



Managing Your Refrigerant Portfolio and Regulatory Compliance Through Data

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Today's Host



Annie Kee

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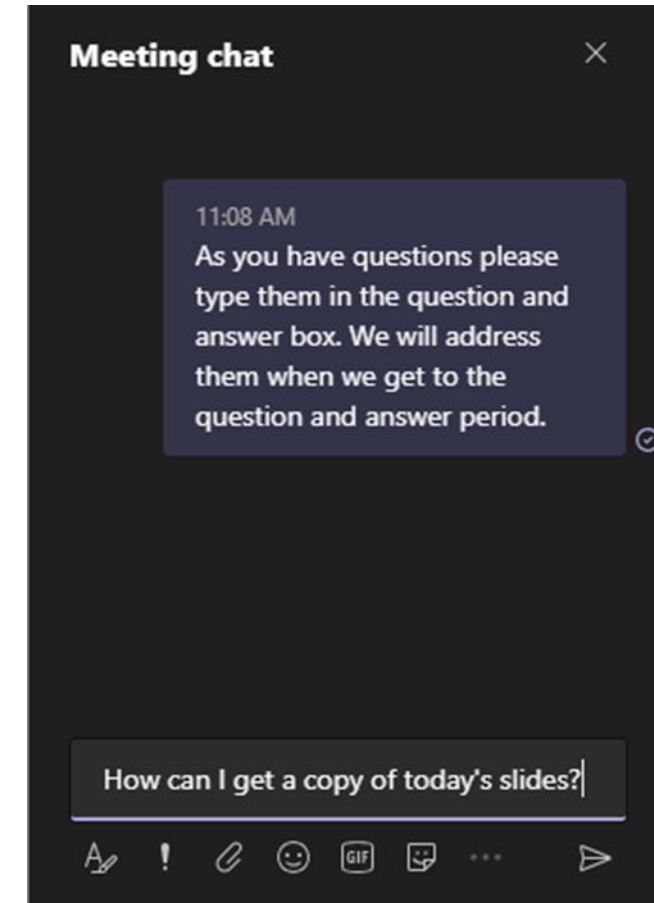
Annie is an Environmental Protection Specialist in the Stratospheric Protection Division (SPD) in EPA's Office of Atmospheric Protection, where she works on rulemakings under the American Innovation and Manufacturing (AIM) Act and partnership programs. Prior to SPD, she also worked on EPA's SmartWay program, which helps companies advance supply chain sustainability by improving freight transportation efficiency.

Questions



Question and Answer (Q&A) Session

- Participants are muted
- Questions will be moderated at the end
- To ask a question, enter your comment into the chat box



Webinar Feedback and Materials



Feedback Form

- We value your input!
- The link to a feedback form will appear in the chat window

Recording and Slides

- Webinar is being recorded
- Materials will be posted on the GreenChill website under Events and Webinars: www.epa.gov/greenchill
- To receive notification when materials are posted email: EPA-GreenChill@abtassoc.com

Program Overview



www.epa.gov/greenchill

GreenChill is a voluntary partnership program that works collaboratively with the food retail industry to reduce refrigerant emissions and decrease stores' impact on the ozone layer and climate system

GreenChill works to help food retailers:

- Lower refrigerant charge sizes and eliminate leaks
- Transition to environmentally friendlier refrigerants
- Adopt green refrigeration technologies and best environmental practices

Become a GreenChill Partner!



**Join your
Industry Peers!**

*GreenChill is
actively recruiting
new Food Retail
Partners*



Request a
partnership packet



Sign the partnership
agreement



Meet eligibility
requirements



Become a GreenChill
partner!

The GreenChill Partnership Process

epa.gov/greenchill/about-greenchill-corporate-emissions-reduction-program

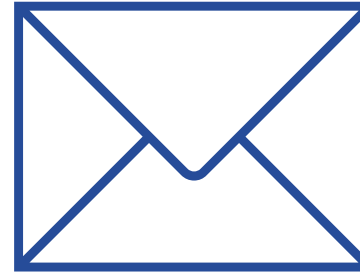
Upcoming GreenChill Webinars



We are planning GreenChill's 2024 webinar series. Have ideas for a webinar or would you like to present? Email GreenChill@epa.gov

To join our webinar invitation list, email EPA-GreenChill@abtassoc.com

Learn More



www.epa.gov/greenchill

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Today's Speakers...

