

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Proposed Information Collection Request; Comment Request; Information Collection Effort for Oil and Gas Facilities) Docket No. EPA-HQ- OAR-2016-0204) Via Regulations.gov) October 31, 2016)

Clean Air Task Force, Earthjustice, Environmental Defense Fund, Environmental Integrity Project, Natural Resources Defense Council, and Sierra Club (“Environmental Commenters”) appreciate this opportunity to submit comments on the second draft of EPA’s Proposed Information Collection Request for Oil and Gas Facilities (“ICR”).

INTRODUCTION

Oil and natural gas facilities are the largest industrial emitters of methane in the U.S.,¹ and existing sources are projected to make up 90% of methane emissions from the sector in 2018.² We strongly support EPA’s commitment to develop comprehensive standards to control methane emissions from existing sources in the sector—consistent with its legal obligation to do so under section 111(d) of the Clean Air Act— and urge the agency to move forward expeditiously to propose and finalize such protections. Developing and implementing controls for existing sources is necessary to achieve the nation’s goal to reduce methane emissions from the oil and gas sector by 40 to 45 percent below 2012 levels by 2025 and is an important piece of our 2015 Paris Agreement commitment to reduce economy-wide greenhouse gas emissions by 26 to 28% (relative to 2005 levels) by 2025.³

In its second draft of the ICR, EPA has made a number of improvements over first draft, including requests for some additional information on pneumatic devices and tank controls. This information will help to support comprehensive existing source standards, including for sources not currently addressed by the agency’s OOOOa rule issued earlier this year. There are four key areas, however, in which we recommend that EPA strengthen the ICR to ensure that data collected will be of the highest value for existing source standards and other future rulemakings:

¹ Notice, Information Collection Request Submitted to OMB for Review and Approval; Comment Request; Information Collection Effort for Oil and Gas Facilities, 81 Fed. Reg. 66962 (Sep. 29, 2016).

² ICF International, Economic Analysis of Methane Emission Reduction Opportunities in the U.S. Onshore Oil and Natural Gas Industries at 1-1 (2014), available at https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf.

³ We likewise appreciate EPA’s proposal to collect additional information on harmful air toxics and encourage EPA to retain those reporting requirements in the final ICR.

1. Ensuring information collected reflects the context and granularity necessary for meaningful analysis and use in designing future rulemakings. This is particularly important with respect to the additional information we have suggested EPA collect to better characterize reported data concerning equipment leaks and existing leak detection and repair practices.
2. Assessing the current use of zero-emitting control devices and the feasibility of establishing standards that broadly deploy these technologies. In particular, we recommend that the agency collect information on the availability of onsite electricity in the Part 1 survey, and better characterize the availability and use of zero-emitting pumps and controllers in the Part 2 survey.
3. Ensuring that facilities in the gathering & boosting (“G&B”) segment are included in the Part 1 survey assessment, given that these facilities are associated with substantial emissions.
4. Ensuring requests related to costs incurred by operators include guidance for calculation, so that the data collected is rigorous, comparable, and reflects a range of potential future resource prices.

In addition to these key recommendations, below we provide additional suggested adjustments to the Part 1 and Part 2 surveys, organized by each of the Part 1 and Part 2 surveys on which EPA has requested comment. We hereby incorporate by reference into the administrative record for this proceeding all documents cited herein.

I. Part 1 Operator Survey

We encourage EPA to strengthen the Part 1 Operator Survey by 1) returning the request for onsite electricity information back to the Part 1 survey, and requesting information on the distance from facilities to pipelines; 2) relabeling and adjusting the definition of “centralized production surface sites” to ensure inclusion of the G&B segment; 3) requesting more detailed parent company information; and 4) making an adjustment to the definition of “onshore petroleum and natural gas production.”

