HON Rule Summary

PICARRO

Overview of the HON Rule

The Hazardous Organic NESHAP (HON) Rule is codified under 40 CFR Part 63, Subparts F, G, H, and I. It establishes stringent emission standards for hazardous air pollutants (HAPs) from specific sources within the chemical manufacturing sector, targeting facilities classified as major sources of emissions. These facilities, including those in the Synthetic Organic Chemical Manufacturing Industry (SOCMI) sector, produce hazardous organic compounds. To be subject to this rule, a facility must qualify as a major source, meaning it emits at least 10 tons per year of a single HAP or 25 tons per year of any combination of HAPs.

Under the final rule (effective July 15, 2024), affected facilities must implement fenceline monitoring programs by July 15, 2026, unless granted a Presidential exemption (up to 2 years).

HAPs Subject to Fenceline Monitoring and Action Levels

Facilities must monitor for the following six HAPs if they use, produce, store, or emit them:

HAP	Action Level (Annual Average)
Benzene	9 µg/m³
1,3-Butadiene	2 µg/m³
Chloroprene	0.3 µg/m³
Ethylene Dichloride	2 µg/m³
Ethylene Oxide (EtO)	0.02 µg/m³
Vinyl Chloride	0.4 µg/m³

Fenceline Monitoring Requirements

Per §63.184, facilities must install monitors at the fenceline to assess ambient concentrations of HAPs and ensure they remain below the annual action levels. Traditional EPA-approved methods (325A/B and 327) depend on passive sorbent tubes collected over 14-day intervals, followed by lab analysis, which is a process that delays data availability and slows corrective action.

In contrast, Picarro's real-time monitoring solution replaces this lag with continuous measurement and automated reporting. Each system samples air every 5 seconds and produces 15-minute average results. Data from all monitoring points are streamed to a unified cloud portal that:

- Tracks compliance in real time
- Flags exceedances and trends
- Enables near-instant root cause investigation

When exceedances occur, the system allows immediate response and verification using supplemental monitoring tools or mobile leak detection vehicles. These mobile "kits" are mounted on platforms such as UTVs, trucks, or SUVs to enhance the overall monitoring capabilities.

Sampling Locations Selection Criteria

Sampling locations must be established according to §63.184(b)(3)(i)–(v). Picarro's approach aligns with the core criteria of Methods 325 and 327, using facility layout, emission source distribution, and operational conditions to determine optimal sampling points. This ensures accurate, representative, and defensible monitoring of all six HON HAPs across the site.

Metric	Methods 325/327	Picarro FMS
(i)	Perimeter Coverage	The monitoring perimeter must be located on or inside the facility property boundary and must encompass all emission sources of the target compound(s). Separate or disconnected process areas are addressed under (v).
(ii)	Minimum number of sampling locations	At least eight sampling locations must be established around the monitoring perimeter.
(iii)	Perimeter length and number of sampling points	Monitoring perimeter (meters): • ≤ 5,000 ⟶ 8 points • > 5,000 and ≤ 10,000 ⟶ 16 points • > 10,000 ⟶ 24 points At least one point must be positioned closest to sources of the target analyte(s).
(iv)	Sampling-period rotation	• 8 points ⟶ all sampled each period • 16 points ⟶ alternate odd/even points by sampling period • 24 points ⟶ rotate through every third point each period to complete full spatial coverage over three cycles
(v)	Disconnected or separate areas	For detached areas not encompassed by the main perimeter: • < 50 acres ⟶ 2 points (downwind and opposite side) • 50–150 acres ⟶ 4 equally spaced points • > 150 acres ⟶ apply spacing in (iii)

Exceedance Response and Corrective Action

Under §63.184(f), if the annual average concentration exceeds an action level, the facility must:

- Initiate a root cause analysis (RCA) within 5 days of updating the annual average.
- Implement initial corrective actions within 45 days.

Picarro's system supports this process through real-time, high-frequency monitoring. The system captures emission events as they happen, traces plumes to their source, and enables rapid, targeted response. Problems that once surfaced months later can now be resolved within days, transforming compliance from a reactive obligation into an integrated part of daily operations.

Recordkeeping and Reporting Requirements

Under § 63.181, facilities must maintain comprehensive records to ensure compliance. Records must include:

- Monitoring locations (including latitude/longitude coordinates)
- Sample timing (start/stop dates and times)
- Environmental conditions (temperature, barometric pressure)
- Raw sampling data, including any corrections for offsite impacts
- Annual average ΔC values for each monitored HAP

Reporting:

- Quarterly reports submitted through CEDRI within 45 days of the reporting period.
- Records must be retained for 5 years, with the most recent 2 years readily accessible for EPA inspection.

Picarro's system automates these processes, preparing data and reports in EPA-compliant formats and exporting raw data for verification. The cloud portal consolidates visualization, workflow management, and submission tracking for transparent and defensible compliance.

Why Choose Picarro's Approach

Traditional passive methods (EPA Methods 325 and 327) rely on multiple parties, including laboratories, consultants, and third-party data systems. This fragmented approach is outdated, costly, and prone to delays. Each step introduces another vendor, another workflow, and another point of failure. Picarro eliminates that complexity entirely.

Picarro's alternative monitoring solution delivers one cohesive platform. The result is a faster, simpler, and more defensible compliance process that unifies what used to take months into a real-time, fully automated workflow.

Key Advantages:

- **Near-continuous measurement** – Provides compliance-ready data at 15-minute intervals with underlying resolution down to 5 seconds
- **Real-time event detection** – Captures transient releases undetectable by passive methods
- Proactive forecasting – Automates rolling annual averages and forecasts potential exceedances up to 30 days in advance
- **Source partitioning** – Differentiates onsite vs. offsite contributions
- **Source localization** – Uses GIS and trajectory models for source identification
- **Integrated workflow** – Automates ΔC calculations, RCA, and reporting
- **Scalability** – Supports additional compounds, regulatory changes, and mobile deployment
- **Economic efficiency** – Reduces reliance on labs, personnel, and costly dispersion modeling

Conclusion

Picarro's Method 301–validated approach enables facilities to use the system as an alternative monitoring method. The result is a defensible, real-time compliance framework that transforms fenceline monitoring from a reactive task into an active emissions management system. Picarro is setting a new standard for MACT-level fenceline performance through data-driven, automated compliance.

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