Director, Bureau of Land Management
U.S. Department of the Interior
1849 C St. NW
Washington, D.C. 20240

November 9, 2020

Re: Oil and Gas Site Security, Oil Measurement, and Gas Measurement Regulations, 85 Fed. Reg. 55,940 (September 10, 2020), RIN 1004-AE59

Dear Docket Clerk:

GPA Midstream Association ("GPA Midstream") appreciates this opportunity to submit comments to the Bureau of Land Management ("BLM") on the proposed rule, Oil and Gas Site Security, Oil Measurement, and Gas Measurement, 85 Fed. Reg. 55,940 (September 10, 2020) ("Proposed Rule").

GPA Midstream has served the U.S. energy industry since 1921 and has nearly 70 corporate members that directly employ more than 75,000 employees that are engaged in a wide variety of services that move vital energy products such as natural gas, natural gas liquids ("NGLs"), refined products and crude oil from production areas to markets across the United States, commonly referred to as "midstream activities." The work of our members indirectly creates or impacts an additional 450,000 jobs across the U.S. economy. GPA Midstream members recover more than 90% of the NGLs such as ethane, propane, butane and natural gasoline produced in the United States from more than 400 natural gas processing facilities. In the 2017-2019 period, GPA Midstream members spent over $105 billion in capital improvements to serve the country's needs for reliable and affordable energy.

Summary

GPA Midstream strongly supports the proposed rule and has previously called for the rescission or revision of the November 17, 2016 BLM regulations that replaced Onshore Order Nos. 3, 4, and 5 (the "2016 Final Rules"). *See* Attachment A, GPA Midstream Comments to U.S. Department of Interior (October. 31, 2017). The 2016 Final Rules imposed unnecessary obligations on the midstream industry, including needless capital expenditures for the replacement of soundly functioning equipment. None of these provisions go toward improving BLM's management of the federal oil and gas program. *See* 80 Fed. Reg. 40,768, 40,769-80 (July 13, 2015) (discussing Government Accountability Office criticisms of BLM's collection of royalty revenues). The 2016 Final Rules imposed onerous costs and burdens with little or no benefit.

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Therefore, GPA Midstream agrees that the 2016 Final Rules should be revised pursuant to Executive Orders 13777 and 13783 and Secretary's Order No. 3349.

As the voice of the midstream industry, GPA Midstream is especially interested in the proposed revisions to 43 C.F.R., Part 3175 regarding the measurement of gas. These are highly technical provisions, requiring specialized knowledge on the midstream industry, and GPA Midstream wants to ensure that the regulations' definitions and obligations are clear and that the regulations incorporate the most recent GPA and American Petroleum Institute ("API") standards. On that basis, many of GPA Midstream's comments below go towards simplifying and clarifying proposed language, as well as providing technical data on midstream products. Furthermore, GPA Midstream proposes a number of comments to ensure that the final rule accurately captures existing industry practices that should be codified into regulation, including those practices adopted by the industry after significant investment following issuance of the 2016 Final Rules.

I. The Final Rule Should Revise the Definitions in 43 C.F.R. § 3175.10 to Conform to Standard and Accepted Industry Practice

Hydrocarbon dew point. A portion of BLM's proposed definition is technically incorrect. The proposed rule asserts that "the hydrocarbon dew point is the flowing temperature of the gas measured at the FMP." Hydrocarbon dew point and flowing temperature are independent variables. GPA Midstream proposes that BLM use the definition provided in the API Manual of Petroleum Measurement Standards ("MPMS") Chapter 14.1, defining hydrocarbon dew point as "a temperature at a given pressure at which hydrocarbon vapor condensation begins."

Normal flowing point. GPA Midstream proposes the bolded additions to the definition of "normal flowing point": "the average **flowing** differential pressure, **flowing** static pressure, and flowing temperature at an FMP taken over a time period of not less than 1 day and not more than 31 days." Adding the word "flowing" to the average differential pressure and static pressure clarifies that averages should not include non-flowing time.

Senior fitting. The term "senior fitting," as used in the industry, refers to the Daniel™ Senior™ Orifice Fitting. GPA Midstream proposes that BLM use the complete term — Daniel™ Senior™ Orifice Fitting — in place of "senior fitting." As an alternative, should BLM prefer to not limit the regulations to a particular type of fitting, GPA Midstream proposes use of the more general term, "dual-chamber orifice fitting," instead.