Returning Key Data Elements to Part 1 Survey. The ICR presents an important opportunity to assess zero-emitting alternatives, and the availability of on-site electricity is important to determine the feasibility of widespread deployment of these devices. Accordingly, we urge EPA to include the request for information on the availability of on-site electrification in the Part 1 Operator Survey, rather than in the Part 2 Facility Survey, as the agency has proposed to do in the second draft ICR. Evidence suggests that there is geographic variability across basins in

patterns of electrification,⁴ making the Part 2 surveys poorly suited to capturing these patterns. Moreover, this information should be readily available, for example, by contacting any electric utility servicing the site and requesting data for the number of meters servicing facilities owned by the operator, and commenters have provided no support for claims to the contrary.⁵ Accordingly, we strongly encourage EPA to shift requests for information about availability of electricity on-site and whether the facility is manned from Part 2 back to Part 1, as originally proposed.

EPA took a similar approach to reporting facility distance to pipelines—shifting reporting from Part 1 to Part 2 in the second draft ICR. As discussed above, Part 2 sampling will not likely capture basin-level variability, and accordingly, we recommend EPA return this data element to the Part 1 survey. For the vast majority of facilities which are connected to pipelines, this question will be straightforward for operators to answer. For the small portion of facilities that are not connected to pipelines, operators have likely considered the distance to the nearest pipeline in making that decision and would have such information available.⁶ Finally, in some jurisdictions, operators already need to assemble information on distance to gathering pipelines for required gas capture plans,⁷ considerably lessening the burden of this question.

Definition of Centralized Production Site. Second, we strongly encourage EPA to ensure that the ICR contains comprehensive coverage of sources by clarifying that G&B facilities are included within the scope of the Part 1 survey. Recent studies, including one by CSU,⁸ suggest that G&B facilities can be a very significant—but largely uncharacterized—contributor to emissions. These facilities can likewise release significant amounts of pollution, including methane, during upsets and other malfunctions.⁹ One of the reasons for uncertainty around the magnitude of emissions from these sources is a lack of activity data, and the Part I survey is an important opportunity to ensure comprehensive data collection from these sources. While these sources

⁴ For example, there is high electrification in California. CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY, AIR RESOURCES BOARD: 2007 OIL AND GAS SURVEY RESULTS FINAL REPORT (December 2011) at Table 9-2, <https://www.arb.ca.gov/cc/oil-gas/finalreport.pdf>. Other urbanized basins (Denver-Julesberg, Fort Worth Basin) have areas with significant penetrations of electrification.

⁵ American Petroleum Institute, Comments on Proposed Information Collection Request; Comment Request; Information Collection Effort for Oil and Gas Facilities at 13 (Aug. 2, 2016) (asserting that a survey of electric connection will require operators to “manually review utility bills”).

⁶ EPA could add a question asking the reason a production facility is not linked to a pipeline and provide picklist values including 1) contractual obligations; 2) lack of rights-of-way; 3) gas is of insufficient quality to connect to nearest line; 4) gas is of insufficient quantity to justify economics; 5) well pressure is insufficient to push gas into gathering pipeline on its own; and 6) gathering pipeline does not have sufficient capacity.

⁷ See, e.g., North Dakota Industrial Commission, “Re: Gas Capture Plan Required Hearing Exhibit” (2014), available at <https://www.dmr.nd.gov/oilgas/GCP.2014-09-16.Hearing%20Exhibit.Revised%20Final.pdf>.

⁸ J. R. Roscioli et al., *Measurements of methane emissions from natural gas gathering facilities and processing plants: measurement methods*, ATMOSPHERIC MEASUREMENT TECHNIQUES (May 7, 2015), available at <http://www.atmos-meas-tech.net/8/2017/2015/amt-8-2017-2015.pdf>.

