestock grazing, rights-of-way, and oil and gas development. The BLM oversees the development of Federal mineral resources in 32 States across the country; however, the majority of BLM-administered oil and gas leases are located in the West.

Section 3.2 of the 2016 EA explained that the venting and flaring of natural gas on Federal and Indian oil and gas leases generally occurs during drilling and production activities or during operation of production equipment. Table 2 in the 2016 EA listed and explained the following primary sources of venting and flaring on BLM-administered oil and gas leases: Gas flaring from production operations (including associated gas); well completions and workovers; pneumatic controllers; pneumatic pumps; liquids unloading; oil and condensate storage tanks; and leaks. Tables 4a and 4b in the 2016 EA provide estimates of the amount of natural gas that was vented or flared from BLM-administered leases in 2014.

Section 4.1 of the 2016 EA provided a detailed discussion of how venting and flaring from Federal and Indian oil and gas leases relates to climate change, air quality, noise and light pollution, and threatened and endangered species and critical habitat.[7] The BLM is hereby incorporating that discussion by reference, with the following updates and clarifications concerning climate change.

First, the 2016 EA references certain documents that have since been rescinded, in particular the 2013 President's Climate Action Plan, the subsequently issued Climate Action Plan: Strategy to Reduce Methane Emissions (March 2014), and the Council on Environmental Quality's climate change guidance, entitled "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions." All three of these documents were rescinded, or ordered to be rescinded, by the President in EO 13783, "Promoting Energy Independence and Economic Growth" (March 28, 2017). Accordingly, this EA does not adopt any of the conclusions or methodological approaches taken by these rescinded documents.

Second, the 2016 EA should not be interpreted to suggest that there are known climate change effects from reducing greenhouse gas (GHG) emissions by implementing the 2016 rule. To clarify, while the 2016 EA includes modeled assessments of warming trends and associated climate impacts at regional, national, and global levels (relying in particular on the U.S. Global Change Research Program's 3rd National Climate Assessment), there are no scientific tools or methodologies that can reliably predict the degree of impact that implementing the 2016 rule would have on global or regional climate change or on changes to biotic and abiotic systems that

[6] Appendix B, pp. 15-23.

[7] Appendix B, pp. 26-35.

accompany climate change. As discussed in Appendix Section 7.2 of the RIA for the BLM's revision of the 2016 rule, there are a number of significant uncertainties involved in estimating the climate impacts of methane emissions. Some uncertainties pertain to aspects of the natural world, such as quantifying the physical effects of GHG emissions on Earth systems. Other sources of uncertainty are associated with current and future human behavior and well-being, such as population and economic growth, GHG emissions, the translation of Earth system changes to economic damages, and the role of adaptation. This EA acknowledges the potential impacts of the Proposed Action and Alternatives on climate change and analyzes these impacts in a manner that is both consistent with the analysis of climate impacts in the EA for the 2016 rule and within the constraints imposed by sound methodology.

Upon the promulgation of the 2016 rule, there was a change in the regulatory framework governing venting and flaring from BLM-administered oil and gas leases. The 2016 rule replaced NTL-4A, which had been in effect for more than 30 years and was explained in Section 3.3 of the 2016 EA.

The promulgation of the 2016 rule represented the adoption of Alternative C from the 2016 EA. Subject to the caveats previously explained, the BLM is incorporating-by-reference the 2016 EA's analysis of the expected environmental impacts of the 2016 rule into its assessment of the baseline environment.[8] Because many of the 2016 rule's requirements relating to venting and flaring have not yet gone into effect (see Section 1.1, Background, of this EA), an assessment of the expected impacts, as opposed to the realized impacts, of the 2016 rule is appropriate.

The 2016 EA detailed the anticipated impacts of the 2016 rule in Section 4.3. The 2016 EA explained that the 2016 rule, through various prohibitions and requirements, was expected to reduce the amount of natural gas vented, leaked, and flared from Federal and Indian oil and gas leases, units, and communitized areas in comparison to the amount vented, leaked, and flared under NTL-4A. This reduction in venting and flaring would reduce the release of various air pollutants/pollutant precursors, hazardous air pollutants (HAPs), and GHGs. The reduction in flaring would reduce noise and light pollution, lessening the impacts of oil and gas development on nearby communities, wildlife, and recreationists.

With respect to climate change, the 2016 EA estimated that the 2016 rule would have the beneficial impact of reducing methane emissions by between 175,000 and 180,000 tons per year (tpy). The 2016 rule was also expected to have an adverse impact on climate change, by generating additional GHG emissions of about 12,800 tpy of carbon dioxide (CO_2) emissions due to operators' efforts to comply with new requirements for gas capture. Overall, the 2016 EA expected the 2016 rule to reduce GHG emissions and have a beneficial impact on climate change.

With respect to air quality, the 2016 EA determined that the 2016 rule would cause a reduction in the amount of volatile organic compounds (VOC) and HAPs released as a result of BLM-regulated oil and gas development. The 2016 EA found that the reduction in VOCs and HAPs would be driven almost entirely by the venting prohibition, as flaring does not release VOCs or HAPs in substantial quantities. The 2016 EA also explained that, because the 2016 rule would

[8] Appendix B, pp. 62-74.

generate additional truck traffic, the 2016 rule would generate some additional releases of air pollutants. Overall, however, the 2016 EA expected the 2016 rule to have a beneficial impact on air quality.

With respect to noise and light pollution, the 2016 EA predicted that the gas-capture and flaring-limit requirements of the 2016 rule could decrease the size, number, frequency, duration, and intensity (gas volume) of flares. This reduction in flaring would reduce noise and light pollution, thereby having a beneficial impact on nearby dwellings and residences, recreationists, and wildlife resources. However, because the 2016 rule's flaring limits allowed operators to average their flaring across a county or State, the 2016 EA acknowledged that the reduction in flaring might not be geographically uniform and that some areas might continue to see high (or higher) levels of flaring while others might see substantial reductions.[9] The 2016 EA also recognized that the 2016 rule could result in the addition of more compressor stations and other equipment, which could increase noise pollution. However, these installations would be subject to site-specific review by representatives of the appropriate BLM field office, and would likely be placed in areas far from dwellings, to the extent possible. The 2016 EA also noted that the BLM often utilizes mitigation measures, such as sound baffles and flare screening to reduce impacts in especially sensitive areas; the use of these techniques could be expanded to reduce the amount of noise and light pollution from flares or equipment.

