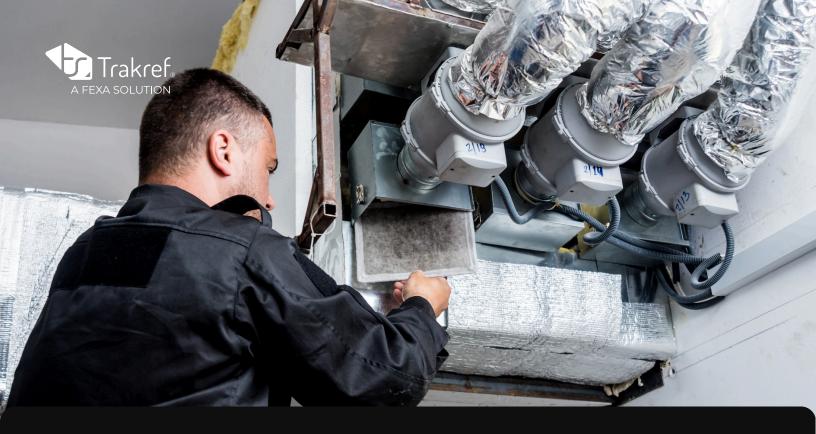


The Quick Reference Guide to EPA's Refrigerant Management Regulations (AIM Act) for Businesses



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Introduction

Effective refrigerant management has become a cornerstone of compliance and sustainability in the HVAC and refrigeration industries. With the AIM Act, businesses face stricter regulations designed to phase down harmful hydrofluorocarbons (HFCs) and promote sustainable practices. This guide unpacks the AIM Act, its requirements, and actionable steps for businesses to remain compliant while optimizing operations.



What is the AIM Act?

The American Innovation and Manufacturing (AIM) Act, signed into law in 2020, is a pivotal piece of legislation aimed at reducing the environmental impact of HFCs—potent greenhouse gases commonly used in refrigeration and air conditioning systems. HFCs, though effective as refrigerants, have high global warming potential (GWP) and contribute significantly to climate change.

Key Objectives

- **Phasedown of HFCs:** The AIM Act seeks to reduce HFC production and consumption by 85% by 2036.
- Emission Reduction & Reclamation (ER&R): Encourages reclamation and reuse of refrigerants to minimize emissions.
- **Tightened Management Practices:** Mandates proactive leak detection, repair protocols, and stricter record-keeping requirements

Milestones and Compliance Dates





The AIM Act reflects the U.S. commitment to the Kigali Amendment to the Montreal Protocol, aligning with global efforts to mitigate climate change through refrigerant management. For a detailed breakdown of the AIM Act's objectives and requirements, explore the AIM Act: What You Need to Know and Do to Comply



Who Needs to Comply?

The AIM Act applies broadly across industries and asset types. Whether you manage large industrial refrigeration systems or small commercial cooling systems, chances are your operations fall under these new regulations.

Industries and Asset Types Affected

- 1. **Industrial Refrigeration:** Manufacturing, food processing, and cold storage facilities.
- 2. Commercial Refrigeration: Grocery stores, restaurants, and warehouses.
- 3. **Comfort Cooling Systems:** Offices, hotels, and residential complexes.

Thresholds for Applicability

Systems with a refrigerant charge of **15 pounds or more** and a GWP greater than **53** are now regulated. Smaller systems, previously exempt, must comply with the new requirements.



For a complete breakdown, use the <u>AIM Act Flow Chart</u> to determine if your assets are affected and for more information on upcoming regulations and thresholds, refer to the <u>2025 Refrigerant Regulations Roadmap</u>.



What are the Core Requirements?

Compliance with the AIM Act involves stringent protocols that ensure proper management of refrigerants and reduce their environmental impact. These requirements span across leak detection, reporting, and the transition to environmentally friendly refrigerants. Below are the comprehensive details of these mandates:

1. Leak Detection and Repair Timelines

The AIM Act emphasizes the importance of proactive leak management to minimize refrigerant emissions, which contribute significantly to climate change. The following requirements outline the measures businesses must take:



Regular Leak Inspections

- All systems containing **15 pounds or more** of refrigerants with a Global Warming Potential (GWP) greater than 53 must undergo routine inspections to detect leaks.
- Inspections must align with the system type: monthly for industrial refrigeration, quarterly for medium-sized systems, and annually for smaller units.



Automatic Leak Detection Systems (ALDs)

- Systems with refrigerant charges exceeding **1,500 pounds** must have ALDs installed. These systems are designed to:
 - Continuously monitor refrigerant levels in real time.
 - Trigger immediate alerts upon detecting irregularities or leaks.
 - Minimize human error by automating the detection process.
- ALDs must be calibrated and tested regularly to ensure accuracy and compliance.