II. The Final Rule Should Ensure the Incorporate by Reference Requirements of 43 C.F.R. § 3175.30 Include Existing Standards Currently Used Throughout the Industry

A. *BLM Should Incorporate by Reference Current Versions of Applicable Standards*

The proposed introductory language on the incorporation of standards by reference is the same as in the existing § 3175.30. It notes that "[t]o enforce any edition" of these standards "other than that specified in this section, the BLM must publish a rule in the Federal Register and the

material must be reasonably available to the public." The combination of (1) a need to publish a new rule, and (2) that the standard must be reasonably available to the public, presents some practical difficulty. As standards are updated, the older editions that may be identified in a rulemaking are not always available from the issuing organization. Unless BLM diligently issues new rulemakings with each new edition, the industry standard incorporated into the rule will be out of date and cannot be obtained by an owner or operator.

GPA Midstream believes it would be appropriate to incorporate by reference the most recent edition of an industry standard, instead of specifying a particular edition in each rulemaking. Midstream companies stay informed of industry standards and will know when a standards organization issues a new edition. GPA Midstream strongly believes that every regulated entity must have fair notice as to their regulatory obligations, however, in this particular instance we believe that the prospect of a midstream company being unaware of a new edition is slim to none. Requiring compliance with the most recent edition of a cited industry standard would prevent midstream companies from having to comply with outdated standards that may not always be "reasonably available to the public."

B. *BLM Should Only Incorporate by Reference Standards that are Publicly Available*

The proposed § 3175.30(b)(1) would incorporate AGA Report No. 3, Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids; Second Edition, September 1985. This standard is not available to the public for purchase. Therefore, GPA Midstream urges BLM to incorporate the following publicly-available versions: AGA Report No. 3, Orifice Metering of Natural Gas Part 1: General Equations and Uncertainty Guidelines (2013) and AGA Report No. 3, Part 2: Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids – Concentric, Square-edged Orifice Meters, Specifications and Installation Requirements (2017).

C. *BLM Should Not Remove Reference to GPA Standard 2286-14*

GPA Midstream disagrees with the proposal to remove GPA Standard 2286-14, Method for the Extended Analysis of Natural Gas and Similar Gaseous Mixtures by Temperature Program Gas Chromatography; Adopted 1995, Revised 2014 ("GPA 2286-14") from 43 C.F.R. § 3175.30(d). BLM asserts that GPA 2286-14 "is primarily intended for laboratory use and is not applicable to the determination of gas composition in typical field applications." 85 Fed. Reg. at 55,976. GPA Standard 2286-14 is commonly used in the industry for spot samples that some midstream companies choose to send to an independent laboratory for analysis. Where midstream companies rely on laboratory analysis for spot sampling, GPA Standard 2286-14 is the appropriate methodology. Incorporating GPA Standard 2286-14 by reference should not compel all midstream companies to use laboratory analysis in place of field analysis.

D. *BLM Should Incorporate By Reference GPA Standards 2145-16 and 2172-19*

GPA Midstream proposes that § 3175.30(d) also incorporate by reference GPA Standard 2145-16, Table of Physical Properties for Hydrocarbons and Other Compounds of Interest to the Natural Gas and Natural Gas Liquids Industries; Adopted 1942, Revised 2016 to be used in conjunction with 2172-19, Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures of Custody Transfer; Third Edition, January 2014, Reaffirmed 2019. Both are publicly available standards, and while GPA Standard 2172-19 serves the same purpose as API 14.5, most midstream operators currently use the GPA Standards in place of API 14.5.

III. The Final Rule Should Eliminate Calculation of Flow Rate Measurement Uncertainty in 43 C.F.R. § 3175.31(a)(5)

BLM should eliminate § 3175.31(a)(5) (currently § 3175.31(a)(4)), requiring flow rate measurement uncertainty to be calculated under API 14.3.1, Section 12 or another method approved by the Authorized Officer ("AO"). Such uncertainty calculations are unnecessary as flow rate measurement uncertainty is controlled by other sections of the proposed rule, specifically sections:

- 3175.40 and 3175.31, measurement equipment performance as approved by the Production Measurement Team;
- 3175.80(c), Beta ratio range;
- 3175.80(h), meter tube construction and conditions;
- 3175.80(i), flow conditioners;
- 3175.80(n), meter-tube length;
- 3175.101(d), operating within calibrated limits, including the proposed low differential pressure limit; and
- 3175.102(a)-(h), verification and calibration.