With respect to wildlife resources, the 2016 EA stated that the 2016 rule was expected to benefit wildlife indirectly through beneficial impacts to air quality, climate change, and noise and light pollution. However, the 2016 EA also noted potential adverse impacts from an increase in surface disturbance and habitat fragmentation resulting from an accelerated development of gathering-line infrastructure in response to the rule's gas-capture requirements. Potential adverse impacts on wildlife resources from increased truck traffic and the addition of flare devices to storage vessels was also noted, but not measured. With respect to federally listed threatened and endangered species and critical habitat, the 2016 EA explained that the BLM would continue to review proposed oil and gas production activities for compliance with applicable laws, including the ESA. The BLM determined that the 2016 rule may affect, but is not likely to adversely affect, listed species or their associated designated critical habitats.

With respect to the socioeconomic environment, the 2016 EA listed each land use plan that contains a detailed description of the socioeconomic baseline affecting the human environment within the planning area. This includes economic constraints to development as well as potential health concerns related to land uses with a focus on minority and low-income populations living near oil and gas operations. The BLM conducted an RIA to estimate the costs and benefits of the 2016 rule.

The foregoing discussion establishes the existing baseline condition of the human environment that may be affected by implementing the Proposed Action (Alternative B). Because the baseline incorporates the expected effects of the 2016 rule, the environment under the No-Action Alternative (Alternative A) is treated as indistinct from the baseline environment.

[9] Appendix B, p. 70.

4. Environmental Effects

This chapter evaluates the direct and indirect effects on the human environment that may occur as a result of implementing the Alternative A (No-Action Alternative), Alternative B (Proposed Action), and Alternative C.

The Council on Environmental Quality (CEQ) NEPA implementing regulations at 40 CFR 1508.8(a) define "direct effects" as "those effects which are caused by the action and occur at the same time and place."

The CEQ's regulations at 40 CFR 1508.8(b) define "indirect effects" as those effects "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems."

When considering the environmental impacts of the proposed regulatory action, the BLM considers the current environmental baseline as the implementation of the 2016 rule (Alternative A), and uses that baseline as the basis for measuring the impact of Alternatives B and C.

Independent of the BLM's proposed action, other Federal and State regulations affect both the baseline environment and the measured impact of the proposed action. For example, EPA regulations on oil and gas production under the Clean Air Act are expected to affect the current baseline environment. On June 3, 2016, EPA finalized a rule that went into effect on August 2, 2016.[10] The final rule established and updated NSPS for emissions of methane and VOCs from oil and gas production. The regulations are codified in 40 CFR part 60, subpart OOOOa.[11] These standards apply to new, modified, and reconstructed emissions sources in the oil and gas production sector. While these regulations target VOC emissions, they also require actions that reduce venting and leaks of gas. To the extent possible, the BLM has incorporated the other Federal and State regulations into its analysis of the baseline and proposed action environments.

There is overlap between the 2016 rule and the EPA rule with respect to several categories of new, modified, and reconstructed sources. Specifically, both rules could apply to oil well completions, and to new, modified, and reconstructed sources subject to LDAR requirements. Similarly, there is potential overlap between the 2016 rule and certain State regulations, including Colorado's LDAR requirements.[12] Where EPA and State regulatory overlap exists, the Proposed Action to revise the 2016 rule's requirements would not represent a change from the baseline environment. Because EPA regulations apply to new, modified, and reconstructed

[10] The EPA has recently proposed to delay the fugitive emissions, pneumatic pumps at well sites, and professional engineer certification for close vent system requirements for two years (82 FR 27645 and 82 FR 27641). The EPA has not finalized this proposal. The EPA has already begun a process reconsider the final OOOOa rule (82 FR 25730 (June 5, 2017)).

[11] *Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources*, Final Rule, 81 FR 35824 (June 3, 2016).

[12] In 2014, the Colorado Department of Public Health and the Environment Air Quality Control Division finalized a rule addressing venting and leaks from new and existing sources.

sources, the impacts of those regulations are expected to grow over time. Concomitantly, the impact of any revision or rescission of analogous requirements in the 2016 rule is expected to decline over time.

4.1 Direct and Indirect Effects of Alternative A

The No-Action Alternative assumes that the requirements of the 2016 rule would be implemented. By maintaining the provisions of the 2016 rule, the BLM would expect that the anticipated environmental effects presented in the 2016 EA (Alternative C)[13] would be realized. There would be no incremental direct or indirect effects relative to the baseline environment.

4.1.1 Climate Change

There would be no incremental direct or indirect effects on climate change associated with the No-Action Alternative, since that option does not alter the baseline environment. By not taking action, the BLM would maintain the expected reductions of vented and flared gas from Federal and Indian oil and gas leases and would maintain the expected overall reductions in the amount of GHGs released to the atmosphere. The BLM would maintain the estimated and relatively minor adverse impacts that are expected to be associated with the requirements in the 2016 rule. In the EA for the 2016 rule, the BLM described the relatively minor adverse impacts that the 2016 rule would have on climate change.[14] The BLM estimated additional amounts of CO_2 associated with the combustion of natural gas (as opposed to venting). These CO_2 emissions are estimated to be orders of magnitude smaller than the methane reductions expected. The BLM also estimated GHG emissions from additional vehicle traffic, due to increased use of trucking to transport natural gas liquids (NGLs) and due to the leak detection and repair requirements. The primary sources for these emissions are expected to be traffic, along with minimal amounts of natural gas lost during transfer operations.

Although Alternative A is anticipated to have positive effects on climate change because of reduced GHG emissions, the BLM notes that the actual effects of such reductions on global climate change cannot be reliably assessed at this time and thus are sufficiently uncertain as to be not reasonably foreseeable.

4.1.2 Air Quality

There would be no incremental direct or indirect effects on air quality associated with the No-Action Alternative, since that option does not alter the baseline environment. If the BLM were to select the No-Action Alternative, then it would ensure that the anticipated effects on air quality associated with the 2016 rule would be realized.

[13] Appendix B, pp. 62-74.

[14] Appendix B, pp. 63-66.

By not taking action, the BLM would maintain the expected reductions of vented and flared gas from Federal and Indian oil and gas leases and would maintain the expected reductions in the amount of VOCs and HAPs released, resulting in beneficial impacts to air quality and public health. The reductions in VOCs and HAPs are expected to be driven almost entirely by the venting prohibition; flaring does not release VOCs or HAPs in substantial quantities and the reduction in flaring has a much larger impact on CO_2 emissions, recreational activities, and noise and light pollution than on air quality.

