

# Challenges Complying with Group I and II Polymers and Resins Hazardous Organic NESHAP (HON)

## Executive Summary

The U.S. Environmental Protection Agency (EPA) finalized amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Synthetic Organic Chemical Manufacturing Industry (SOCMI) and Group I and II Polymers and Resins (P&R I and II) Industries on April 9, 2024. These amendments, part of the Hazardous Organic NESHAP (HON), introduce stringent requirements to reduce emissions of hazardous air pollutants (HAPs), including ethylene oxide (EtO) and chloroprene, while imposing new compliance obligations such as fenceline monitoring and the elimination of startup, shutdown, and malfunction (SSM) exemptions. This paper outlines the key compliance challenges faced by facilities in the Group I and II industries, identifies associated risks, and proposes actionable solutions to ensure compliance and mitigate potential impacts.

## 1. Background

The HON regulates HAP emissions from chemical manufacturing processes, including those in the SOCMI and P&R I and II industries. Group I Polymers and Resins include elastomers such as butyl rubber, neoprene, and styrene-butadiene rubber, while Group II covers epoxy resins and non-nylon polyamides. The 2024 amendments aim to reduce cancer risks in communities near these facilities by targeting six key HAPs: EtO, chloroprene, benzene, 1,3-butadiene, ethylene dichloride, and vinyl chloride. Key changes include:

- **Fenceline Monitoring:** Facilities must monitor ambient air concentrations of specified HAPs at their boundaries, with accelerated timelines for chloroprene monitoring at neoprene production facilities.
- **SSM Exemption Removal:** Emission standards now apply at all times, eliminating previous exemptions for startup, shutdown, and malfunction periods.
- **Enhanced MACT Standards:** New Maximum Achievable Control Technology (MACT) standards for process vents, storage vessels, heat exchange systems, and equipment leaks.
- **Compliance Deadlines:** Existing sources have up to three years for most requirements, but chloroprene-related controls for P&R I neoprene producers must be implemented within 90–150 days of the rule's effective date (likely July 2024).

These amendments affect approximately 218 facilities, with over half located in Louisiana and Texas, and pose significant operational, financial, and regulatory challenges.

## 2. Compliance Challenges

Facilities in the Group I and II Polymers and Resins industries face several obstacles in meeting the updated HON requirements:

### 2.1. Fenceline Monitoring Implementation

- **Challenge:** Facilities must establish fenceline monitoring programs to measure HAP concentrations, with neoprene producers facing a compressed 90–150-day timeline for chloroprene monitoring. This requires rapid deployment of monitoring equipment, calibration, and data management systems.
- **Complexity:** The monitoring regime varies by chemical and facility type, with quarterly reporting obligations starting three years after the rule's effective date. Ensuring accurate measurements and compliance with action levels (e.g., 10 times below action level for reduced sampling frequency) is technically demanding.
- **Resource Constraints:** Smaller facilities may lack the expertise or budget to implement sophisticated monitoring systems quickly.

### 2.2. Elimination of SSM Exemptions

- **Challenge:** The removal of SSM exemptions means facilities must maintain compliance with emission standards during all operating conditions, including periods of startup and shutdown, which are inherently variable and difficult to control.
- **Operational Impact:** Processes like elastomer production (e.g., butyl rubber, neoprene) involve complex front-end and back-end vents that may emit higher HAPs during SSM events, requiring new control strategies.
- **Retrofitting Needs:** Existing control devices may not be designed to handle SSM conditions, necessitating costly upgrades or replacements.

### 2.3. Stringent MACT Standards

- **Challenge:** New MACT standards require enhanced controls for process vents, storage vessels, heat exchange systems, and equipment leaks, particularly for EtO and chloroprene emissions. For example, neoprene production facilities must achieve significant chloroprene reductions.
- **Technological Barriers:** Some facilities may lack access to advanced control technologies (e.g., thermal oxidizers, scrubbers) capable of meeting the new limits, especially for high-variability processes.

- **Economic Burden:** Capital investments for control equipment and ongoing maintenance costs can strain facility budgets, particularly for smaller operators.