Timelines for Leak Repairs

- Once a leak is identified, businesses must repair it promptly to meet the EPA's specific timelines.
- Repairs must be verified through follow-up inspections to ensure the effectiveness of corrective actions.



Example: A business operating a large commercial refrigeration system must fix any detected leaks within 30 days and confirm the repair with a subsequent inspection. Failing to do so could result in steep fines and penalties.

2. Record-Keeping and Reporting

Accurate documentation is a cornerstone of compliance under the AIM Act. The EPA requires businesses to maintain detailed logs of refrigerant management activities, which must be readily available for audits.



- Service Activities: Include the dates, scope of work, and actions taken during maintenance or repairs.
- Refrigerant Types and Quantities: Track the type (e.g., R-410A, R-134a) and amount of refrigerant used, reclaimed, or disposed of.
- **Technician Certifications:** Maintain records verifying that technicians handling refrigerants are EPA-certified.

Reporting Standards

- Businesses must track refrigerant purchases, inventory levels, and disposal practices.
- Regular updates on leak rates, repairs, and reclamation activities must be submitted to the EPA.
- Records must be stored digitally for a minimum of 3 years, ensuring accessibility for audits.

Importance of Automation

- Leveraging software solutions like Trakref can simplify the record-keeping process by automating data entry, generating reports, and alerting businesses to upcoming deadlines.
- Watch how Trakref simplifies refrigerant management and compliance in this short video: Refrigerant Management Made Simple with Trakref: A Fexa Solution.



3. Transition to Next-Generation Refrigerants

To align with the AIM Act's phasedown of HFCs, businesses are encouraged to adopt next-generation refrigerants and sustainable practices.

Reclaimed Refrigerants

- When servicing existing equipment, businesses are required to use reclaimed or recycled HFCs whenever possible.
- This approach reduces the reliance on newly manufactured refrigerants and supports the ER&R (Emission Reduction and Reclamation) program.

Adoption of Low-GWP Alternatives

- Businesses are incentivized to transition to hydrofluoroolefins (HFOs) and other low-GWP refrigerants.
- These alternatives provide similar cooling efficiency while significantly reducing environmental impact.

Equipment Modernization

• Transitioning to next-generation refrigerants may require retrofitting or replacing older equipment. Businesses are encouraged to budget for these upgrades to meet future compliance requirements.

Example: A grocery chain using R-134a in its refrigeration units could retrofit its systems to use R-1234yf, a low-GWP alternative, to comply with the AIM Act while enhancing sustainability initiatives.

By adhering to these core requirements, businesses not only avoid penalties but also contribute to broader environmental goals. Implementing leak detection systems, maintaining meticulous records, and transitioning to next-generation refrigerants are essential steps to ensuring compliance and operational efficiency.



Explore how the <u>Trakref API</u> can help you transition to next-generation refrigerants and streamline compliance processes.



What Are the Penalties for Non-Compliance?



Financial Penalties



Operational and Reputational Impacts



Legal Consequences



Long-Term Business Risks

Failure to comply with the AIM Act's requirements can result in a wide array of financial, operational, and reputational consequences. These penalties are designed to ensure that businesses adhere to the regulations and prioritize environmental sustainability in their operations. Below is a detailed look at the implications of non-compliance:

Financial Penalties

Non-compliance with the AIM Act can result in severe monetary fines, which can significantly impact a business's bottom line.

Daily Fines

- The EPA imposes fines of up to \$60,000 per day per violation, particularly for non-compliance with leak repair requirements, failure to maintain accurate records, or lack of mandatory reporting.
- These fines accumulate quickly, making even minor delays in compliance extremely costly

Cumulative Penalties

 Repeated violations or extended periods of non-compliance can lead to cumulative fines reaching hundreds of thousands or even millions of dollars.



Case Examples

- A New York City grocery chain was fined \$400,000 for refrigerant violations, highlighting the substantial financial risk of failing to adhere to these regulations.
- A Colorado salvage company faced \$195,000 in fines for improper refrigerant disposal.

Additional Costs

 Businesses may incur additional costs for emergency repairs, hiring environmental consultants, or legal defense in the event of enforcement actions.

Operational and Reputational Impacts

Non-compliance extends beyond financial penalties and can severely disrupt business operations while tarnishing a company's reputation.

Operational Disruptions

- **Equipment Shutdowns:** Regulatory agencies can order the shutdown of non-compliant equipment until the issues are resolved, leading to costly downtime and potential loss of revenue.
- Supply Chain Disruptions: Businesses reliant on refrigeration and cooling systems may experience delays in production or delivery, impacting their ability to meet customer demands.
- **Increased Compliance Oversight:** Non-compliant businesses may be required to undergo frequent inspections or audits, adding to administrative burdens and operational inefficiencies.

Reputational Damage

- In today's environmentally conscious market, businesses failing to comply with sustainability regulations risk losing consumer trust.
- A reputation for environmental negligence can deter potential clients and investors, particularly as consumers increasingly prioritize sustainability in their purchasing decisions.