By not taking action, the BLM would maintain the estimated and relatively small adverse impacts associated with the requirements in the 2016 rule. As explained in the 2016 EA,[15] the BLM expects that the 2016 rule would lead to additional air pollutant releases from increased truck traffic. The BLM concluded that these additional releases would be small relative to the overall reduction in air pollutants and that the adverse impacts from these emissions would be minimal (especially because the emissions will be geographically dispersed across BLM oil and gas producing regions nationwide).

4.1.3 Noise and Light Impacts

There would be no incremental direct or indirect effects on noise and light to dwellings, residences, and recreation associated with the No-Action Alternative, since that option does not alter the baseline environment. If the BLM were to select the No-Action Alternative, then it would expect that the anticipated effects on noise and light to dwellings, residences, and recreation associated with the 2016 rule would be realized.

By not taking action, the BLM would maintain the expected reductions of vented and flared gas from Federal and Indian oil and gas leases and would maintain the expected impacts on noise and light to dwelling, residences, and recreation. In the EA[16] for the 2016 rule, the BLM described how the rule would reduce the size, number, frequency, duration, and intensity (gas volume) of flares. This large-scale reduction in the routine flaring is expected to lead to less noise and light pollution, having a beneficial impact on nearby dwellings and residences.

By not taking action, the BLM would maintain the estimated and relatively small adverse impacts that are expected to be associated with the requirements in the 2016 rule. As explained in the 2016 EA, the BLM anticipated that the 2016 rule could lead to higher levels of localized noise and light pollution for some areas. In the long run, it could result in the addition of more compressor stations and other equipment, and thus increased noise pollution. However, these installations would be subject to site-specific review by representatives of the appropriate BLM field office and their impacts could be reduced through mitigation measures.

4.1.4 Wildlife Resources; Threatened and Endangered Species and Critical Habitat

There would be no incremental direct or indirect effects on wildlife resources or on threatened or endangered species and critical habitat with the No-Action Alternative, since that option does not alter the baseline environment. If the BLM were to select the No-Action Alternative, then it

[15] Appendix B, pp. 66-70.

[16] Appendix B, pp. 71-72.

would expect that the anticipated effects on wildlife associated with the 2016 rule would be realized.

The 2016 EA[17] stated that the 2016 rule was expected to benefit wildlife indirectly through beneficial impacts to air quality, climate change, and noise and light pollution. However, the 2016 EA also noted potential adverse impacts from an increase in surface disturbance and habitat fragmentation resulting from an accelerated development of gathering-line infrastructure in response to the rule's gas capture requirements. Potential adverse impacts from increased truck traffic and the addition of flare devices to storage vessels was also noted. With respect to threatened and endangered species and critical habitat, the 2016 EA explained that the BLM will continue to review proposed oil and gas production activities that will result in additional surface disturbance, as well as pipeline rights of way applications, for compliance with applicable laws, including the ESA. The BLM determined that the 2016 rule may affect, but is not likely to adversely affect, listed species or their associated designated critical habitats. Finally, the BLM notes that any effects on threatened and endangered species and critical habitat attributable to Alternative A's impacts on climate change are sufficiently uncertain as to be not reasonably foreseeable.

4.1.5 Socioeconomics

There would be no incremental direct or indirect socioeconomic effects with the No-Action Alternative, since that option does not alter the baseline environment. If the BLM were to select the No-Action Alternative, then it would expect that the socioeconomic effects associated with the 2016 rule would be realized. By not taking action, the BLM would maintain the expected reductions of vented and flared gas from Federal and Indian oil and gas leases and would maintain the expected overall reductions in the amount of GHGs released to the atmosphere.

Similarly, there would be no incremental direct or indirect effects on environmental justice, since the No-Action Alternative does not alter the baseline environment. By not taking action, the BLM would preserve the effects associated with the 2016 rule on minority and low-income populations. The EA[18] for the 2016 rule concluded that the 2016 rule would have a beneficial effect on minority and low-income population segment due the reductions in air pollutants.

However, the 2016 rule would affect existing wells, which are likely to be marginal and therefore less likely to support additional compliance cost associated with the LDAR requirements. The additional costs could cause operators to shut-in marginal wells, thereby ceasing production and reducing economic benefits to local, State, tribal, and Federal governments. The percentage of oil and gas wells classified as marginal is reportedly high. According to the Interstate Oil and Gas Compact Commission (IOGCC) 2015 report,[19] 69.1 and 75.9 percent of the nations' oil and gas wells, respectively, are marginal.

[17] Appendix B, pp. 72-73.

[18] Appendix B, pp. 73-74.

[19] IOGCC, "Marginal Wells: Fuel for Economic Growth. 2015 Report." Available at http://iogcc.ok.gov/Websites/iogcc/images/MarginalWell/MarginalWell-2015.pdf.

4.2 Direct and Indirect Effects of the Proposed Action (Alternative B)

Under the Proposed Action, operators are expected to continue their current operating practices, as they relate to venting and flaring, in a manner that is consistent with the BLM's requirements that will remain in effect as well as other applicable State and Federal regulations. The BLM would continue to administer its existing oil and gas regulations and prepare environmental documents under NEPA when making decisions allowing for the development of BLM-administered oil and gas resources. On a project-by-project basis, the BLM could, where appropriate, limit venting or flaring.

While the No-Action Alternative would result in an immediate reduction in the venting and flaring of Federal and Indian gas, the Proposed Action's impacts largely represent a return to the baseline prior to the 2016 rule, as described in the No-Action Alternative in the 2016 EA.[20] The Proposed Action is primarily expected to reverse those impacts previously estimated for the 2016 rule as described in Alternative C of the 2016 EA,[21] and result in a reduction in compliance costs, foregone cost savings from conserved gas, and foregone emissions reductions. With respect to the flaring of associated gas, revised § 3179.201 – which defers to State and tribal regulations in determining when flaring will be royalty-free – is expected to result in rates of flaring similar to those experienced under NTL-4A.

This section describes the environmental effects of the Proposed Action.

4.2.1 Climate Change

With the Proposed Action, the BLM expects that GHG emissions from vented and flared gas from existing sources on Federal and Indian leases would continue, but would be modulated to an undetermined degree by State requirements and voluntary[22] industry actions. Depending on the requirement, the GHG emissions from new, modified, and reconstructed sources may be covered by the EPA's NSPS subpart OOOO and subpart OOOOa regulations and would not contribute to a deviation from the baseline.