⁹ Emission event data from oil and gas operators in Texas show that gathering and boosting stations release significant amounts of pollution, including methane, during upset events. See Environmental Integrity Project, *Breakdowns in Air Quality: Air Pollution from Industrial Malfunctions and Maintenance in Texas* (Apr. 27, 2016) available at <http://environmentalintegrity.org/wp-content/uploads/Breakdowns-in-Air-Quality.pdf>.

will be required to report to EPA's Greenhouse Gas Reporting Program for the first time in 2016, that program's minimum reporting thresholds mean that reported data are unlikely to fully characterize this segment.

EPA has proposed to collect information on centralized production surface sites in the ICR, though these facilities can be located in both onshore production and G&B segments, and certain operators turn over custody at the wellhead to G&B operators. Under the current ICR, however, a large majority of the centralized sites in the G&B segment may not be covered, and a gap exists that will make it difficult to fully address key sources such as tanks and leaks from gathering pipelines. In EPA's proposed Attachment 2C, we recommend that the agency relabel a "centralized production surface site," as a "centralized surface site," and clarify that the definition includes facilities in the G&B segment, as follows:

Any onshore surface site that obtains crude oil or natural gas directly from multiple ~~well~~ surface sites without a custody transfer, and includes all equipment used in the transportation, compression, stabilization, separation, storing or treating of crude oil and/or natural gas (including condensate) located at the surface site. **These sites may be located in onshore petroleum and natural gas production or onshore petroleum and natural gas gathering and boosting segments.**

Definition of Onshore Petroleum and Natural Gas. Finally, EPA's definition in Attachment 2C of "onshore petroleum and natural gas production" includes a note that segment activities operate under NAICS codes 211111 (crude petroleum and natural gas extraction) and 211112 (natural gas liquid extraction). Operators must identify the parent company "Primary NAICS code" as 211111, 211112, 486210 (pipeline transportation of natural gas), or "other." The NAICS 211112 definition overlaps with that of the gathering and boosting segment; this could create difficulties in data reporting and analysis. We recommend EPA instead use the Subpart W definition of onshore production.

II. Part 2 Detailed Facility Survey

Comments on Attachment 3D - Facility Sheet

In Attachment 3D, Table 2, EPA requests data on voluntary methane reductions achieved through participation in the EPA Gas STAR program since 2012 and the EPA Methane Challenge since 2015. We recommend that EPA instead ask for emissions data that was *reported* through the Gas STAR and Methane Challenge programs, to ensure consistent attribution of reductions among voluntary initiatives and pre-existing state and federal regulatory requirements.

Comments on Attachment 3E - Control Devices Sheet

As Environmental Commenters raised in comments on the first draft of the ICR,¹⁰ by clarifying several of the requests in the Control Devices Sheet, and collecting additional data points, EPA will be able to conduct a more robust analysis of control device efficacy and cost. First, the term “vapor recovery units” (“VRUs”) is most commonly used to indicate recovery compressors; however, there are other types of recovery systems, such as ejectors and eductors. We recommend that EPA clarify the term “vapor recovery units” by providing a definition in Attachment 3C that includes any kind of system, and that EPA further request data in Attachment 3E, Table 2 on the number of VRUs, ejectors and eductors at the facility.

Moreover, in addition to the availability of these devices, it is important that EPA request information that is available to characterize their capabilities and cost-effectiveness. In particular, in Attachment 3E, Table 2, EPA should request capacity in Mcfd for all vapor recovery units.

Finally, with respect to combustion devices, we recommend that EPA request information in Attachment 3E, Table 2 on the type of device used for monitoring combustion devices, providing an open field answer cell so that operators are able to identify the full range of devices.

Comments on Attachment 3F - Production Well Sheet

Additional information and clarification on production well economics, combustion devices, liquids unloading, and well site visitation will provide important context for the economic and emissions data collected.

The requested site cost information includes only 2015 values, which represent historically low resource prices and, taken alone, do not provide an accurate picture of revenue and profitability of these sites going forward. We recommend that EPA instead request revenue and operating costs for years that reflect a range of resource prices so as to provide a meaningful assessment of likely *future* impacts on these sources. Specifically, in Attachment 3F, Table 1B, EPA should request data for 2010 in addition to 2015.

