Provisions Creating Implementation Issues
EPA's Final Rule
"Greenhouse Gas Reporting Rule: Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems"
Docket No. EPA-HQ-OAR-2023-0234

****Excerpt from API-AXPC Reconsideration Request Letter sent July 15, 2024**

1. The Tier 1 efficiency references NESHAP CC, an emission standard applying to petroleum refineries, which is operationally and economically infeasible to implement for upstream flares. NESHAP CC should be removed from the tiered approach for flare efficiencies under Subpart W.

Tier 1 efficiency requirements for flares are especially problematic since they reference testing and monitoring regulations for flares subject to National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (40 CFR Part 63, Subpart CC) (NESHAP CC). These requirements are technically infeasible and economically unreasonable to implement for flares in upstream and midstream operations; therefore, NESHAP CC must be removed from the tiered default destruction and combustion efficiencies for flares.

The provisions outlined in Tier 1 are based on the presumption that flares being used at a petroleum refinery would operate under the same conditions as those found in upstream oil and gas operations. Industry Trades explained in our respective comments[1] submitted October 2, 2023, on the proposed rule that such a presumption is invalid. API's comments also included testing data from over 100 flares that demonstrated mean and median destruction efficiencies of more than 98% (see pages 35-36 and Annex D). None of these flares were subject to NESHAP CC requirements, which strongly suggests compliance with NESHAP CC is not a prerequisite to achieving +98% destruction efficiency (DRE).

On page 522 of EPA's Response to Comment, EPA reiterated the incorrect premise that *"the proper operation of a flare is not sector dependent."This* presumption is categorically false as a flare or other control device must be designed and operated based on site process conditions including the flow streams and compositions it is designed to control. As such, upstream and downstream flares vary widely in design and operation as summarized in Table 1.

As Table 1 describes, the design conditions that drive compliance assurance requirements of NESHAP CC simply do not exist in the upstream industry segment making the application of those monitoring requirements inappropriate and unnecessary. As a reporting rule, Subpart W should not force upstream flares to comply with inappropriate refinery requirements from NESHAP CC to

[1] https://www.regulations.gov/comment/EPA-HQ-OAR-2023-0234-0402; https://www.regulations.gov/comment/EPA-HQ-OAR-2023-0234-0295.

claim a 98% destruction efficiency for reporting emissions, as testing routinely shows flares meet +98% destruction efficiency without complying with NESHAP CC. Upstream flares should comply with regulations designed for the upstream industry segment, such as the New Source Performance Standards for Crude Oil and Natural Gas Facilities or air permit conditions that reference 40 CFR § 60.18. These upstream-specific regulations adequately and appropriately address proper flare operation to claim a 98% destruction efficiency as discussed below in more detail.

Table 1. Comparison of Relevant Characteristics of Upstream versus Petroleum Refinery Flares

Parameter	Upstream/Midstream Operations	Refinery Operations	*Why it matters?*
Staffing and Flare Count	• Upstream sites are not staffed 24 hours per day, nor are many midstream sites. • Upstream and midstream operations consist of hundreds of thousands of geographically dispersed flares, many located in remote locations.	• Refineries are staffed all hours of the day, every day. • A typical large refinery has fewer than twenty flares, all located at the facility.	• *The refinery flare provisions are onerous and require significant monitoring and personnel resources for compliance. These personnel and resources are available on site at a refinery.* • *Maintaining the monitoring equipment alone requires significant human resources for a single refinery.*
Flow Rate	• Intermittent flows from storage tanks, liquids unloading operations, associated gas, and certain controllers and pumps cause vapor flows to vary from zero to very high rates and vice-versa in a short space of time. • Flare gas recovery and compression systems are typically not installed due to limited infrastructure and secondary markets to distribute recovered gas in remote locations. • Upstream flare flows can be reliably quantified using engineering calculations.	• Process gas flows from multiple process units are typically routed to flare gas recovery and compression to minimize the quantity of gas flared.	• *Upstream flare flows can be reliably quantified using engineering calculations.*
Gas composition	• Upstream and midstream operations have highly variable, intermittent flow rates to flares, with limited variability of gas compositions. • There is a small number of streams routed to flare (often only one stream), and the composition of each stream is relatively consistent over time. For example, a well pad site often has two flares, one for handling low-pressure streams like tank	• Potentially hundreds of unique process streams are routed to a refinery flare header. • Composition of refinery streams is highly variable. • Crude oil feedstocks are processed through multiple units to derive multiple products and intermediates. • Refineries routinely use inerts in their processes (e.g., clearing equipment	• *Applying refinery flare vent gas composition monitoring is unnecessary in the midstream/upstream context because the vent gas stream composition is relatively constant.*

Parameter	Upstream/Midstream Operations	Refinery Operations	*Why it matters?*
	vapors and another for handling any higher pressure streams. • The composition of the producing zone remains relatively constant over time. • Upstream operations perform physical separations, not multiple chemical processing steps. • There are limited scenarios in Upstream operations where inert gases are added to the process (for example, enhanced oil recovery and amine treating). • Please review the sample NHV data showing the limited variability of composition in Appendix 1.	for service, tank blanketing, etc.) which is reflected in the flare gas composition.	
Pilot	• Automatic ignition systems to initiate combustion in the flame zone (e.g., electronic spark ignition) are common in upstream applications. • Natural gas or refinery fuel gas is not readily available in upstream to supply constant pilot flame. • Reducing the unnecessary continuous combustion of pilot gas is an environmental benefit. • While many upstream and midstream flares will have continuous burning pilots necessitated by NSPS OOOOb and EG OOOOc compliance, many will not, especially lower emitting sources that will not be subject to either rule.	• Multiple refinery regulations require the constant presence of a pilot flame to demonstrate compliance, resulting in increased GHG emissions. • Natural gas or refinery fuel gas is readily available to supply constant pilot flame needed for standard, constant flow to flare.	• *Continuous burning pilot is an emissions source that can be eliminated effectively by installing automatic ignitors. Further automatic ignitors are less prone to be affected by high winds and inclement weather. For these reasons, a separate regulatory requirement should not mandate a continuous burning pilot, nor should operators be required to install and operate one.*