Glenn Barrett



Glenn Barrett

Sr. Associate Partner at DC Engineering
Technical Engineering Lead/Manager at
Refrigerant Management Solutions

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Glenn is a veteran in commercial refrigeration design, construction, commissioning, and refrigerant compliance. He provides industry insights on supermarket energy modeling, measurement and verification, and controls, and is a consultant and speaker on natural refrigerant system design, deployment, and best practices.

Leia Waln



Leia Waln

Associate Partner at DC Engineering
Refrigerant Compliance Program Manager
at Refrigerant Management Solutions

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Leia has over 12 years of refrigerant compliance experience. She is well-known within the food retail industry as a refrigerant compliance and reporting subject matter expert. She has consulted for some of the largest supermarket chains in the country. She has an unparalleled breadth and depth of experience with regulatory requirements and how they apply to the real-world scenarios that retailers face. In addition to overseeing the day-to-day operations of RMS, Leia keeps on top of the ever-changing regulations and provides regulatory updates and training to owners, contractors, and other industry stakeholders.



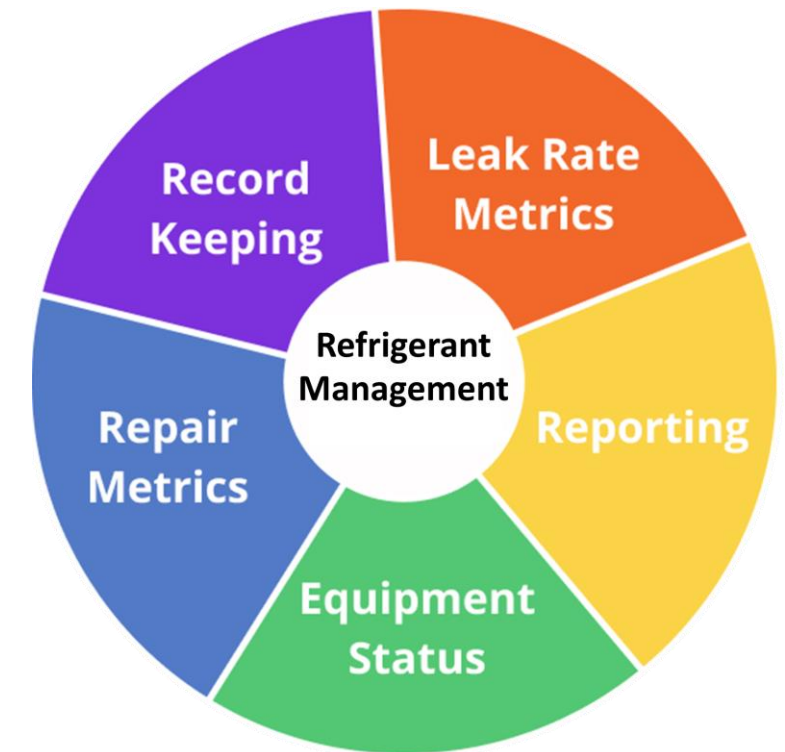
Managing Your Refrigerant Portfolio and Regulatory Compliance Through Data

Presented by DC Engineering & Refrigerant Management Solutions

Learning Objectives



- Changes and Impacts to Supermarket Operations and Maintenance
- Business Systems and Processes to support Supermarket Refrigerant Transition
 - Training
 - Refrigerant Management with Key Metrics
 - Proactive Refrigerant Management
- Data driven approach
- Attributes of an effective Refrigerant Management Database
- Refrigerant Management Metrics
 - What is important?
 - How to develop?
 - How to use?
- Leak Mitigation Data
 - What data is important and how to use it
 - Budgetary impacts





BIG PICTURE CHANGES

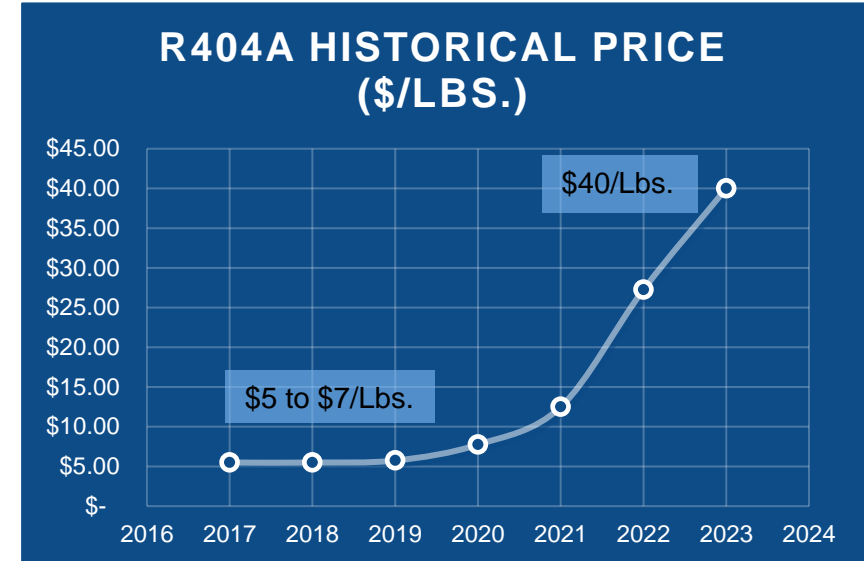
Impacts on Supermarket Operations and Maintenance