The BLM estimates that the Proposed Action would result in forgone methane emissions reductions of 175,000 to 180,000 tpy over the 10-year period of evaluation. The data for these estimates is derived from Table 19 in the 2016 EA.[23] Table 4a shows the forgone methane emissions reductions by requirements in Year 1. In the following years, these forgone emissions reductions would vary based on changes in oil and gas drilling rates, voluntary mitigation by industry, and the presence of State and Federal regulations requiring emissions reductions. The BLM notes that, because EPA's regulations apply to new and modified sources, their reach will expand over time to cover more and more operations on BLM-administered leases.

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[20] Appendix B, pp. 26-37.

[21] Appendix B, pp. 62-74.

[22] EPA organizes the National Gas Star Program and Methane Challenge designed to promote implementation of cost-effective technologies and practices to reduce methane. An example of voluntary industry action includes XTO Energy Inc.'s public statement that they are undertaking a 3-year plan to phase out high-bleed pneumatic devices and implementing an enhanced leak detection and repair program.

[23] Appendix B, p. 64.

According to the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2015, total U.S. methane emissions in 2015 were about 655.7 million metric tons (MMT) of carbon dioxide equivalent (CO_2 Eq.).[24] Therefore, we conclude that the forgone methane emissions reductions posed by the Proposed Action and estimated to occur in Year 1 represent about 0.61 percent of the total U.S. methane emissions in 2015.[25]

Table 4a: Estimated Forgone Methane Emissions Reductions by Requirement in Year 1 (in tons)[26]

Requirement	Methane Emissions
Capture Target Req.	NE
Pneumatic Controllers	18,000
Pneumatic Pumps	26,800
Liquids Unloading	33,700
Storage Tanks	7,100
LDAR	89,500
Total	**175,000**

With the No-Action Alternative, the BLM estimates that there would be additional GHG emissions associated with the increased use of trucking to transport NGLs, from losses of natural gas during transfer operations, and from the increased use of vehicles to conduct leak detection and repair activities. However, the Proposed Action would forgo, or avoid, these impacts. Therefore, the Proposed Action would result in the reduction in GHG emissions due to the reduced use of trucking to transport NGLs, the reduction in the use of vehicles to conduct leak detection and repair activities, and from avoiding the losses of natural gas during transfer operations. The BLM estimates these avoided GHG emissions to be about 12,800 tpy of CO_2 Eq. per year.[27]

Although the potential impacts of Alternative B in terms of GHG emissions are described here, the BLM notes that the actual effects of such emissions on global climate change cannot be reliably assessed and thus are sufficiently uncertain as to be not reasonably foreseeable.

4.2.2 Air Quality

The Proposed Action is expected to affect local air quality. Natural gas contains VOCs, which are precursors to ozone and particulate matter, and various toxic air pollutants, such as benzene.

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[24] *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1995-2015 – Executive Summary*, U.S. Environmental Protection Agency (April 13, 2017), pp. ES-6.

[25] We converted the BLM's estimate of additional methane emissions from the Preferred Alternative into metric tons (using a factor of 1.10231 short ton per metric ton) and then to MMT CO_2 Eq. using the EPA's formula in Annex 6 of the Inventory, available at https://www.epa.gov/sites/production/files/2017-02/documents/2017_annex_6.pdf.

[26] Numbers may not sum to total due to rounding.

[27] See Appendix B, p. 65.

These air pollutants affect the health and welfare of humans, as well as the health of plant and wildlife species.

In comparison to the No-Action Alternative, the Proposed Action would result in additional natural-gas losses, thereby creating forgone reductions of emissions of various air pollutants/pollutant precursors, HAPs, and GHGs. The BLM estimates that the Proposed Action would result in forgone VOC emissions reductions of 79,000 to 80,000 tpy over the 10-year evaluation period. The BLM also estimates that the Proposed Action would result in forgone HAP emissions reductions of 1,860 to 2,030 tpy over the 10-year evaluation period.[28] Those forgone reductions, in Year 1, are summarized by requirement in Table 4b. These forgone emissions reductions will vary over time based on changes in oil and gas drilling rates, voluntary mitigation by industry, and the presence of State and Federal regulations requiring emissions reductions. The BLM notes that, because EPA's regulations apply to new and modified sources, their reach will expand over time to cover more and more operations on BLM-administered leases.

The additional air pollutant releases from increased truck traffic spurred by the 2016 rule would be avoided under the Proposed Action. Those avoided releases, in Year 1, are summarized by requirement in Table 4c.[29]

Table 4b: Estimated Forgone VOC and HAP Emissions Reductions, Year 1 (in tons)[30]

Requirement	VOC Emissions	HAP Emissions
Capture Target Req.	NE	NE
Pneumatic Controllers	5,020	188
Pneumatic Pumps	7,440	13
Liquids Unloading	9,380	1,220
Storage Tanks	32,500	328
LDAR	24,800	108
Total	**79,100**	**1,860**

Table 4c: Estimated Avoided Truck Traffic-Related Air Pollutants in Year 1

Air Pollutant	Volume (tpy)
NOx	20.29
PM_{10}	1.45
$PM_{2.5}$	1.3
VOCs	0.8

[28] See 2018 RIA at Section 4.3 and 4.5.8. In the 2016 RIA, the BLM calculated VOC emissions reductions associated with the 2016 rule using an incorrect methane to VOC conversion ratio. Therefore, it incorrectly attributed higher VOC reductions to the pneumatic controller and liquids unloading requirements. Further, the BLM carried forward those miscalculated VOC totals to its RIA and draft EA for the proposed rule. The BLM has corrected those previous VOC miscalculations in the 2018 RIA and this final EA.

[29] See Appendix B, p. 69.

[30] Numbers may not sum to total due to rounding.

4.2.3 Noise and Light Impacts

The Proposed Action is expected to have noise and light impacts on dwellings, residences, and recreation. The Proposed Action would revise requirements expected to reduce gas flaring. The noise and light impacts of flaring during oil and gas operations were discussed in detail in the EA for the 2016 rule.[31]

In comparison to the No-Action Alternative, we would expect additional flaring under the Proposed Action, thereby increasing noise and light pollution and potentially affecting the communities living near oil and gas development, wildlife, night-sky resources, and recreationists.

However, under the Proposed Action, the adverse noise and light impacts associated with the requirements in the 2016 rule would be avoided. As explained in the 2016 EA,[32] the BLM anticipated that the 2016 rule could lead to higher levels of localized noise and light pollution for some areas and to the addition of more compressor stations and other equipment that increase noise pollution.