Relatedly, the ICR asks how long a well is expected to produce economically at current prices. Currently low resource prices provide a potentially inaccurate estimate for the lifespan of a well. Moreover, estimated *economical* production timespan does not necessarily correlate with *technical* production timespan. To remedy this, in Attachment 3F, Table 2, EPA should also ask how long the operator expects to continue production at the well.

¹⁰ Clean Air Task Force, Earthjustice, Environmental Defense Fund, Environmental Integrity Project, Natural Resources Defense Council, and Sierra Club (“Environmental Commenters”), Comments on Proposed Information Collection Request; Comment Request; Information Collection Effort for Oil and Gas Facilities, Appendix 1 at 22, 28 (Aug. 2, 2016).

While EPA has requested information for fixed and variable O&M costs, the terms are undefined, which could lead to confusion and lack of comparability in reporting costs. We therefore recommend EPA define fixed and variable O&M costs as terms in Attachment 3C to ensure these concepts focus on site-level expenditures, as opposed to definitions in some financial reporting frameworks that allow for inclusion of other non-site-level costs. EPA could, for instance, clarify that O&M refers to materials and labor necessary to keep the equipment running per required standards and that fixed costs be limited to capital, shipping, installation, and testing.

As noted by Environmental Commenters in response to the first draft ICR,¹¹ the current structure of the information request regarding combustion devices may not fully characterize available flares because flares are often located off the wellpad for safety reasons. Accordingly, we recommend that EPA modify the question regarding combustion devices in Attachment 3F, Table 1A as follows: “Is there a combustion device either on site, or offsite but connected to the site?”

As previously raised by Environment Commenters,¹² information currently requested for liquids unloading events should be supplemented to more fully characterize emissions from such events by including the average hours of unloading events in Attachment 3F, Table 4.

Finally, EPA asks how frequently a well site is visited by field office personnel. However, wells, including marginal wells, may be visited by contractors loading tanker trucks. We recommend that the question in Attachment 3F, Table 1A be broadened to include visits by other employees and contractors. Picklist values for this response should include the additional options of “semi-annually,” “annually,” “less frequently than annually,” and “never.”

Comments on Attachment 3H - Tanks Separator Sheet

We appreciate that EPA has improved and expanded much of the requested information on tanks. Along with these improvements, we recommend that EPA collect additional data regarding LDAR practices and stuck dump valves to accurately assess whether the data reported by operators reflects the absence of an emissions problem, or instead, a well-controlled site.

Tanks often have leakage from the roof and walls that can affect control efficiency, which is not currently captured in the Part 2 survey request. Accordingly, we recommend that EPA include the following question in Attachment 3H, Table 5: “Is the tank monitored for leaks on a periodic basis? Currently, are there any cracks or holes on tank roof or walls that can result in leaks?”

Likewise, though the agency has requested some information on stuck dump valves, additional information is needed regarding the number of times a dump valve is stuck and the impact of

¹¹ *Id.* at Appendix 1 at 22.

¹² *Id.* at Appendix 1 at 25.

stuck dump valves on control devices. As previously raised by Environmental Commenters,¹³ we recommend that EPA request information on the number of instances of stuck dump valves for the year 2015 in Attachment 3H, Table 5. We also recommend that EPA request information regarding the impact of stuck dump valves on control devices, specifically if an operator's control device is functional when a dump valve is stuck, and the number of instances where a stuck dump valve resulted in malfunctioning of a control device on the tank. Finally, we urge EPA to request information regarding any estimates of stuck dump valve emissions, either through direct measurement or engineering equations such as a drop in gas production reported by a SCADA system (a stated industry method for stuck dump valve detection).

Comments on Attachment 3I - Pneumatics

Pneumatic devices are likewise a substantial source of emissions, and we recommend that EPA collect additional information in two discrete areas: first, to better characterize the availability and effectiveness of zero-emitting devices and second, to ensure that reported information is capable of characterizing the benefits of LDAR at malfunctioning pneumatic controllers.