Big Picture Changes

Impacts on Supermarket Operations and Maintenance



- What the refrigerant transition changes
 - Increase in refrigerant “value”
 - Cost and availability of high global warming potential (GWP) refrigerants
 - Increased requirement for “reclaimed” refrigerants
 - Increased potential for fines and legal actions
 - No path backward – new equipment – no choice
 - Increased tracking, reporting, and visibility



Chemours and Honeywell announce suspension of high-GWP refrigerants R-404A and R-507A supply in the European Union (EU)

<https://www.chemours.com/en/news-media-center/all-news/press-releases/>

<https://www.honeywell-refrigerants.com/europe/>

Chemours and Honeywell announce reclaim and recycling program extension in EU and United Kingdom

<https://www.chemours.com/en/news-media-center/all-news/press-releases/2023/chemours-and-honeywell-announce-reclaim-and-recycling-program-extension-in-eu-and-uk>

EPA-Certified Refrigerant Reclaimers

<https://www.epa.gov/section608/epa-certified-refrigerant-reclaimers>

Importance of Data

Impacts on Supermarket Operations and Maintenance



- Trust – are you set up to improve or remain status quo?
 - Meeting recordkeeping requirements
 - No ability to manage the resource without data and metrics
 - Information must be accurate, source documented, and reproducible
 - Amount of refrigerant added
 - Dates for leak found, fixed, verification tests
 - Actions taken along with dates
 - Leak rate calculation
- Process changes must happen to improve leak rates