Although this flow rate measurement requirement was introduced in 2017, it continues to cause confusion as BLM has not yet approved any alternate uncertainty calculation methods as initially envisioned. As there are other sections of the proposed rule that serve to control flow rate measurement uncertainty, § 3175.30(d) imposes redundant and unnecessary uncertainty costs for compliance and enforcement, without a corresponding benefit to the public. Avoiding such unnecessary costs and burdens is consistent with Executive Orders 13777 and 13783 and Secretary's Order No. 3349, including the Orders direction to avoid regulation that needlessly encumbers energy production, constrains economic growth, and prevents job creation.

IV. The Final Rule Should Revise Approved Measurement Equipment under 43 C.F.R. § 3175.40 to Conform to Industry Practice

A. *BLM Should Clarify Requirements for Approval of Gas Chromatograph Software*

Proposed § 3175.40 requires that certain types of listed devices require BLM approval to be used at FMPs. This list includes, at subsection (g), "Software used to capture and process the output from a" gas chromatograph ("GC"). GPA Midstream proposes that the subsection be revised for clarity to state, "Software used to capture, process, and calculate gross heating values and relative density from the output of a GC used onsite at FMPs." This clarification will ensure that BLM review and approval will be limited to only those parameters that have a direct effect on the determination of royalties, as discussed at 85 Fed. Reg. at 55,977.

GPA Midstream also requests that the final rule clarify whether § 3175.40(g) applies to only portable GCs or also applies to online GCs used on-site. Further, the proposed rule provides midstream companies with no indication as to what criteria the Production Measurement Team ("PMT") and BLM will use in considering whether a particular GC complies with § 3175.31's requirements for verifiability and potential bias and should be clarified in the final rule. Clarification of this criteria will provide midstream companies advance notice regarding what information must be submitted to BLM.

B. *BLM Should Ensure Existing Uses of Chilled Mirror Devices are Retained*

Proposed § 3175.40(h) lists "[w]ater vapor measurement equipment and methods" as requiring BLM approval to be used at FMPs. GPA Midstream proposes a minor alteration to this language, in bold, for clarity: "Water vapor measurement equipment and methods **as designed for using in hydrocarbon measurement**."

GPA Midstream opposes revisions to § 3175.40(h) which revoke the automatic approval of chilled mirror devices for measuring water vapor, as provided in the 2016 Final Rules. *See* 81 Fed. Reg. 81,516, 81,629 (November. 17, 2016) (current 43 C.F.R. § 3175.126(a)(1)(i)). Under proposed § 3175.40(h), chilled mirror devices would require BLM approval. Alterations to proposed §§ 3175.126(a)(1)(i) and (ii) reinforce that midstream companies must obtain BLM approval as this section now authorizes only chilled mirrors or automated chilled mirrors "approved by the BLM and placed on the list of approved equipment and methods maintained at *www.blm.gov*." 85 Fed. Reg. at 56,074. BLM asserts that chilled mirrors "vary in design and can sometimes mistake hydrocarbons for water, which can cause errors in the measured water vapor content." 85 Fed. Reg. at 55,977. Therefore, the proposed rule would subject all chilled mirror devices to PMT review, independent laboratory testing, and BLM approval. *Id.*

This is fundamentally unfair. Midstream companies purchased chilled mirror devices at high costs in reliance on the 2016 Final Rules. GPA Midstream is concerned that, after using the chilled mirror devices for only three years, the proposed regulatory language would be interpreted as prohibiting their use without obtaining BLM approval, and even those circumstances, BLM appears likely to disapprove of some devices already in use. GPA

Midstream recommends that BLM either decline to finalize § 3175.40(h) and the proposed revisions to §§ 3175.126(a)(1)(i) and (ii) or to provide a grandfather clause for chilled mirror devices already in use prior to the final rule's effective date.

V. The Final Rule Should Revise Grandfathering Requirements of 43 C.F.R. § 3175.50 to Conform to Current Industry Practice

GPA Midstream further urges significant revision of the proposed grandfather provision for meter tubes, § 3175.50(b). The first recommended revision would be to strike certain language as indicated below:

> (b) Meter tubes. (1) Meter tubes installed at low- and high-volume FMPs before January 17, 2017, are exempt from the meter tube requirements of API 14.3.2, Subsection 6.2 (incorporated by reference, see § 3175.30) and § 3175.80(h) and (m). ~~For high-volume FMPs, the BLM will add an uncertainty of +/-0.25 percent to the discharge coefficient uncertainty when determining overall meter uncertainty under § 3175.31(a), unless the operator provides data to the PMT that shows a lower uncertainty is justified, and the BLM approves a lower uncertainty~~.