As Environmental Commenters noted in comments on the first draft of the ICR, information regarding the availability and use of zero-emitting devices will further support recent studies documenting that zero-emitting devices are already a feasible mitigation option.¹⁴ EPA currently requests counts of various types of natural gas-driven pneumatic devices in Attachment 3I, Tables 4 and 5, but does not request information on counts of zero-emitting valve controllers or pumps (driven by instrument air, electricity, or other non-emitting means). We urge EPA to request information regarding counts of electric or otherwise zero-emitting devices, in addition to counts of natural gas-driven pneumatics.

With respect to the benefits of LDAR for malfunctioning controllers, EPA currently requests information in Attachment 3I, Table 3 related to the work practices employed by a facility to identify malfunctioning controllers, how many controllers have been found to be malfunctioning, and available data from direct measurements of emissions from controllers. With respect to malfunctioning controllers, EPA should request detail about the type of each malfunctioning controller, including whether it was low continuous, high continuous, or intermittent bleed, as well as information on the cause of the malfunction and the frequency with which the controllers are surveyed. With respect to direct measurements of emissions from pneumatic controllers, EPA should request that the operator specify what type of controller the measurement corresponds to and should ask the operator to identify whether the controller was malfunctioning. Finally, EPA should request the frequency of inspections and provide an open-ended response field to describe remedial measures that the operator has taken to reduce emissions.

¹³ *Id.* at Appendix 1 at 28.

¹⁴ *Id.* at Appendix 1 at 30.

Comments on Attachment 3L – Equipment Leaks

Equipment leaks are a substantial and likely underestimated source of emissions, and detailed information on the nature of these emissions measurements as well as the characteristics of LDAR programs that operators have in place are critical to ensure that the agency can meaningfully interpret the data it receives. As Environmental Commenters raised in comments on the first draft of the ICR, additional information is needed to fully assess the cost of LDAR programs.¹⁵

We urge EPA to design reporting requirements to collect information that fully captures the monitoring frequency and control level at a source. This is particularly critical with respect to data on equipment leaks, which are largely unpredictable. Data collected must be sufficient to assess whether variations in measured emissions at comparable facilities are the result of different emissions profiles or are instead due to varying leak inspection and repair practices. In particular, EPA should request information on the broader history of LDAR activities at sites, the frequency and methods associated with these inspections, and the comprehensiveness of the survey performed.

As EPA is aware, the ICR does not require collection of new data on leaks, but instead requests reporting of any existing company information. This information will necessarily reflect different monitoring approaches and practices. It is important to understand the scope of inspections, the frequency of those inspections, and the history of those inspections over the last five years in order to determine whether the information collected reflects the level of control at that facility. Although the survey requests measurement data for the past five years in Attachment 3L, Table 1, it does not require the operator to describe how long it has been conducting either regulatory or voluntary inspections, which makes it difficult to determine whether any changes in the number and severity of leaks reported over the five-year period reflect changes in leak detection methodology, or instead changes in the natural rates of leak recurrence.

We recommend the following changes with respect to inspection surveys:

- Ask operators when they started conducting inspections, and how many times since 2012 the operator has comprehensively surveyed the facility.
- Seek clarity on whether previous surveys were either comprehensive or only covered a portion of a facility by adding the following question: “Was the previous survey comprehensive, covering all of the facility that handles natural gas? If not, what portion of the facility was surveyed (percentage or component type)?”

¹⁵ *Id.* at Appendix 1 at 52-53.

- Seek information on the leaks found on gathering pipelines associated with gathering stations and gathering centralized sites.