Example: A study found that consumers are willing to pay nearly 10% more for products from companies that demonstrate sustainable practices. Non-compliance could lead to negative press and public scrutiny, damaging brand loyalty.



Legal Consequences

In addition to financial penalties and operational impacts, non-compliance can lead to legal repercussions:

Criminal Prosecution

• Willful violations of the AIM Act's provisions can result in criminal charges against the business or responsible individuals, potentially leading to imprisonment.

Loss of Licenses and Permits

 Repeated violations can result in the suspension or revocation of business licenses and permits, effectively halting operations.

• Third-Party Liability

• Businesses may face lawsuits from stakeholders, customers, or partners affected by their non-compliance.

Examples of Non-Compliance Consequences

Regulatory Penalties

• Businesses failing to repair leaks promptly or maintain accurate records have faced substantial fines, with penalties escalating for repeat offenses.

Public Backlash

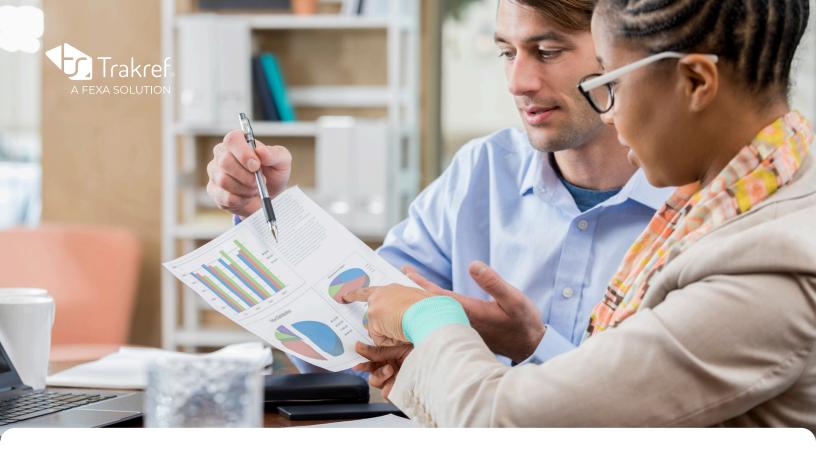
 Public disclosure of regulatory violations can lead to boycotts or loss of key partnerships, further impacting a company's financial and operational stability.

Increased Insurance Costs

 Non-compliance can result in higher insurance premiums or difficulty obtaining coverage due to perceived operational risks.



See how Trakref ensures you stay ahead of compliance requirements in our video: Never Worry About Compliance Again with Trakref: A Fexa Solution.



Long-Term Business Risks

Decreased Market Competitiveness

• Non-compliant businesses risk falling behind competitors that align with sustainability initiatives, losing access to environmentally conscious markets and government contracts.

• Higher Operational Costs

• Emergency retrofitting or last-minute compliance efforts can significantly inflate costs compared to proactive adherence to regulations.

Talent Loss

• Non-compliance can deter employees who prioritize working for environmentally responsible organizations, affecting recruitment and retention.



What Steps Can Businesses Take to **Stay Compliant?**

Staying compliant with the AIM Act requires businesses to take a proactive, organized approach to refrigerant management. Implementing systematic procedures and leveraging modern technologies will not only ensure regulatory compliance but also enhance operational efficiency. Below are the key steps businesses should take:

Conduct a Thorough Asset Inventory

An accurate and comprehensive inventory is the foundation of compliance. Businesses must identify and document all refrigerant-containing assets, ensuring that no equipment is overlooked.

Key Details to Document

- Refrigerant Type and GWP Rating: Determine the type of refrigerant (e.g., R-410A, R-134a) and its Global Warming Potential (GWP). This helps identify assets that fall under the AIM Act's thresholds.
- Charge Size: Record the refrigerant charge size (measured in pounds) for each system. Any system with a charge of 15 pounds or more must comply with the AIM Act's requirements.
- Unique Identifiers: Assign asset tags or serial numbers to each piece of equipment to simplify tracking and maintenance.

Why It Matters

- An accurate inventory ensures businesses can identify which assets require regular inspections, leak detection systems, or additional record-keeping measures.
- It also provides a clear starting point for budgeting and operational planning, especially when upgrading or replacing non-compliant equipment.

Pro Tip: Use the Asset Inventory Checklist to streamline this process.



Proactive Leak Detection and Maintenance

Leak detection and preventive maintenance are critical for minimizing emissions and ensuring system efficiency.

Install Automatic Leak Detection (ALD) Systems

- For systems with refrigerant charges exceeding 1,500 pounds, ALDs are mandatory under the AIM Act. These systems provide continuous monitoring, sending real-time alerts when leaks occur.
- Regular calibration and testing of ALDs are essential to ensure accuracy and compliance.