As discussed above in GPA Midstream's comments on § 3175.31(a)(5), meter uncertainty is already controlled through other provisions throughout Part 3175. Automatically imposing a margin of error to the discharge coefficient uncertainty, unless the operator provides data to the contrary, is unnecessary given the other uncertainty provisions in the regulations and places an unnecessary burden on operators.

A second recommended change to the grandfather provision for meter tubes is shown below with an addition indicated in bold:

> (b) Meter tubes. (1) Meter tubes installed at **very low-,** low- and high-volume FMPs before January 17, 2017, are exempt from the meter tube requirements of API 14.3.2, Subsection 6.2 (incorporated by reference, see § 3175.30) and § 3175.80(h) and (m). ~~For high-volume FMPs, the BLM will add an uncertainty of +/-0.25 percent to the discharge coefficient uncertainty when determining overall meter uncertainty under § 3175.31(a), unless the operator provides data to the PMT that shows a lower uncertainty is justified, and the BLM approves a lower uncertainty~~.

Very low-volume FMPs should be included in the grandfather clause. BLM has accepted royalty payments from very-low measurement systems installed before January 16, 2017, without any apparent concern over determinations of quality or quantity. Indeed, there are no uncertainty specifications for these FMPs, 85 Fed. Reg. at 55,978, a tacit recognition that determinations of quality or quantity are acceptable. This is consistent with proposed § 3175.50(a), which would

grandfather equipment listed in §§ 3175.40(a)-(i) at very-low volume FMPs installed prior to the effective date of the final rule. The proposed rule, however, provides no explanation of why very-low volume FMPs are not included in the meter tube grandfather clause of § 3175.50(b). *See generally* 85 Fed. Reg. at 55,978-79.

The proposed rule's rationale for grandfathering meter tubes applies equally, or even more so, to very-low FMPs: grandfathering non-compliant meter tubes will "eliminate the cost of having to replace them with meter tubes that comply with the current industry standards…." *Id.* at 55,979; *see also id.* at 55,978 ("compliance with the existing regulation could result in cost that would exceed a low producing or older well's income after that expense. The BLM believes the benefits of continued production outweigh the potential drawbacks and pose little risk to royalty accountability."). GPA Midstream is not aware of any reason why the grandfather clause for meter tubes should not be extended to very-low FMPs and the proposed rule does not identify any. Therefore, we request that the final rule include very-low FMPs under § 3175.50(b).

Lastly, §§ 3175.50(b)(i)-(iii) requires grandfathered meter tubes to comply with several aspects of AGA Report No. 3 (1985). Requirements for grandfathered EGM software do as well. *See id.* § 3175.50(c). As stated above, because the 1985 version of AGA Report No. 3 is no longer publicly available, this subsection should be revised to reference the current versions.

VI. The Final Rule Should Modify Flange-Tapped Orifice Plate Requirements in 43 C.F.R. § 3175.80 to Comport with How Components are Used in Service

A. *BLM Should Include an Exception for Produced Gas with Entrained Liquid Under § 3175.80(a)*

GPA Midstream recommends the following modification to proposed § 3175.80(a), as indicated in bold:

> (a) **Except in high-Btu production or production gas with a hydrocarbon dew point less than the flowing temperature** ~~Fluid~~ **fluid** conditions must comply with API 14.3.1, Subsection 4.1 (incorporated by reference, see § 3175.30)

Compliance with API 14.3.1, Subsection 4.1 is generally appropriate for high-Btu production; however, it should not apply to produced gas with entrained liquids. BLM appears to acknowledge this difference as the proposed rule does not require a strainer or filter on the inlet to on-line gas chromatographs. As BLM representatives have acknowledged in public meetings, such strainers or filters are required for production gas to remove fine droplets of hydrocarbons. Without removing these fine droplets, the calculated Btu content will be lower than the actual produced gas Btu content, depriving the federal government of royalty revenue. Production gas is rarely single phase, meaning that rich hydrocarbon or low-pressure natural gas could result in compliance issues.