4.2.4 Wildlife Resources; Threatened and Endangered Species and Critical Habitat

Under the Proposed Action, the BLM expects adverse impacts on wildlife resources with respect to climate change, air quality, and noise and light pollution. These impacts would result from increased venting and flaring relative to the baseline or No Action (Alternative A). At the same time, the BLM expects wildlife resources to benefit from a decrease in surface disturbance and habitat fragmentation expected to result from the accelerated development of gathering-line infrastructure in response to the 2016 rule's gas-capture requirements. The Proposed Action would also eliminate the potential adverse impacts from increased truck traffic and the addition of flare devices to storage vessels expected under the No-Action Alternative.

The BLM does not expect the Proposed Action to have additional impacts on federally listed threatened and endangered species and critical habitat. The BLM will continue to review proposed oil and gas production activities that will result in additional surface disturbance for compliance with applicable laws, including NEPA and the ESA. Finally, the BLM notes that any effects on threatened and endangered species and critical habitat attributable to Alternative B's impacts on climate change are sufficiently uncertain as to be not reasonably foreseeable.

4.2.5 Socioeconomics

The Proposed Action is expected to have socioeconomic effects; however, the BLM does not expect those impacts to be significant. The socioeconomic impacts of flaring during oil and gas operations were discussed in detail in the EA for the 2016 rule.[33]

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[31] Appendix B, pp. 33-35.

[32] Appendix B, pp. 71-72.

[33] Appendix B, pp. 35-36.

In comparison to the No-Action Alternative, the Proposed Action would be expected to result in forgone cost savings from natural gas recovery that would have accrued to the oil and gas industry with the 2016 rule. However, the Proposed Action would also reduce regulatory burdens to industry that would have outweighed the cost savings. The Proposed Action is expected to reduce royalty revenues, but also reduce the risk of premature abandonment of marginal wells.

The Proposed Action would also result in forgone reductions in air pollution from vented, leaked, and flared natural gas that would have been realized with the 2016 rule. However, the Proposed Action is not expected to have a significant impact on minority and low-income populations living near oil and gas operations. While minority and low-income populations living near oil and gas operations would have benefitted from the reductions in emissions, the Proposed Action also eliminates the adverse impacts expected to be caused by increased truck traffic, increased localized flaring, and the buildout of capture infrastructure. In addition, any impacts to minority and low-income populations, related to proposed development would be evaluated on a project-specific basis by the local BLM field office, which is better positioned to understand local communities, including minority and low-income populations.

4.3 Direct and Indirect Effects of Alternative C

Under Alternative C, the BLM would retain the gas capture requirements including the measurement and metering requirements while rescinding the operational and equipment requirements addressing vented volumes. By maintaining certain provisions of the 2016 rule, the BLM would expect that the environmental effects presented in the 2016 EA (Alternative C)[34] would be realized *except for those related to methane and VOC emissions*. The total methane and VOC emission reductions realized under the No-Action Alternative would be forgone under Alternative C.

This section describes the environmental effects of Alternative C.

4.3.1 Climate Change

Under Alternative C, the BLM expects that GHG emissions from vented gas from existing sources on Federal and Indian leases would continue, but modulated to some degree by State requirements and voluntary industry actions in some areas. Depending on the requirement, the GHG emissions from new, modified, and reconstructed sources may be covered by the EPA's NSPS, subpart OOOO and subpart OOOOa regulations and would not contribute to a deviation from the baseline.

As shown in Table 4a in Section 4.2.1 of this EA, the BLM estimates that Alternative C would also result in forgone methane emissions reductions of 175,000 to 180,000 tpy over the 10-year evaluation period. These forgone emissions reductions would vary based on changes in oil and

[34] Appendix B, pp. 62-74. Also, the BLM notes that the VOC emissions reductions estimates made in the 2016 EA have been revised. See Table 4b of this EA.

gas drilling rates, voluntary mitigation by industry, and the presence of State and Federal regulations requiring emissions reductions. The BLM notes that, because EPA's regulations apply to new and modified sources, their reach will expand over time to cover more and more operations on BLM-administered leases.

Alternative C would result in the avoidance of some of the GHG emissions estimated to occur under the No-Action Alternative, due to the reduction in the use of vehicles to conduct leak detection and repair activities. The BLM estimates these avoided GHG emissions to be less than 12,800 tpy of CO_2 Eq. per year.[35]

Although the potential impacts of Alternative C in terms of GHG emissions are described here, the BLM notes that the actual effects of such emissions on global climate change cannot be reliably assessed and thus are sufficiently uncertain as to be not reasonably foreseeable.

4.3.2 Air Quality

Under Alternative C, the BLM would maintain the expected reductions of flared gas from Federal and Indian oil and gas leases. However, the expected reductions in the amount of VOCs and HAPs released would not be realized, as the requirements targeting venting (43 CFR 3179.101 to .105, .201 to .204, and .301 to .305) would not be retained under Alternative C. Therefore, Alternative C is expected to affect local air quality.

In comparison to the No-Action Alternative, Alternative C would result in the forgone reductions of emissions of various air pollutants/pollutant precursors, HAPs, and GHGs. Using data from Table 21 in the 2016 EA,[36] the BLM estimates that Alternative C would result in forgone VOC emissions reductions of 79,000 to 80,000 tpy over the 10-year evaluation period. Using data from Table 22 in the 2016 EA,[37] the BLM estimates that Alternative C would result in forgone HAP emissions reductions of 1,860 to 2,030 tpy over the 10-year evaluation period. This is the same as was estimated for the Proposed Action. See Table 4b in Section 4.2.2 of this EA. In the following years, these forgone emissions reductions would vary based on changes in oil and gas drilling rates, voluntary mitigation by industry, and the presence of State and Federal regulations requiring emissions reductions. The BLM notes that, because EPA's regulations apply to new and modified sources, their reach will expand over time to cover more and more operations on BLM-administered leases.

The air pollutant releases from increased truck traffic spurred by the 2016 rule are also expected to occur under Alternative C, as operators engage in compressed natural gas trucking in order to meet capture percentage requirements.

4.3.3 Noise and Light Impacts

The impacts on noise and light to dwellings, residences, and recreation associated with Alternative C would be similar to those under the No-Action Alternative. This is because

[35] See Appendix B, p. 65

[36] Appendix B, p. 67.

[37] Appendix B, p. 67.

Alternative C would maintain the expected reductions of flared gas from Federal and Indian oil and gas leases that are realized under the No-Action Alternative.

Alternative C would reduce the size, number, frequency, duration, and intensity (gas volume) of flares leading to less noise and light pollution for nearby dwellings and residences. There still could be some localized noise and light pollution as a result of compressor stations and other equipment. These installations would be subject to site-specific review and impacts could be reduced through mitigation measures.