#### 2.4. Short Compliance Timelines

- **Challenge:** The accelerated timeline for chloroprene controls (90–150 days for neoprene producers) leaves little room for planning, procurement, and installation of necessary equipment. Other facilities have two years for fence-line monitoring and three years for most non-risk-related changes, but these timelines are still tight given the scope of upgrades required.
- **Supply Chain Risks:** Delays in equipment delivery or shortages of specialized components could hinder timely compliance.

#### 2.5. Regulatory Uncertainty

- **Challenge:** The EPA's mention of 90 days versus 150 days for chloroprene monitoring in different parts of the rule creates ambiguity, complicating compliance planning. Additionally, the Trump Administration's announcement on March 12, 2025, to reconsider NESHAP rules introduces uncertainty about potential rollbacks or modifications.
- **Legal Risks:** Industry groups are reportedly planning to challenge the rule, which could lead to delays or changes in requirements, making it difficult for facilities to commit to long-term investments.

### 3. Risks Associated with Non-Compliance

Failure to comply with the updated HON requirements poses significant risks:

- **Regulatory Penalties:** Non-compliance can result in fines, enforcement actions, or operational restrictions from the EPA's Office of Enforcement and Compliance Assurance (OECA). The Applicability Determination Index (ADI) database highlights the EPA's focus on compliance issues in these industries.
- **Community Health Impacts:** Elevated HAP emissions, particularly of carcinogens like EtO and chloroprene, increase cancer risks in surrounding communities, potentially leading to public backlash and reputational damage.
- **Economic Consequences:** Delays in compliance could necessitate rushed, costlier solutions, while non-compliance may lead to production halts or loss of market competitiveness.

- **Legal Liabilities:** Facilities failing to meet fenceline monitoring or emission standards may face lawsuits from environmental groups or affected communities, especially in high-risk areas like Louisiana’s “Cancer Alley.”
- **Operational Disruptions:** Retrofitting or installing new control systems may require temporary shutdowns, impacting production schedules and revenue.

#### 4. Potential Solutions

To address these challenges and mitigate risks, facilities can adopt the following strategies:

##### 4.1. Proactive Fenceline Monitoring Programs

- **Solution:** Invest in robust fenceline monitoring systems early, leveraging technologies like gas chromatography-mass spectrometry (GC/MS) or passive sampling for accurate HAP detection. Partner with environmental consultants to design and validate monitoring networks.
- **Action Steps:**
  - Conduct a site-specific assessment to identify optimal monitoring locations.
  - Train staff on data collection, analysis, and reporting requirements.
  - Implement pilot programs to test systems before full deployment, especially for neoprene producers facing short timelines.
- **Benefit:** Early adoption ensures compliance with monitoring deadlines and provides data to guide emission reduction strategies.

##### 4.2. Advanced Control Technologies for SSM Compliance

- **Solution:** Upgrade control systems to handle SSM conditions, such as installing high-efficiency flares, thermal oxidizers, or scrubbers designed for variable emission profiles. Use predictive modeling to anticipate SSM events and optimize controls.
- **Action Steps:**
  - Perform a gap analysis of existing control devices against new MACT standards.
  - Collaborate with vendors to source SSM-compatible equipment.
  - Develop standard operating procedures (SOPs) for managing emissions during startup and shutdown.

- **Benefit:** Ensures continuous compliance, reducing the risk of violations during SSM events.

#### 4.3. Capital Investment Planning

- **Solution:** Develop a phased investment plan to spread costs over the compliance timeline, prioritizing high-impact upgrades like chloroprene controls for neoprene producers. Explore financing options, such as grants or low-interest loans, for environmental compliance projects.
- **Action Steps:**
  - Conduct a cost-benefit analysis of control technologies and monitoring systems.
  - Engage with industry associations (e.g., American Chemistry Council) for shared resources or advocacy.
  - Allocate budgets for ongoing maintenance to sustain compliance.
- **Benefit:** Mitigates financial strain and ensures timely implementation of required upgrades.