B. *BLM Should Update Orifice Plate Eccentricity Requirements Under § 3175.80(b) to Reflect Limitations on In-Service Inspections*

GPA Midstream recommends the following modification to proposed § 3175.80(b), as indicated in bold:

> (b) Orifice plate eccentricity **in meter tubes installed after [EFFECTIVE DATE OF THE FINAL RULE] shall be checked and documented during fabrication.** Orifice plate eccentricity must comply with API 14.3.2, Subsection 6.2.1 (incorporated by reference, see § 3175.30), and the perpendicularity of the orifice plate holder must maintain the plane of the orifice plate at an angle of 90 degrees to the meter tube axis.

Eccentricity cannot be measured on a welded single chamber orifice fitting. It must be measured at the fabrication shop prior to welding the upstream and downstream meter tube pipe sections. This measurement cannot be verified during subsequent meter tube inspections. As written, the proposed rule could result in the unnecessary replacement of most, if not all, single chamber orifice fittings. This would present an unintended cost and burden to midstream companies and, under some circumstances, could result in wells being shut in.

With respect to perpendicularity, this aspect is a machined tolerance, not something that can be measured on a welded single chamber orifice fitting. GPA Midstream knows of no fabrication shop that is capable of taking this measurement in the field. Although GPA Midstream is not proposing any changes to the proposed rule's language, BLM should take this into account with respect to inspections.

C. *BLM Should Revise Sample Probe Location Under § 3175.80(p) to Comport with In-Service Conditions*

Proposed § 3175.80(p) requires that "[t]he sample probe must be the first obstruction, and at least five published inside pipe diameters, downstream of the primary device." For technical reasons, GPA Midstream proposes the following substitute language:

> (p) The sample probe shall be installed in accordance with API 14.1 Section 6.4.2 (incorporated by reference, see § 3175.30).

For smaller meter tubes, such as those measuring two, three, or four inches in diameter, there is not enough room to install a heated composite sampler, as may be required under proposed §§ 3175.111(a)(2) and (b), and also comply with API 14.3.2, Section 6.5 requirements regarding the placement of the thermowell within 4DL.

The photo below is of a three-inch meter.

The photo demonstrates the interference with the manifold and the orifice fitting. Similarly, a composite sampler will not fit in the first pressure tap of a two-inch meter.

VII. The Final Rule Should Include Lower Operating Limits for Transducers in 43 C.F.R. § 3175.101(d)

GPA Midstream proposes BLM define a lower operating limit for percent-span and percent-reading differential pressure transducers in order to control for the uncertainty associated with the operating ranges of these transducers. Controlling for this uncertainty reduces, in part, the need to calculate and control the overall measurement uncertainty. Because controlling overall measurement uncertainty is not industry practice and will impose an unnecessary burden on compliance and enforcement, doing so should be avoided pursuant to Executive Orders 13777 and 13783 and Secretary's Order No. 3349.

Accordingly, a new subsection (d)(i) should be added as follows:

> The lower operating limit of the differential pressure transducer shall be –
>
> (1) For percent-span sensors: calibrated span x accuracy x 100; or
>
> (2) For percent-reading sensors: 10 inches of water column.
>
> For example, a differential pressure transducer with an accuracy of 0.075% of calibrated span and a calibrated span of 0-400 inches of water column, would have an operating range of (400 x 0.00075 x 100) or 30-400 inches of water column.

VIII. The Final Rule Should Revise Electronic Gas Measurement System Verification and Calibration Requirements in 43 C.F.R. § 3175.102 to Comport With Industry Practice

A. *BLM Should Permit the Calibration or Repair of Transducers Under § 3175.102(a)*

Subsection (a)(2) requires out-of-tolerance transducers to be replaced. BLM should also allow for out-of-tolerance transducers to be calibrated or repaired, if possible. As set forth in API 21.1 Subsection 8.2.2.2, "[i]f the device verification cannot be brought into tolerance by zeroing, after the verification is complete, the transmitter shall be calibrated or replaced." Industry practice is not to change transmitters as a first resort — that is the last resort.

Therefore, subparagraph (a)(2) should add the bolded language as follows:

> The operator must verify the points listed in API 21.1, Subsection 7.3.3 (incorporated by reference, see § 3175.30), by comparing the values from the certified test device with the values used by the flow computer to calculate flow rate. If any of these as-left readings vary from the test equipment reading by more than the tolerance determined by API 21.1, Subsection 8.2.2.2, Equation 24, then that transducer must be**, calibrated, repaired or** replaced and**, if replaced,** the new transducer must be tested under this paragraph.