4.3.4 Wildlife Resources; Threatened and Endangered Species and Critical Habitat

The impacts on wildlife resources, threatened and endangered species and critical habitat under Alternative C are expected to be similar to those under the No-Action Alternative. There would be indirect beneficial impacts with respect to air quality, climate change, and noise and light pollution, due to the limitations on flaring under Alternative C.

There would also be adverse impacts arising from increased surface disturbances and habitat fragmentation resulting from the development of the infrastructure needed to comply with the gas capture requirements.

The BLM would review proposed production and surface disturbing activities for compliance with applicable laws, including NEPA and the ESA. Finally, the BLM notes that any effects on threatened and endangered species and critical habitat attributable to Alternative C's impacts on climate change are sufficiently uncertain as to be not reasonably foreseeable.

4.3.5 Socioeconomics

The socioeconomic effects associated with Alternative C are expected to be similar to those associated with the No-Action Alternative. Alternative C would maintain the expected reductions of flared gas from Federal and Indian oil and gas leases that are realized under the No-Action Alternative.

Alternative C would reduce the size, number, frequency, duration, and intensity (gas volume) of flares leading to less noise and light pollution for minority and low-income populations living in proximity to oil and gas operations. It would not eliminate the impacts caused by increased truck traffic, increased localized flaring, and the buildout of capture infrastructure. These types of activities would be subject to site-specific review and impacts could be reduced through mitigation measures.

5. Cumulative Effects

The CEQ regulations define "cumulative effects" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and

reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions."

5.1 Cumulative Effects of No Action (Alternative A)

As there are no direct or indirect effects associated with the No-Action Alternative, there are also no cumulative effects associated with the No-Action Alternative. The No-Action Alternative does not represent a change from the current baseline environment.

5.2 Cumulative Effects of Proposed Action (Alternative B)

The cumulative impacts to the human environment that would likely result from the Proposed Action are similar to the No-Action Alternative described in the 2016 EA,[38] as the Proposed Action would replace the 2016 rule with requirements similar to those contained in NTL-4A, with the modification that the BLM would defer to State and tribal regulations, where they exist, for routine flaring of associated gas.

As explained in Section 4.2, the BLM would anticipate additional GHG emissions, which would have climate impacts and air quality impacts. As explained above, the BLM notes that the actual effects of Alternative B's impacts on climate change cannot be reliably assessed and are sufficiently uncertain as to be not reasonably foreseeable.

The BLM also anticipates that some of the expected adverse impacts of the 2016 rule would be alleviated or occur to a lesser extent than under the baseline as there would not be a need to construct roads, facility pads (including well pads and centralized tank batteries), pipelines, gathering lines, compressor stations, and electrical transmission lines needed under the 2016 rule. The BLM also anticipates fewer truck trips associated with alternative forms of gas compression and transport to market and with increased leak detection and repair inspections and activities.

Since the EPA regulations apply to new, modified, and reconstructed sources, the impacts of Alternative B to climate and air quality would be expected to decrease over time. The BLM's site-specific inspection and approval procedures would still apply to any surface-disturbing project, and would ensure evaluation and mitigation of site-specific adverse impacts.

5.3 Cumulative Effects of Retaining Gas Capture Requirements (Alternative C)

The cumulative impacts to the human environment that would likely result from Alternative C would be similar to the No-Action Alternative (the current baseline), except for impacts associated with venting. The cumulative impacts associated with venting would be largely the same as those described under the Proposed Action (Alternative B). The gas capture

[38] Appendix B, pp. 36-37.

requirements under Alternative C would lead to a reduction in noise and light impacts due to a reduction in flaring.

6. References

Environmental Assessment: Waste Prevention, Production Subject to Royalties, and Resource Conservation (DOI-BLM-WO-WO2100-2017-001-EA), U.S. Bureau of Land Management (Nov. 10, 2016).

Executive Order No. 13771, "Reducing Regulations and Controlling Regulatory Costs" (January 30, 2017).

Executive Order No. 13783, "Promoting Energy Independence and Economic Growth" (March 28, 2017).

Federal oil and gas leases: Opportunities exist to capture vented and flared natural gas, which would increase royalty payments and reduce greenhouse gases (GAO-11-34), General Accounting Office. (October 2010), available at http://www.gao.gov/new.items/d1134.pdf.

Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1995-2015 – Executive Summary, U.S. Environmental Protection Agency (April 13, 2017), available at https://www.epa.gov/sites/production/files/2017-02/documents/2017_executive_summary.pdf.

Marginal Wells: Fuel for Economic Growth. 2015 Report, Interstate Oil and Gas Compact Commission (2015), available at http://iogcc.ok.gov/Websites/iogcc/images/MarginalWell/MarginalWell-2015.pdf.

Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases, Royalty or Compensation for Oil and Gas Lost (NTL-4A), U.S. Department of the Interior Geological Survey (Jan. 1, 1980).

Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources, U.S. Environmental Protection Agency, 81 FR 35824 (June 3, 2016).

Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources: Grant of Reconsideration and Partial Stay, U.S. Environmental Protection Agency, 82 FR 25730 (June 5, 2017).

Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources: Stay on Certain Requirements, U.S. Environmental Protection Agency, 82 FR 27645 (June 16, 2017).

Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources: Three Month Stay on Certain Requirements, U.S. Environmental Protection Agency, 82 FR 27641 (June 16, 2017).

Regulatory Impact Analysis for: Revisions to 43 CFR 3100 (Onshore Oil and Gas Leasing) and 43 CFR 3600 (Onshore Oil and Gas Operations); Additions of 43 CFR 3178 (Royalty-Free Use of Lease Production) and 43 CFR 3179 (Waste Prevention and Resource Conservation), U.S. Bureau of Land Management (Nov. 10, 2016).

Regulatory Impact Analysis for the Proposed Rule Revision to Replace the 2016 Waste Prevention Rule (Draft), U.S. Bureau of Land Management (2018).

Secretarial Order No. 3349, "American Energy Independence," U.S. Department of the Interior (March 29, 2017).

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

Appendices

Appendix A - Final Rule Requirements and Discussion

The following table provides a section-by-section analysis of the final rule's provisions and their significance.