In addition, EPA has requested information in Attachment 3L, Table 4 on survey cost that may lead to inconsistent reporting of cost information, and otherwise misses opportunities to collect additional data. While the survey requires operators to identify measurement costs for each individual leak measurement, it does not specify how costs should be calculated. We recommend that EPA focus cost assessment at the site level, and provide separate reporting for these costs that disaggregates them in the same way EPA considered LDAR costs in its technical support documents for the New Source Performance Standards (“NSPS”) for the oil and gas industry.

In addition to more granularly reporting LDAR costs, EPA should seek information on whether operators are conducting leak surveys through in-house teams or contractors. This will help the agency understand how operators are currently deploying these different approaches and whether there are any cost differences between the two. EPA should also ask whether past surveys have been conducted by in-house technicians and/or contractors, and should seek information on whether operators currently own, lease, or otherwise have access to leak survey equipment such as infrared cameras, laser-based devices, fence line monitors, or handheld-based devices.

Finally, in addition to the above-described survey information, EPA should also expressly request information on whether repairs were completed and, if so, how long these repairs took as well as the costs of completing repairs for particular components.

Comments on Attachment 3M – Compressor Sheet

Centrifugal compressor wet seals can come with wet seal vapor capture systems as a part of the original equipment. The factory-fitted capture systems are upstream of the wet seal vents and currently will not be reported to the ICR, as the revised ICR seeks information on controls only on the vents. EDF-conducted measurement studies indicate that wet seal emissions are much higher than those being reported to Subpart W,¹⁶ making this ICR a prime opportunity to gather information on wet seal emissions and the impact of vapor capture systems. As previously raised by the Environmental Commenters,¹⁷ to better understand the cause of some high-emitting wet

¹⁶ Subramanian, R., et al., (2015), “Methane Emissions from Natural Gas Compressor Stations in the Transmission and Storage Sector: Measurements and Comparisons with the EPA Greenhouse Gas Reporting Program Protocol,” *Environ. Sci. Technol.*, 9, 5, 3252–3261 (“Subramanian (2015)”), available at <http://pubs.acs.org/doi/abs/10.1021/es5060258>. See also Zimmerle, D., et al., (2015), “Methane Emissions from the Natural Gas Transmission and Storage System in the United States,” *Environ. Sci. Technol.*, 49, 15, at 9374–9383, available at <http://pubs.acs.org/doi/abs/10.1021/acs.est.5b01669>.

¹⁷ Environmental Commenters, Comments on Proposed Information Collection Request; Comment Request; Information Collection Effort for Oil and Gas Facilities, Appendix 1 at 55-56 (Aug. 2, 2016).

seals, it is important to correlate emissions with compressor characteristics, such as pressure, which should be collected from the operators.

EPA should require reporting of compressor suction and discharge pressure (in psig) in Attachment 3M, Table 2. EPA should also seek information on how many vents are connected to the wet seal oil separator and wet seal oil tank, and on whether the seal oil vapors are being vented to the atmosphere or rerouted to the compressor suction or fuel line.

Lastly, the ICR is not currently seeking information on the number of stages of the reciprocating compressor, which indicates the number of seals. In Attachment 3M, Table 6, EPA should seek information on the number of reciprocating compressor stages.

Comments on Attachment 3N – Blowdown Sheet

As Environmental Commenters raised in comments on the first draft of the ICR,¹⁸ EPA is not currently requesting information on the pressure of the vessel or piping being blown down, information needed to evaluate whether capture and routing of gas for beneficial use is possible—and appropriate—in future rulemaking. As such, we respectfully recommend that EPA request information in Attachment 3N, Table 2 on the operating pressure of the vessel or piping being blown down.

III. Conclusion

We appreciate EPA’s commitment to moving forward expeditiously with standards for existing sources. As discussed above, we respectfully urge EPA to ensure the ICR is designed in a way that best achieves this important outcome by collecting information that provides the context and granularity necessary to ensure that final standards for the oil and gas sector are rigorous, comprehensive, and protective of all communities across the country.

Respectfully submitted,

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¹⁸ *Id.* at Appendix 1 at 57-61.

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