B. *BLM Should Revise Requirements for Notification of Verification Under § 3175.102(f) to Prevent Unnecessary Well Shut In*

Subsection (f)(1) requires an operator to notify the AO at least one business day *before* conducting verifications following installation or repair of electronic gas measurement systems. If retained, this would also require the operator to notify the producer to shut-in the well while the operator waits one day before conducting verifications, in which case no gas would flow and no royalties would be collected until the AO arrives. It is industry practice for operators to repair or replace electronic gas measurement systems and then verify and calibrate the systems immediately thereafter while on site. Accordingly, BLM should change the notification requirement from "*one business day before*" verification to "*three business days following*" verification.

C. *BLM Should Clarify Requirements for Submitting Amended Reports Under § 3175.102(g)*

GPA Midstream requests that BLM clarify or define the term "flow-rate error greater than 2 percent and 2 Mcf/day." This clause could be interpreted as a flow-rate error greater than both 2 percent *and* 2 Mcf/day or an error greater than either 2 percent *or* 2 Mcf/day.

IX. The Final Rule Should Remove Flowing Temperature of Gas from Minimum Sampling Requirements in 43 C.F.R. § 3175.111(b)

Subsection (b) requires the minimum temperature of all gas sampling components to be the lesser of "(1) the flowing temperature of the gas measured at the time of sampling; or (2) 30 °F above the calculated hydrocarbon dew point of the gas." However, limiting the minimum temperature to the flowing temperature of the gas measured at the time of sampling has no basis in API 14.1 and should be deleted.

API 14.1 Section 4.1, paragraph 2 states: "In general, when the sample system is kept above the hydrocarbon dew point temperature, all methods, when properly applied, can provide a sample that is representative of the sample source. However, it is difficult (or nearly impossible) to obtain accurate and repeatable results when the temperature of any element of the sample system falls below the hydrocarbon dew point temperature, or when sampling a stream with a temperature near the hydrocarbon dew point. The sample should be maintained at least 30 °F above the hydrocarbon dew point." As such, § 3175.111(b)(1) is unnecessary.

X. The Final Rule Should Not Prohibit use of Membranes, Screens, and Filters within the Sampling Probe per 43 C.F.R. § 3175.112(c)(4)

Subsection (c)(4) prohibits the use of membranes, screens, or filters at any point in the sampling probe. GPA Midstream requests that this prohibition be removed, as these devices are both necessary when sampling from a two-phase flow stream and widely used throughout the industry.

Fluid conditions must comply with API 14.3.1, Subsection 4.1 (incorporated by reference at § 3175.30). API 14.1, Annex B.3 states "[w]hen sampling a multiphase liquid-gas flow, the recommended procedure is to eliminate the liquid from the sample." This is accomplished through use of membranes, which separate liquids from the gas stream at flowing conditions. On sites that require composite samplers, there is a risk that during brief, intermittent flow periods, two-phase flow may exist. Sampling a two-phase flow stream without a membrane probe, even for a very short time, will cause the sampler to "ingest" fine droplets of liquids. This will cause bias of the heating value and other parameters. *See* GPA Midstream comments on § 3175.80(a), *supra*.

In addition, to measure gas in compliance with § 3175.20(a), should any two-phase flow exist, the flow must be stopped and the production shut-in to prevent the composite sampler from "ingesting" liquids while allowing single-phase gas to flow, without bias, to the composite sampler. Membranes allow measurements to proceed without shutting in production. Finally, using appropriate membranes, screens, or filters with proper maintenance prevents mist or droplets of liquid that form in wellhead gas metering from contaminating and biasing the sample.

Because these devices have been used with proper care in the industry for years and are accepted by both API and GPA Midstream, there is no reason to prohibit their proper use now.

XI. The Final Rule Should Add Use of the Evacuated Container Method to Spot Sample Requirements of 43 C.F.R. § 3175.114(a)

Subsection (a) provides five methods for obtaining spot samples. GPA Midstream proposes addition of the Evacuated Container Method defined in API 14.1 Section 11.2 (incorporated by reference, see § 3175.30) as a sixth method. This method has proven to be an effective method for sampling natural gas with high hydrocarbon dewpoint. Per API 14.1.11.2, the method has produced results +/-0.14% of the reference gas mixture heating value and density value. These results are in line with other methods listed in subsection (a), including the Purging-fill and empty method (+/-0.12%), Helium "pop" method (+/-0.15%), and Floating piston cylinder method (+/-0.14%).