Table A1: 2016 Rule Provisions Being Removed

2016 Final Rule Citation	Summary	Significance of Change
§ 3162.3-1(j)	Operators must submit a waste-minimization plan with an APD.	This provision is removed and the operator is no longer required to submit a waste minimization plan. The change reduces the regulatory burden associated with submitting this additional information with an APD.
§ 3179.7	Operators are required to capture a certain amount of produced gas, after allowing for a certain volume of flaring per well. The capture percentage increases in future years and the amount of flaring allowed decreases.	This provision is removed and the operator is no longer subject to the flaring limitations and framework of this section of the 2016 final rule. Instead, the operator is subject to the new oil-well gas flaring provisions (described in the Table 2.3b). The change is expected to substantially reduce compliance burdens.
§ 3179.8	Allows operators of leases issued before January 17, 2017, to request a lower gas-capture percentage if complying with § 3179.7 would cause the operator to "cease production and abandon significant recoverable oil reserves under the lease."	This provision is no longer relevant since § 3179.7 is removed.
§ 3179.11	States that the BLM may exercise its existing authority to limit production from a new well that is expected to force other wells off of a common pipeline, delay action on an APD, or impose conditions of approval on an APD.	This section is removed, but the BLM's authority to take these actions remains (under applicable laws and regulations, as well as under the terms of applicable permits, orders, leases, and unitization or communitization agreements). Section 3179.11 was not an independent source of authority or obligation on the part of the BLM.
§ 3179.12	States that, to the extent an action to enforce 43 CFR subpart 3179 may adversely affect production of oil or gas from non-Federal and non-Indian mineral interests, the BLM will coordinate with the appropriate State regulatory authority.	This section is removed and there would be little practical impact if any. The BLM has revised subpart 3179 in a manner that defers to State and tribal requirements with respect to the routine flaring of associated gas.
§ 3179.101	Limits on, and requirements for disposal of, gas lost during well drilling. Exceptions allowed when flaring is technically infeasible.	This provision is removed and the operator is no longer required to capture, re-inject, use in the operations, or flare gas coming to the surface during well drilling. The change is not expected to have a

2016 Final Rule Citation	Summary	Significance of Change
		substantial impact on operations, as operators control and combust gas during well drilling for safety reasons and as part of standard practice.
§ 3179.102	Limits on, and requirements for disposal of, gas lost during well completion and related operations. Exemptions allowed if compliance would cause the operator to cease production and abandon significant recoverable oil reserves under the lease.	This provision is removed and the operator is no longer required to capture, re-inject, use in operations, or flare gas resulting during well completion and related operations. The change is not expected to have a substantial impact on operations, as the EPA's NSPS subparts OOOO and OOOOa regulate well-completion operations on hydraulically fractured natural gas and oil wells.
§ 3179.201	Operators must replace high-bleed pneumatic controllers with low-bleed controllers. Exemptions if the controllers are covered by EPA regulations or if existing facilities have less than 3 years of remaining life, or if compliance would cause the operator to cease production and abandon significant recoverable oil reserves under the lease.	This provision is removed and the operator is no longer required to replace or modify existing controllers not already in compliance with the 2016 rule. The change will reduce compliance costs for operators with facilities that have existing continuous high-bleed pneumatic controllers. Low-bleed controllers are common in the industry and operators are pursuing more efficient production equipment on a voluntary basis.
§ 3179.202	Operators must replace pneumatic diaphragm pumps with a zero-emissions pump or route the gas to processing equipment for capture and sale. Exemptions if the controllers are covered by EPA regulations. The operator may route to a flare or combustion device under certain circumstances. Exemptions allowed if compliance would cause the operator to cease production and abandon significant recoverable oil reserves under the lease.	This provision is removed and the operator is no longer required to replace or modify existing pumps not already in compliance with the 2016 final rule. The change will reduce compliance costs for operators with facilities that are not already in compliance.
§ 3179.203	If potential emissions from a storage vessel exceed 6 tons per year, the operator must route vapors to sales line unless infeasible or unduly costly; otherwise route to combustion device. Exemptions if the storage vessels are covered by EPA regulations. Exemptions allowed if compliance would cause the operator to cease production and abandon significant recoverable oil reserves under the lease.	This requirement is removed and the operator is no longer required to modify storage vessels and/or add combustors to facilities not already in compliance with the 2016 rule. The change will reduce compliance costs for operators with facilities that are not already in compliance. In the RIA, the BLM estimates that relatively few facilities will actually be affected. The EPA's regulations have covered storage vessels since 2012. Given production declines, we expect that fewer facilities will exceed the VOC threshold over time, and so the number of facilities that would have been affected by the 2016 rule should decline over time.

2016 Final Rule Citation	Summary	Significance of Change
§§ 3179.301 – 3179.305	These sections would establish LDAR requirements on all wellsites and compressors located on Federal and Indian leases. The inspection requirements are semi-annual for wellsites and quarterly for compressors. Exemptions if the facility is covered by EPA regulations or if compliance would cause the operator to cease production and abandon significant recoverable oil reserves under the lease. There are various compliance dates depending on the facility.	This requirement is removed and the operator is not required to conduct LDAR by the BLM. This change will reduce compliance burdens for operators of all wellsites that are not already covered by the EPA's regulations.

Table A2: Final Requirements

Rule Citation	Summary	Significance of Change
§ 3179.1	Purpose. This section states that the purpose of this subpart is to implement and carry out the purposes of statutes relating to prevention of waste from Federal and Indian leases, the conservation of surface resources, and management of the public lands for multiple use and sustained yield.	No change.
§ 3179.2	Scope. This section specifies which leases, agreements, tracts, facilities, and gas lines are covered by this subpart. The section also states that the term "lease" in this subpart includes IMDA agreements, unless specifically excluded in the agreement or unless the relevant provisions of this subpart are inconsistent with the agreement.	The final rule makes one minor revision to paragraph (a)(5) by using the more-inclusive words "well facilities" instead of the words "wells, tanks, compressors, and other equipment" to describe the onshore equipment that would be subject to this proposed rule. The change reflects the removal of the LDAR provisions. There will be no substantive or measureable impact from the proposed change to this section.
§ 3179.3	Definitions and acronyms. This section provides the definitions and acronyms relevant for the subpart.	The final rule removes definitions that are no longer necessary and adds some new definitions. There will be no substantive or measureable impact from the proposed change to this section.