#### 4.4. Supply Chain and Vendor Coordination

- **Solution:** Secure contracts with reliable vendors for monitoring equipment and control devices well in advance to avoid supply chain disruptions. Establish contingency plans for delayed deliveries.
- **Action Steps:**
  - Identify multiple suppliers for critical components.
  - Negotiate expedited delivery for neoprene producers facing short deadlines.
  - Maintain an inventory of spare parts to minimize downtime during installations.
- **Benefit:** Reduces the risk of missing compliance deadlines due to external delays.

#### 4.5. Regulatory Engagement and Compliance Monitoring

- **Solution:** Actively engage with the EPA and industry associations to clarify ambiguous requirements (e.g., 90 vs. 150 days for chloroprene monitoring) and stay informed about potential rule reconsiderations. Implement internal compliance tracking systems to monitor progress against deadlines.

- **Action Steps:**
  - Attend EPA workshops or in-person sessions on chemical industry rule changes.
  - Use the EPA's ADI database to review applicability determinations and ensure alignment with regulatory expectations.
  - Establish a compliance task force to oversee implementation and reporting.
- **Benefit:** Reduces regulatory uncertainty and enhances preparedness for inspections or audits.

#### 4.6. Community and Stakeholder Communication

- **Solution:** Proactively communicate with local communities about emission reduction efforts and fenceline monitoring results to build trust and mitigate reputational risks. Develop public-facing reports summarizing compliance measures.
- **Action Steps:**
  - Host community forums to explain the impact of new controls.
  - Publish fenceline monitoring data in an accessible format, as required by the rule.
  - Partner with local environmental groups to address concerns about HAP emissions.
- **Benefit:** Strengthens community relations and reduces the likelihood of legal or public relations challenges.

#### 5. Conclusion

The 2024 HON amendments for Group I and II Polymers and Resins present significant compliance challenges, including fenceline monitoring, SSM exemption removal, stringent MACT standards, tight timelines, and regulatory uncertainty. These challenges carry risks of penalties, health impacts, economic losses, and reputational damage. However, by adopting proactive solutions—such as early monitoring implementation, advanced control technologies, strategic investment planning, supply chain coordination, regulatory engagement, and community outreach—facilities can achieve compliance, mitigate risks, and contribute to safer, healthier communities. Collaboration with industry experts, vendors, and regulators will be critical to navigating this complex regulatory landscape successfully.

## 6. References

- U.S. Environmental Protection Agency. (2024). Final Rule to Strengthen Standards for Synthetic Organic Chemical Plants and Polymers and Resins Plants.
- ALL4. (2024). Final Revisions to SOCM I NESHAPs and NSPS and the NESHAPs for Group I and II Polymers and Resins.
- Federal Register. (2024). New Source Performance Standards for the Synthetic Organic Chemical Manufacturing Industry and National Emission Standards.
- U.S. Environmental Protection Agency. (2025). Group I Polymers and Resins: National Emission Standards for Hazardous Air Pollutants (NESHAP).
- GlobalELR. (2024). EPA Finalizes Rule Requiring Ethylene Oxide (EtO) and Chloroprene Emissions Cuts at Chemical Plants.

### **Postscript: Impact of Trump Administration EPA Changes and Denka Facility Closure on Group I and II Polymers and Resins HON Compliance**

Since the finalization of the Hazardous Organic NESHAP (HON) amendments on April 9, 2024, significant developments have emerged that could reshape the compliance landscape for the Group I and II Polymers and Resins (P&R I and II) industries. On March 12, 2025, the Trump administration's Environmental Protection Agency (EPA), under Administrator Lee Zeldin, announced plans to reconsider multiple National Emission Standards for Hazardous Air Pollutants (NESHAPs), including those affecting the Synthetic Organic Chemical Manufacturing Industry (SOCMI) and P&R I and II industries. Additionally, Denka Performance Elastomer LLC, the sole U.S. neoprene producer, announced in early 2025 its decision to permanently close its chloroprene-emitting facility in LaPlace, Louisiana, citing the EPA's stringent 90–150-day compliance timeline for chloroprene controls as a primary driver. This postscript examines these developments, their potential impact on the HON requirements, and the implications for the industry.

