NEW FENCELINE MONITORING REQUIREMENTS FOR SOCMI FACILITIES

INTRODUCTION AND BACKGROUND

The proposed revisions to the HON rule require new monitoring at your operation quickly and with a sizable capital investment.

Facilities that use, produce, store, or emit at least one of the six chemicals covered in the rule will have to establish a fenceline monitoring (FLM) program. Fenceline monitoring refers to the placement of monitors along the perimeter of a facility to measure pollutant concentrations and has not yet been required or considered in prior rulemaking actions or regulations governing SOCMI facilities.

The triggering chemicals are:

- ethylene oxide
- chloroprene
- benzene
- 1,3-butadiene
- ethylene dichloride
- vinyl chloride

AFFECTED FACILITIES

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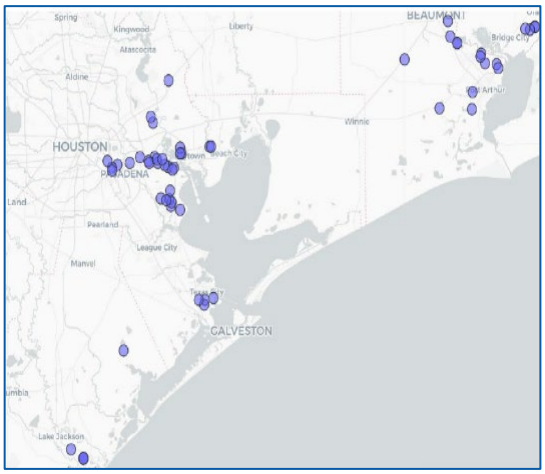

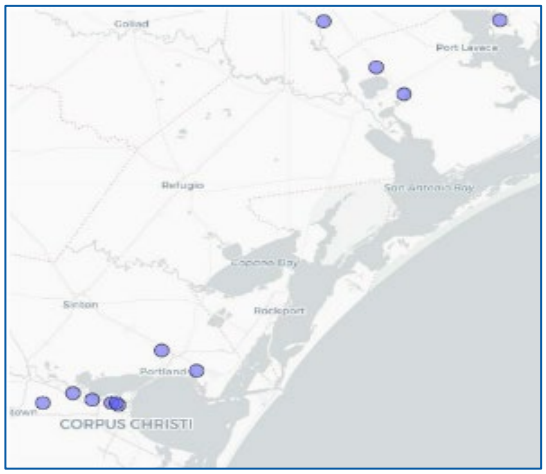

PROPOSED REVISIONS: FLM PROGRAM REQUIREMENTS

1. **Install the monitors and establish action levels**:
   - Place monitors along the fenceline at set intervals so that any fugitive plume originating within the facility would have a high probability of intersecting one or more monitors, regardless of wind direction.
   - Monitoring methods include:
     - *EPA M325A/B - Passive diffusive tube monitoring networks for the measurement of benzene, 1,3-butadiene, chloroprene, and ethylene dichloride; and*
     - *EPA TO-15 - Canister monitoring networks for the measurement of ethylene oxide and vinyl chloride (estimated to take eight summa cannisters around the fenceline every 5 days)*
   - FLM will have to begin within one year of promulgation of the rule.
   - A FLM program at a refinery can be used to meet the HON FLM requirement but boundaries will need to be evaluated.
   - EPA has already confirmed labs can evaluate down to detection levels proposed in the rule.
   - Non-HON regulated units at HON complexes will be required to cover those units in the FLM program.
   - A new annual average is calculated at the end of each 14-day sampling period.

2. **Monitor concentrations and compare to the action levels using annual average concentration as determined on a rolling average every sampling period:**

Benzene	*9 µg/m³*	*vinyl chloride*	*3 µg/m³*
1,3-butadiene	*3 µg/m³*	*chloroprene*	*0.3 µg/m³*
ethylene dichloride	*4 µg/m³*	*ethylene oxide*	*0.2 µg/m³*

3. **Determine root cause and develop corrective action plan:**
   - Initiate root cause analysis within 5 days of exceeding action level and initiate corrective action within 45 days.
   - If the operator cannot determine the root cause of the exceedance within 30 days of determining there was an exceedance of an action level, the owner or operator would be required to use real-time sampling techniques (*e.g.,* mobile gas chromatographs) to determine the root cause of the exceedance.
   - Develop a corrective action plan to address the sources and reduce emissions to a level that will bring fenceline monitoring concentrations below the action level.

4. **Report to the EPA and the public**
   - Data reported quarterly.
   - EPA will post monitoring data similar to how refinery data is currently shared with the public.
     - EPA Fenceline Monitoring Data Collection and Reporting Link

ESTIMATED COSTS

Facilities Impacted	Monitoring Option Description	Total Capital Investment ($)	Total Annualized Costs ($/yr)
NATIONWIDE COST IMPACTS OF FENCELINE MONITORING FOR HON			
35	Passives only (1 analyte)	4,016,000	2,141,000
46	Passives only (2 analytes)	2,295,000	1,282,000
9	Cannisters only	115,500	5,366,000
16	Cannisters and passives (1 analyte)	1,606,000	10,397,000
20	Cannisters and passives (2 analytes)	1,721,000	12,869,000
NATIONWIDE COST IMPACTS OF FENCELINE MONITORING FOR P&R I			
1	Cannisters and passives (2 analytes)	114,700	659,000
1	Cannisters only	12,800	596,000

NEXT STEPS

Understanding the revisions and implementing monitoring programs to ensure compliance does not have to be a challenging task. Providence's air quality team can assist with any regulatory compliance design and implementation. Our experts can help with the interpretation of revisions, implementation of new FLM programs, and the installation, operation, and management of the monitoring. Contact us for more information.

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ACRONYMS

µg/m³ *micrograms per cubic meter*

FLM *fenceline monitoring*

HON *Hazardous Organic NESHAP*

P&R I *Group I Polymer and Resins NESHAP*

SOCMI *Synthetic Organic Chemical Manufacturing Industry*