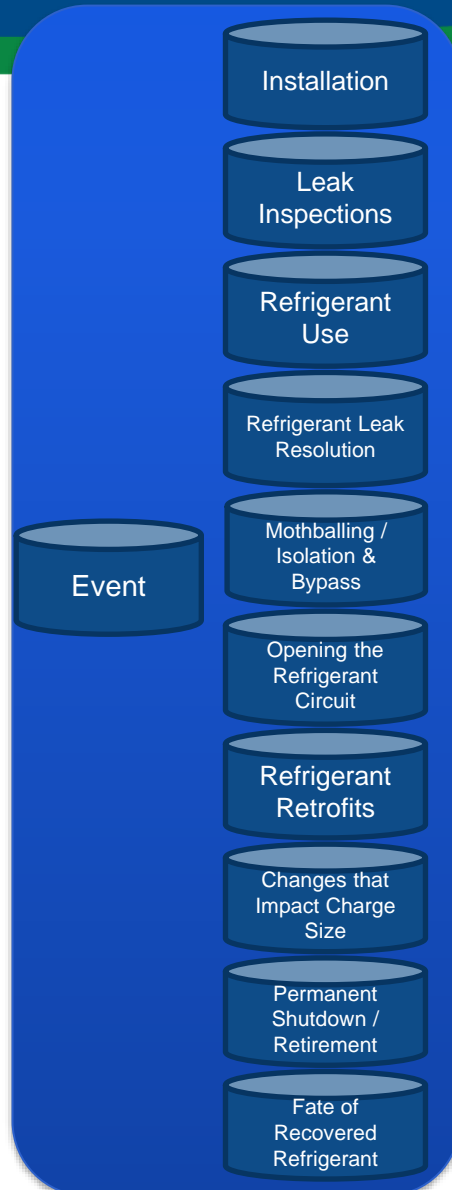
Refrigerant Management

Where to Start



Single form filled out by Admin from technician notes will not work

S/No	Elements	Level of Impact of this Practice in Productivity		
		NEW CONSTRUCTION (0 to 5 Scale) (0 = No Impact, 5 = Highest Impact)	MAINTENANCE	SHUTDOWN/TURNAROUND
I - MATERIALS MANAGEMENT				
A. Material Management Systems				
1.A.5	Pre Fabricated Material Tracking			
1.A.6	Material Issuing Procedure & Material Usage Tracking			
B. Receipt and Inspection of Materials				
1.B.4	Centralized Ware House On site, Including Storage for Fabricated Materials			
1.B.5	QA/QC Inspection & Assessment and NDT Testing & Tracking Plan			
II - EQUIPMENT LOGISTICS				
B. Machinery Availability				
2.B.3	Construction Machinery Tracking			
2.B.4	Fuel Top up Schedule for Equipment and Machinery			
2.B.5	On-site Construction Equipment Lay Down Area			
III - CRAFT INFORMATION SYSTEMS				
A. Short Interval Planning				
3.A.2	Centralized Planning, Work Prioritization, and Process Control			
B. Workface Planning				
3.B.9	Quality Control Systems			



Refrigerant Management and Compliance Database

- Start surveying - document appliances containing refrigerant
 - Accurate charge sizes
 - Decide on how low of charge to track
 - Define important information to capture
 - Surveying takes resources – make the actions count
 - Capture all information required for management of the asset and compliance reporting

- Consider how data is input into the Database, ability to output data or generate meaningful reports

Attributes of a Refrigerant Management Database

Where to Start



- Select a database or platform to record data and produce reports
 - Does it capture and store the data needed for reporting?
 - Can I track my progress and develop metrics?
 - Real-world maintenance practices don't fall nicely into the process outlined by the regulations – Does the database functionality meet my needs?

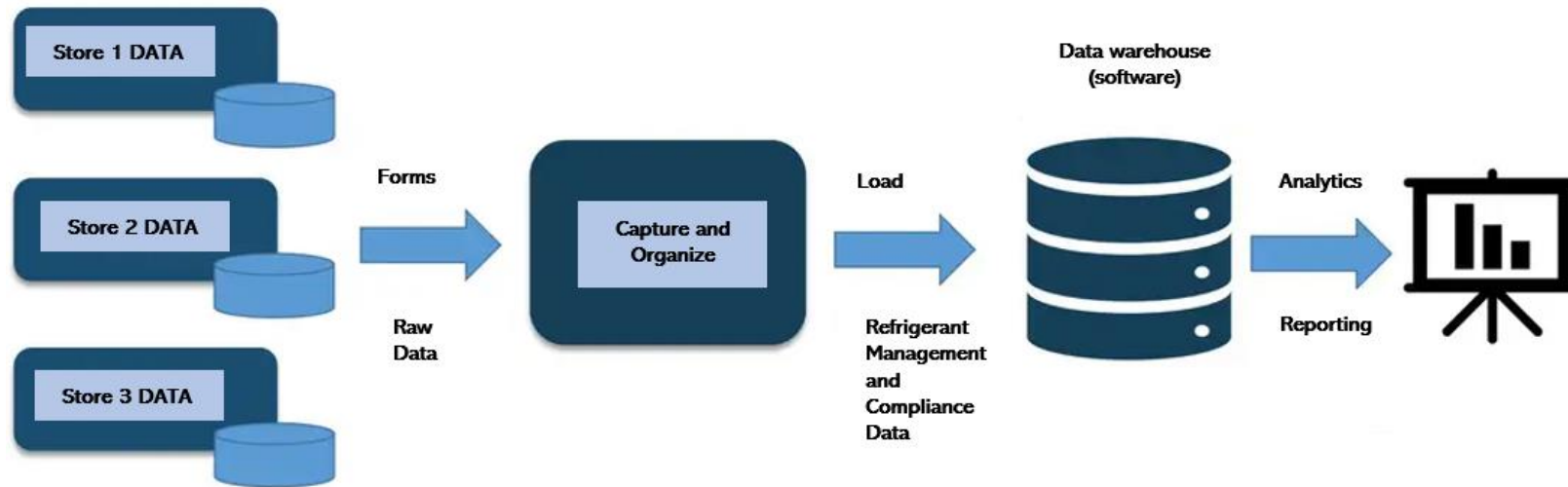
- Verify all compliance required fields are available
 - Review the compliance requirements – look for information vital for recordkeeping and reporting
 - Does it house all the equipment/appliance information?
 - Dates for all events – leaks, repairs, verifications, inspections, refrigerant adds/removals...
 - Ability to track and report on “long duration repair efforts” – waiting for parts, mothball...
 - Can the system accurately handle multiple technicians addressing same store/event?