XII. The Final Rule Should Allow Use of Quality Control Requirements within API 14.1 for Gas Chromatograph Compliance Under 43 C.F.R. § 3175.118

GPA Midstream proposes the addition of a new subsection (e) in § 3175.118 as follows:

> in lieu of (b), (c) and (d) the Operator may submit a completed GC laboratory audit form as published in API 14.1 and the laboratory's QA/QC manual to the AO for review/approval.

Allowing operators to utilize the existing GC laboratory audit form within API 14.1 is consistent with current industry practice and meets the intent of avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation as stated in Executive Order 13783.

Additionally, GPA Midstream requests BLM clarify that the requirements of § 3175.118 apply to on-line field-installed gas chromatographs only. These requirements are not relevant to laboratory gas chromatographs.

XIII. The Final Rule Should Add Two Alternatives Testing Methods for C_{6+} Analysis Under 43 C.F.R. § 3175.119

Subsection (b) requires a C_{9+} analysis when the concentration of C_{6+} exceeds 1 mole percent. GPA Midstream proposes two additional subsections providing for an alternative to a C_{9+} analysis, since it is common industry practice to apply a single C_{6+} characterization across a group of meters of similar nature. This defined grouping could be by production basin, geographical region or may be defined per contract between operator and transporter. The C_{6+} characterization is determined by flow-weighted averaging of a statistically-significant sample set of meters in that defined grouping. This method provides fair unbiased measurement across the defined group and would meet the intent of avoiding regulatory burden that unnecessarily encumbers energy production, constrains economic growth, and prevents job creation as stated in Executive Order 13783.

Accordingly, GPA Midstream proposes addition of new subparagraphs (d) and (e) in § 3175.119 as follows:

> (d) In lieu of testing each sample for the components required under paragraph (b) of this section, the operator may periodically test for full extended analysis and calculate the C_{6+} heating value. This calculated C_{6+} heating value must be applied to the mole percent of C_{6+} analyses until the next extended analysis is done under paragraph (b) of this section. The minimum analysis frequency for the components listed in paragraph (b) of this section is as follows:
>
> (1) For high-volume FMPs, once per year; and
>
> (2) For very-high-volume FMPs, once every six months.
>
> (e) In lieu of testing each sample for the components required under paragraph (b) of this section, the operator may apply a common heating value of C_{6+} of a grouping of meters in the same production basin. This common heating value shall be determined by the flow-weighted average of C_{6+} heating value determined from extended analysis of a statistical-significant set of meters.

XIV. The Final Rule Should Allow Use of API 14.5 for Base Supercompressibility Calculations Under 43 C.F.R. § 3175.120(d)

Subsection (d) requires base supercompressibility to be calculated under AGA Report No. 8, Part 1 or Part 2 (incorporated by reference, see § 3175.30). GPA Midstream proposes BLM also allow use of API 14.5, which is also incorporated by reference in § 3175.30. Section 3175.120(c) states the heating value and relative density must be calculated using API 14.5, so it follows that base compressibility should also be calculated using that same standard, which is consistent with industry practice. Field-installed gas chromatographs are not capable of performing the AGA Report No. 8 calculation, and at standard conditions of 14.73 psia and 60 °F, there is virtually no additional uncertainty added to the compressibility using API 14.5 for gas analysis reporting.[1] Note that this applies only to gas analysis reporting requirements. Volume calculations utilize AGA Report No. 8.

XV. The Final Rule Should Revise Sampling Conditions for Reporting of Heating Value and Volume Under 43 C.F.R. § 3175.126(a) to Comport with Actual Test Data

GPA Midstream requests that sampling conditions for reporting of heating value and volume under 43 C.F.R. § 3175.126(a) be revised to comport with actual test data. As proposed, subsection (a)(1) requires the reporting of heating value under dry conditions,

[1] *See* Attachment B for supporting analysis.

unless the water vapor content has been determined through actual on-site measurement. As an initial matter, GPA Midstream notes that it is wrong to assume the heating value of the gas in a dry state unless the gas is dehydrated prior to the FMP. Instead, actual water content is much closer to the water saturation state. Requiring an operator to determine actual water content at a point in time and then applying that result to subsequent calculations is burdensome. Instead, the operator should be allowed to calculate water content from the flowing pressure and temperature measured at the meter by applying a ratio of water content measured by chilled mirror or other approved method and divided by the calculated water content at flowing conditions existing at the time of the chilled mirror test. This ratio should be determined as a one-time test or more frequently during routine sampling at the discretion of the operator. Accordingly, existing subsection (a)(1) should be deleted and replaced with the following:

> Containing an amount of water vapor that has been determined through an actual on-site measurement or is calculated to be present at the flowing pressure and temperature as adjusted to match an actual on-site measurement of water vapor or dry if the gas is dehydrated prior to the meter, included in heating value calculations, and reported on the gas analysis report.