### **Trump Administration's Reconsideration of NESHAP Rules**

The Trump administration's EPA has signaled a broad deregulatory agenda, with a specific focus on revisiting air quality regulations perceived as burdensome to American industry. The March 12, 2025, announcement highlighted the reconsideration of NESHAPs affecting chemical manufacturing, energy, and other sectors, with the HON and P&R I and II NESHAPs explicitly included. The EPA is exploring a two-year compliance exemption under Section

112(i)(4) of the Clean Air Act, which would delay enforcement of the 2024 amendments while the agency conducts a rulemaking process to potentially revise or roll back these standards. This move aligns with the administration's broader goal of prioritizing economic growth and energy production, as outlined in Executive Orders emphasizing the "Great American Comeback."

The reconsideration process introduces significant regulatory uncertainty. Potential outcomes include:

- **Modification of Fenceline Monitoring Requirements:** The EPA may relax the frequency, action levels, or scope of fenceline monitoring for hazardous air pollutants (HAPs) like ethylene oxide (EtO) and chloroprene, particularly for non-neoprene producers who have a two-year timeline for implementation.
- **Reinstatement of SSM Exemptions:** The administration could seek to restore exemptions for startup, shutdown, and malfunction (SSM) periods, reducing the need for costly retrofits to maintain continuous compliance.
- **Extended Compliance Timelines:** Beyond the proposed two-year exemption, the EPA may extend deadlines for chloroprene controls (currently 90–150 days for neoprene producers) or other MACT standards, alleviating pressure on facilities to implement upgrades rapidly.
- **Reduction in MACT Standards Stringency:** The EPA could revise Maximum Achievable Control Technology (MACT) standards to lower the technological and financial burdens of controlling emissions from process vents, storage vessels, and equipment leaks.

The reconsideration is likely to face legal challenges from environmental groups, who argue that rollbacks could undermine public health protections, particularly in communities near chemical plants. Conversely, industry groups, such as the American Chemistry Council, are expected to support the EPA's efforts, citing the high costs and technical challenges of the 2024 amendments.

### **Denka's Chloroprene Facility Closure**

On July 1, 2024, Denka Performance Elastomer announced its intent to permanently close its LaPlace, Louisiana, facility, the only U.S. neoprene production plant, in response to the EPA's mandate to reduce chloroprene emissions within 90–150 days of the HON rule's effective date (likely July 2024). Denka stated that the "unprecedented and draconian" compliance timeline, combined with the significant capital investment required for advanced control technologies, rendered continued operation economically unviable. The



facility, located in the “Cancer Alley” region, employs approximately 250 workers and produces neoprene for products like automotive belts, wetsuits, and orthopedic braces.

The closure follows a contentious legal battle with the EPA and the U.S. Department of Justice, initiated in February 2023, which sought to compel Denka to reduce chloroprene emissions under the Clean Air Act’s emergency powers provision. The EPA cited elevated cancer risks for nearby communities, particularly for children attending schools within 450 feet of the facility. Denka’s decision to close was further influenced by the Trump administration’s dismissal of this lawsuit on March 7, 2025, which, while relieving immediate legal pressure, did not alter the underlying HON compliance requirements.

The closure has significant implications:

- **Supply Chain Disruptions:** As the sole U.S. neoprene producer, Denka’s exit could lead to shortages of neoprene-based products, increasing reliance on imports and potentially raising costs for downstream industries.
- **Economic Impact:** The loss of 250 jobs and related economic activity in LaPlace could strain the local economy, particularly in a region already burdened by industrial pollution.
- **Precedent for Other Facilities:** Denka’s closure may signal to other P&R I and II facilities that non-compliance or inability to meet tight timelines could lead to operational shutdowns, prompting some to prioritize compliance or exit the market.

