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To: Michael S. Regan
EPA Administrator
1200 Pennsylvania Ave, N.W.
Washington, DC 20460

Date: March 19th, 2024

Mr. Regan,

On behalf of SPL, Inc and our many customers in the oil and gas industry, I submit this letter to you regarding the recently published 40 CFR Part 60 “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for existing Sources: Oil and Natural Gas Sector Climate Review”. I write to provide specific commentary regarding the 60-day compliance mandate § 60.5370b for control devices § 60.5417b(d).

SPL is the largest laboratory in the United States specializing in the analysis of hydrocarbon products, processing more than 225,000 natural gas samples each year. In recent months, we have received countless inquiries from our customers seeking guidance on how to determine the net heating value of their vent gases. Speaking from our direct experience analyzing 1,000s of vent gas samples from every major oil and gas producing region of the United States annually, it would be exceptionally uncommon for the heating value of vent gas to fall below the threshold the EPA has set. Should the EPA not reconsider this requirement, we at SPL believe compliance with the rule as written is possible, but not within the timeframe required to comply. Below, we submit several concerns that the EPA should consider before enforcing any mandate on the oil and gas companies related to this requirement.

- Vent gases are exceptionally heavy gases (relative to air) that are typically depleted with respect to lighter hydrocarbon molecules such as methane and ethane, and enriched in molecules like propane, butane and pentane. As a result, these heavy gases have a lower vapor pressure (relative to a methane-enriched sales gas for example) and therefore don’t “flash” from the liquid hydrocarbon stream until the final stage of separation. Whereas the net heating value of methane is 909.4 Btu/ft³, the net heating value of propane, n-butane and n-pentane is 2,315 Btu/ft³, 3,000 Btu/ft³ and 3,707 Btu/ft³ respectively (source: GPA 2145). Therefore, unless there is a source of inert gas diluting the vent gas stream (sources of inert gas could be added by design, or, due to leaking equipment), there should be no compositional reason the net heating value of that gas would be under the threshold set by the EPA. Speaking directly to SPL’s experience, any vent gas sample falling below the EPA’s threshold would have been significantly diluted by an inert gas.
- The amount of additional natural gas samples this requirement will result in is vastly greater than the capacity that laboratories have to collect and process such samples in the 60-day window. For example, a producer with 70 devices subject to net heating value determination would mean that they will produce 1960 samples in a 14-day period (assuming each location has both a high- and low-pressure flare). This testing increase from one customer alone, when considered with the volumes generated in the 60-day period nationally, would far exceed the analytical capacities of US laboratories performing the analysis. For SPL specifically, 1960 samples in 14 days would exceed the monthly throughput of most of our regional laboratories. There are not enough gas chromatographs, sample cylinders, and human resources to make compliance within 60-days a possibility.



- The EPA is requiring “the minimum time of collection for each individual sample be at least one hour”. This requirement goes against the traditional norms for the collection of natural gas samples and therefore will require all sampling entities to deploy alternative strategies that are not widely available at the moment. Proper sample collection techniques are paramount to ensure a representative sample is analyzed by the laboratory. Typical methods for the collection of natural gas samples call for spot sampling techniques that procure gas on very short (seconds to minutes) timescales. The one-hour requirement set forth in the regulation will require the composite sampling techniques typically used in custody-transfer applications (and elsewhere) to be adapted to a more rugged and transportable set up to meet compliance. Again, this requirement can be achieved, but not within the current scope of 60 days. Alternatively, sample collection methods such as those referenced in GPA 2166-22 should be considered permissible by the EPA to eliminate this bottleneck all together.
- The description of the sample canister provided in the regulation suggests the EPA will require Summa Canisters for vent gas collection. Summa canisters present several logistical hurdles that make compliance with § 60.5417b(d) difficult because they are expensive, large, and are not designed for applications such this. Summa cannisters were designed primarily for atmospheric gas sampling. In order to collect 1-hour samples by summa cannister, restrictive flow metering devices will be required. These devices primarily rely on restrictive orifice to meter the gas into the summa cannister. The potentially wet and dirty nature of flare gas will rapidly foul these devices resulting in errors in collection and potential contamination bias. Instead, for operators and laboratories to meet sample demand in a reasonable manner, single cavity stainless steel constant volume cylinders should be allowed for sample collection so long as they are maintained according to the requirements set forth in 43 CFR 3175 (Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Measurement of Gas).
- The analytical method for the compositional analysis of vent gas samples, ASTM D1945, from which net heating value is then calculated, is not widely available. The industry standard for determination of heating value is GPA 2261, however, we understand that certain components of the natural gas the EPA desires, including helium, oxygen and hydrogen, are not standard components of GPA 2261 analyses. Therefore, laboratories across the US will require additional time for method development of ASTM D1945 to have the capacity readily available to our customers. Part of this method development may require additional equipment and/or modification for existing equipment that cannot be achieved in the 60-day timeframe.

SPL supports the efforts of the administration to curb GHG as it is a common goal shared with the oil and gas industry. However, we urge the EPA to extend the time for compliance past the current 60-day period and to alter the sampling techniques to the more applicable industry standards set forth by GPA Midstream and the American Petroleum Institute.

Sincerely,

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