• Schedule Routine Inspections

- Establish inspection schedules based on system size and refrigerant type. Larger systems may require monthly inspections, while smaller systems typically need annual check-ups.
- Inspections should identify leaks early, allowing for timely repairs and avoiding potential regulatory violations.

• Prioritize Preventive Maintenance

• Regularly inspect and maintain refrigerant systems to avoid costly emergency repairs. Proactive maintenance extends equipment life, improves energy efficiency, and ensures compliance with leak repair timelines.



Implement Digital Record-Keeping Solutions

Maintaining accurate records is a cornerstone of AIM Act compliance. Digital solutions can simplify this process and reduce the risk of errors.

Refrigerant Management Software

- · Automate the tracking of refrigerant usage, maintenance activities, and inventory levels.
- Generate reports that meet EPA audit standards, ensuring businesses can provide documentation on demand.
- Set alerts for upcoming deadlines, such as required inspections or repairs.

• Benefits of Automation

- Eliminates manual data entry, reducing the likelihood of human error.
- Consolidates all compliance-related data into a centralized, easily accessible platform.

Example: A grocery chain using digital record-keeping software could seamlessly track refrigerant leaks and repairs across multiple locations, ensuring compliance while optimizing operational efficiency.



Learn more about Trakref's comprehensive refrigerant management capabilities: What is Trakref and How Does It Work?



What Tools and Technologies Can Help?

The complexity of AIM Act compliance necessitates the use of advanced tools and technologies. These solutions streamline refrigerant management, enhance operational efficiency, and ensure businesses stay ahead of regulatory requirements.

1. Refrigerant Management Software

Trakref

- Trakref is a leading refrigerant management platform offering real-time tracking, automated compliance alerts, and robust reporting features.
- The software simplifies workflows by integrating with existing systems and providing actionable insights to ensure compliance.



Check out insights from Manny Garcia's session at the FacilitiesX 2024 event: FacilitiesX 2024 Refrigerant Management Session.

Key Features

- Leak Detection Integration: Tracks and reports leaks in real time, ensuring businesses address issues promptly.
- Audit-Ready Reports: Automatically generates compliance reports that meet EPA standards.
- Inventory Tracking: Provides a centralized view of refrigerant usage and inventory levels across multiple locations.
- Why Use Trakref?
 - Businesses can reduce administrative burdens, avoid costly fines, and focus on core operations while staying compliant.



2. Integrated CMMS Platforms

What They Do

- Computerized Maintenance Management Systems (CMMS) integrate refrigerant management with broader maintenance operations.
- These platforms centralize data, streamline workflows, and improve crossdepartment collaboration.

Benefits

- Ensure seamless communication between facilities management and compliance teams.
- Enable proactive maintenance by integrating work orders, inspections, and refrigerant tracking into a single system.

Example: A CMMS platform could automatically generate a maintenance request when an ALD detects a potential refrigerant leak, ensuring swift resolution and compliance.



How Does Compliance Create Long-Term Value?

While compliance with the AIM Act is essential for avoiding penalties, it also delivers substantial long-term benefits for businesses:

(\$) Cost Savings

Reduced Leak Costs

- Proactively detecting and repairing leaks minimizes refrigerant loss, reducing replacement costs and improving system efficiency.
- Preventive maintenance extends equipment life, lowering repair and replacement expenses.

Avoiding Fines

• Businesses adhering to compliance standards avoid costly penalties, preserving financial stability.

Example: A proactive refrigerant management program helped one retailer save thousands annually by reducing leaks and energy costs.

Sustainability and ESG Alignment

Environmental Impact

- Compliance with the AIM Act supports broader corporate sustainability goals by reducing greenhouse gas emissions.
- Transitioning to low-GWP refrigerants demonstrates a commitment to environmental responsibility.

Enhanced ESG Reporting:

o Businesses can leverage compliance data to bolster Environmental, Social, and Governance (ESG) reporting, improving transparency and stakeholder trust.



Reputation Management

• Building Trust

- Demonstrating compliance with the AIM Act enhances credibility among consumers, investors, and regulators.
- Businesses seen as environmentally responsible are better positioned to attract eco-conscious customers and stakeholders.

Competitive Advantage

o Organizations that prioritize sustainability gain a competitive edge in markets increasingly focused on environmental stewardship.

Example: A company aligning its refrigerant management practices with AIM Act requirements received positive press coverage, boosting customer loyalty and investor confidence.



Consider Your Next Steps

As the January 2026 compliance deadline approaches, businesses must act now to meet AIM Act requirements. With advanced tools and best practices, organizations can align with regulatory standards, optimize operations, and support a sustainable future.

Start your compliance journey today—explore how Fexa and Trakref can streamline refrigerant management and ensure regulatory success by requesting a demo today.