### **Implications for the Group I and II Polymers and Resins Industry**

The Trump administration’s deregulatory push and Denka’s closure create a complex landscape for the 218 facilities subject to the HON amendments, with over half located in Louisiana and Texas. Key implications include:

#### **1. Regulatory Uncertainty and Planning Challenges:**

- The potential for NESHAP rollbacks complicates long-term compliance planning. Facilities that have already invested in fenceline monitoring systems or control technologies may face sunk costs if requirements are relaxed, while those delaying investments risk non-compliance if rollbacks are limited or overturned by courts.
- The ambiguity surrounding the 90 vs. 150-day chloroprene monitoring timeline, noted in the original paper, may be resolved or extended during the reconsideration, but facilities must prepare for the shorter timeline as a conservative measure until clarity is provided.

## 2. Financial and Operational Impacts:

- A two-year compliance exemption would provide temporary relief, allowing facilities to spread capital investments for MACT upgrades or monitoring systems over a longer period. However, the high costs of advanced control technologies (e.g., thermal oxidizers, scrubbers) remain a concern, particularly for smaller operators.
- Denka's closure underscores the financial strain of rapid compliance timelines, especially for chloroprene controls. Other neoprene producers (if any emerge) or facilities with similar HAP emissions may face similar pressures, potentially leading to additional closures or production shifts to less regulated regions.

## 3. Community and Legal Dynamics:

- The dismissal of the Denka lawsuit and the EPA's retreat from "environmental justice" priorities may reduce legal risks for facilities in communities like "Cancer Alley." However, environmental groups are likely to intensify advocacy and litigation, increasing reputational and legal risks for non-compliant facilities.
- Facilities must continue community engagement efforts, as outlined in Section 4.6, to mitigate public backlash, especially if fenceline monitoring data reveals elevated HAP concentrations.

## 4. Market and Competitive Effects:

- Denka's exit could create market opportunities for international neoprene producers, but it also highlights the competitive disadvantage faced by U.S. facilities under stringent regulations. If NESHAP rollbacks occur, they could level the playing field, encouraging investment in domestic production.
- Facilities that proactively comply with the 2024 amendments, despite potential rollbacks, may gain a competitive edge by demonstrating environmental stewardship and avoiding future regulatory whiplash.

## 5. Strategic Recommendations:

- **Monitor EPA Developments:** Facilities should actively participate in EPA workshops and comment periods during the reconsideration process to influence potential revisions. Engaging with industry associations can amplify advocacy efforts.

- **Adopt Flexible Compliance Strategies:** Implement scalable solutions, such as modular monitoring systems or interim control technologies, to balance compliance with the risk of regulatory changes.
- **Strengthen Supply Chain Resilience:** Anticipate potential disruptions from facility closures (e.g., neoprene shortages) by diversifying suppliers or exploring alternative materials.
- **Enhance Community Trust:** Continue transparent communication with local communities, publishing fenceline monitoring data and hosting forums, to maintain social license to operate regardless of regulatory shifts.

## Conclusion

The Trump administration's intent to reconsider the HON and P&R I and II NESHAPs introduces both opportunities and challenges for the Group I and II Polymers and Resins industries. A potential two-year compliance exemption and relaxed standards could alleviate financial and operational burdens, but facilities must navigate ongoing uncertainty and legal risks. Denka's closure of its LaPlace facility highlights the severe consequences of stringent compliance timelines, particularly for chloroprene controls, and serves as a cautionary tale for other facilities. By adopting proactive, flexible strategies and maintaining robust community engagement, the industry can mitigate risks, ensure operational continuity, and adapt to an evolving regulatory landscape. Collaboration with regulators, vendors, and stakeholders remains essential to achieving compliance and sustaining competitiveness in a dynamic environment.

[www.ClearPathEnv.com](http://www.ClearPathEnv.com)

ClearPath Environmental Consulting, Inc  
4310 Ryan St., Suite 101, Lake Charles LA 70605  
(225) 280-9592  
[info@clearpathenv.com](mailto:info@clearpathenv.com)



Copyright © 2025 ClearPath Environmental Consulting, Inc.