Rule Citation	Summary	Significance of Change
§ 3179.4	Determining when the loss of oil or gas is avoidable or unavoidable. This section describes the circumstances under which lost oil or gas would be classified as "avoidably lost" or "unavoidably lost." The proposed revision incorporates concepts that appear in both existing § 3179.4 and NTL-4A, Sections II and III.	Although there are some alterations to the existing (2016 final rule) section, the changes are conforming changes that reflect the modifications made to other portions of the subpart. There will be no substantive or measureable impact from the proposed change to this section.
§ 3179.5	When lost production is subject to royalty. This section explains that avoidably lost oil and gas is royalty bearing and unavoidably lost oil and gas is not royalty bearing.	This section of the final rule is the same as the existing section.
§ 3179.6	Venting limitations. Prohibits gas flaring and venting from gas wells, with certain exceptions, and requires operators to flare, rather than vent, any uncaptured gas from all wells, with certain exceptions.	The title of this section in this final rule has been changed from "venting prohibitions" to "venting limitations." The final rule retains most of the provisions in existing § 3179.6. There will be no substantive or measureable impact from the change to this section.
§ 3179.101	Authorized flaring and venting of gas – Initial production testing. This final rule establishes volume and duration standards which limit the amount of gas that may be flared royalty free during initial production testing. The gas is no longer royalty free after reaching either limit. The final rule establishes a volume limit of 50 MMcf (million cubic feet) of gas that may be flared royalty free during the initial production test of each completed interval in a well. Additionally, the final rule limits royalty-free initial production testing to a 30-day period, unless the BLM approves a longer period.	The final rule reestablishes the volume limit of 50 MMcf for royalty-free flaring during initial production testing. This 50 MMcf limit was the NTL-4A limit. The final rule and the 2016 final rule are quite similar in addressing the royalty-free treatment of gas volumes flared during initial production testing. The primary difference between the two rules is that under the 2016 final rule the operator must request approval from the BLM to flare royalty free the same volume of gas, or for the same duration, that is allowed under the final rule. While the compliance burden should be reduced under the final rule, the actual impact depends on the how the 2016 final rule would have been enforced over time.
§ 3179.102	Authorized flaring and venting of gas – Subsequent well tests. This final rule provides that gas flared during well tests subsequent to the initial production test is royalty free for a period not to exceed 24 hours unless the BLM approves or requires a longer test period. The operator	The final rule is functionally identical to the 2016 final rule.

Rule Citation	Summary	Significance of Change
	must request a longer test period using a Sundry Notice.	
§ 3179.103	Authorized flaring and venting of gas – Emergencies. Royalty is not due on gas that is lost during an emergency under the final rule. The final rule describes the conditions that constitute an emergency, and lists circumstances that do not constitute an emergency. The final rule requires the operator to report to the BLM the volumes of gas that were flared or vented beyond the timeframe of the emergency, e.g. up to 24 hours or a longer period determined necessary by the BLM.	The emergency provisions in the 2016 final rule are nearly identical to those of this final rule. The most notable change from the 2016 final rule to the 2018 final rule is in describing those things that do not constitute an emergency. Where the 2016 final rule specified that "more than 3 failures of the same component within a single piece of equipment within any 365-day period" was not an emergency, the 2018 final rule simplified that concept to provide that "recurring equipment failures" do not constitute an emergency. The revision also clears up one incorrect reference that appeared in the 2016 final rule. Overall, the changes described are not expected to result in a substantive or measureable impact.
§ 3179.104	Authorized flaring and venting of gas – Downhole well maintenance and liquids unloading. The final rule allows an operator to unload liquids from the wellbore by purging the well for a period of up to 24 hours. Gas that is lost during a manual well purging event would be royalty free if the person conducting the purging remains present on-site throughout the event in order to end the event as soon as practical thereby minimizing the volume of gas lost. Gas that is flared or vented from a plunger lift system or automated control system would be royalty free provided that the system is optimized to remove liquids from the wellbore while venting or flaring as small a volume of gas as is practical.	The final rule retains some of the same concepts and provisions as the 2016 final rule. The main difference is that the 2016 final rule placed additional operational and administrative requirements on the operator that the 2018 final rule removes. Specifically, the 2016 final rule required the operator to file a Sundry Notice with the BLM the first time that each well is manually purged or purged with an automated-control system. In that notice, the operator must have evaluated the feasibility of using methods of liquids unloading other than well purging and that the operator determined that such methods were either unduly costly or technically infeasible. This final rule removes these operational and administrative burdens. In the RIA for the 2016 final rule, we estimated that the requirements would result in additional lift systems being installed. While it is still possible that operators will make these investments voluntarily (plunger lift systems are very common), it is not certain. As a result, there will likely be fewer gas volumes recovered from new installations.
§ 3179.201	Other venting or flaring – Oil well gas. The final rule allows operators to vent or flare oil-well gas royalty free in compliance with governing rules, regulations, or orders of the State regulatory agency or tribe in which the venting or flaring of oil-well gas occurs. The final rule provides	This section replaces the Gas-Capture Requirement (described in Table 2.3b). The final rule replaces the complex framework established in the 2016 final rule with a simplified version of NTL-4A. In the RIA for the 2016 final rule, the BLM estimated that there would have been a certain amount of crude oil production deferred to the future and a certain amount of additional natural gas produced that would have otherwise been flared.

Rule Citation	Summary	Significance of Change
	general guidelines for what applicable rules, regulations, or orders, should contain, in terms of placing recognizable limitations on the venting and flaring of oil-well gas. In the absence of State regulations for Federal lands and tribal regulations for tribal lands, this section requires a case-by-case approval of flaring, similar to that employed under NTL-4A.	The final rule reverse those impacts. The final rule defers to State regulations for Federal wells and tribal regulations for tribal wells, reducing the administrative burden – for both operators and BLM – associated with applications to flare under NTL-4A.
§ 3179.301	Measurement and reporting responsibilities – Measuring and reporting volumes of gas vented and flared. The final rule requires operators to estimate (using estimation protocols) or measure (using a metering device) all flared and vented gas, whether royalty bearing or royalty free, and report the volumes under applicable Office of Natural Resources Revenue reporting requirements.	This final rule is generally consistent with NTL-4A. The main difference between the final rule and the 2016 final rule is that it removes the requirement to measure flared gas above 50 Mcf per day. As such, the final rule will alleviate the compliance burden of operators having to install flare meters in certain circumstances.
§ 3179.401	Deference to Tribal Regulations. The final rule allows for Tribes with rules, regulations, or orders that are applicable to any of the matters addressed in subpart 3179 to seek approval from the BLM to have such rules, regulations, or orders apply in place of any or all of the provisions of subpart 3179. The BLM will approve a Tribe's request to the extent that it is consistent with the BLM's trust responsibility.	This section in the final rule is supplemental to, and does not limit, the deference to Tribal rules, regulations, or orders provided for in § 3179.201. This section is likely to encourage Tribes to develop comprehensive rules, regulations, or orders concerning additional aspects of subpart 3179.

Appendix B – Environmental Assessment: Waste Prevention Production Subject to Royalties, and Resource Conservation (DOI-BLM-WO-WO2100-2017-001-EA)