Subsection (a)(3)(i) requires the composition of C_{6+} having a heating value of not less than 5129 Btu/scf. This will cause bias in the heating value to some samples at standard conditions of 14.73 psia and 60 °F. Based on a full extended analysis of 64 samples, including but not limited to C_{9+}, the ideal heating value at standard conditions is, on average, 5014.86 Btu/scf with a minimum of 4846.95 Btu/scf and a maximum of Btu/scf 5412.86.[2] Therefore, subsection (a)(3)(i) should be replaced with the following language:

> (i) 4755.9 ideal Btu/scf at 14.696 psia (equivalent heating value of 100 percent hexane)

GPA Midstream further proposes BLM allow operators to apply the actual measured heating value of the C_{6+} component as determined from a full extended analysis through addition of new subsection (a)(3)(iii) as follows:

> (iii) The heating value of C_{6+} as determined from full extended analysis; and

Subsection (a)(4) requires that the composition of C_{9+} must have a heating value not less than 6,996 Btu/scf. BLM should update this provision to specify the ideal heating value at 14.696 psia that should be applied to C_6, C_7, and C_8 groupings with the bolded additions as follows:

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[2] *See* Attachment C for supporting analysis.

> (4) For samples analyzed under § 3175.119(b), and notwithstanding any provision of a contract between the operator and purchaser or transporter, **the composition of C_6 must have an ideal heating value at 14.696 psia of 4755.9 Btu/scf, C_7 must have an ideal heating value at 14.696 psia of 5502.6 Btu/scf, C_8 must have an ideal heating value at 14.696 psia of 6249.0 Btu/scf, and** C_{9+} must have an ideal heating value **at 14.696 psia** not less than 6,996 Btu/scf.

XVI. The Final Rule Should Correct an Incorrect Exponent Used to Calculate Atmospheric Pressure in Appendix A to Part 3175

The equation to calculate atmospheric pressure provided in Appendix A is not compliant with API 14.3.3 (as incorporated by reference, see § 3175.30). The exponent published in this Appendix A to Part 3175 is "5.25577" but should be corrected to "5.2554" pursuant to API 14.3 A.4 equation (A.5).

XVII. The Final Rule Should Extend the Maximum Time Between Required Actions Under Appendix B to Part 3175 to Match Industry Practice

GPA Midstream further requests that the maximum time between required actions under Appendix B, which reproduces that which is currently set forth in Table 1 of 43 C.F.R. § 3175.115, be adjusted to match industry practice and avoid the unnecessary additional costs and burdens of the time windows specified in the proposal. GPA Midstream members operate hundreds of thousands of wells both on and off BLM managed land. The ongoing maintenance and scheduling of orifice plate inspections, chart recorder verification and calibration, routine EGM verifications and spot sampling is integral to the accurate determination of quantity and quality of natural gas flowing through pipelines. Most midstream entities now use monthly scheduling systems to optimize their personnel expenses. These systems are month-ahead scheduling platforms that tell field personnel what equipment needs to calibrated and verified or what samples need to be taken. The 15-day "window" in the proposed rule would require additional manpower to accommodate the additional burden associated with the proposed 15 days requirement. Yet, a 15-day window has no benefit over a 30-day window in gas quantity and quality determination. Specifically, with regards to sampling, there is no significance to when a spot sample is taken within a month, because the analysis does not go into effect until the following month. So having a 15-day window does not make economic sense.

Therefore, GPA Midstream proposes BLM increase the maximum time between required actions as set forth in the following table.

If the required frequency is once every:	***Proposed Requirement*** – Then the maximum time between required actions in days is:	***GPA Midstream Proposed Revised Requirement*** – Then the maximum time between required actions in days is:
2 weeks	~~18~~	**45**
Month	~~45~~	**60**
2 months	~~75~~	**90**
3 months	~~105~~	**120**
6 months	~~195~~	**215**
12 months	395	395

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GPA Midstream appreciates the opportunity to submit these comments in response to BLM's proposed rule and is standing by to answer any questions that the agency may have.

Respectfully submitted,

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