Refrigerant Management

Where to Start



- Start banking hydrofluorocarbons (HFCs) – Refrigerant has value
 - Use reclaimed refrigerant for leak replacement
 - Establish relationships with reclaimers/distributors or maintain refrigerant inventory “in house”
 - Hedging against shortages and price spikes
 - Figure out the logistics of accessing your banked refrigerant



DATA DRIVEN APPROACH

Where to Start, Continuous Improvement

“Data you can’t trust isn’t really data, it’s just numbers.”

Changes to Business Systems and Process

Refrigerant Management with Metrics



- Data Management
 - Typical supermarket equipment requires 200 – 425 fields
 - Facility and appliance information
 - Between 20 – 30 pieces of equipment containing refrigerant - per store
 - Events must be tracked and leak rates must be calculated
 - Amount of refrigerant added
 - Dates for leak found, fixed, verification tests
 - Actions taken along with dates
 - Leak rate calculation
- Use data to drive actions and show progress

Data Driven Approach



- Use data to drive actions
 - Be proactive with regards to leak mitigation
 - Identify and prioritize
 - Budgeting for costs and estimating future benefits
 - Inspect what you expect
 - Trust in no one! Follow through and capture the details
 - Proactive – find gaps in your methods before enforcement and financial losses

Changes to Business Systems and Process

Refrigerant Management with Metrics



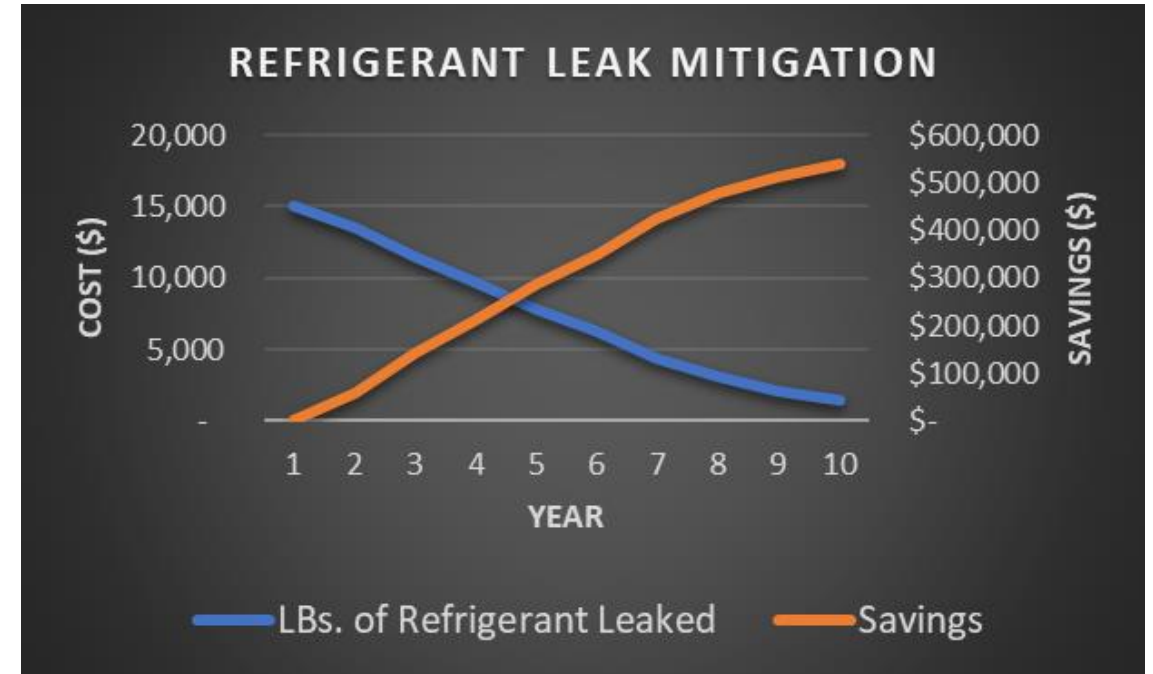
- Allow for the complex relationships between organizations and activities affecting compliance
- Provide tools to visualize and track problem areas
- Let the data tell you a story
 - Where are the highest costs?
 - Where are the biggest leaks?
 - Who is performing the best?
 - Are you making progress?

Changes to Business Systems and Process

Refrigerant Management with Metrics



- Communicating with internal management
 - Highlight problem areas
 - Building business case for improving
 - Show successes and improving trends





AVOID ENFORCEMENT TRAINING AND AUDITS

Changes to Business Systems and Process

Be Prepared



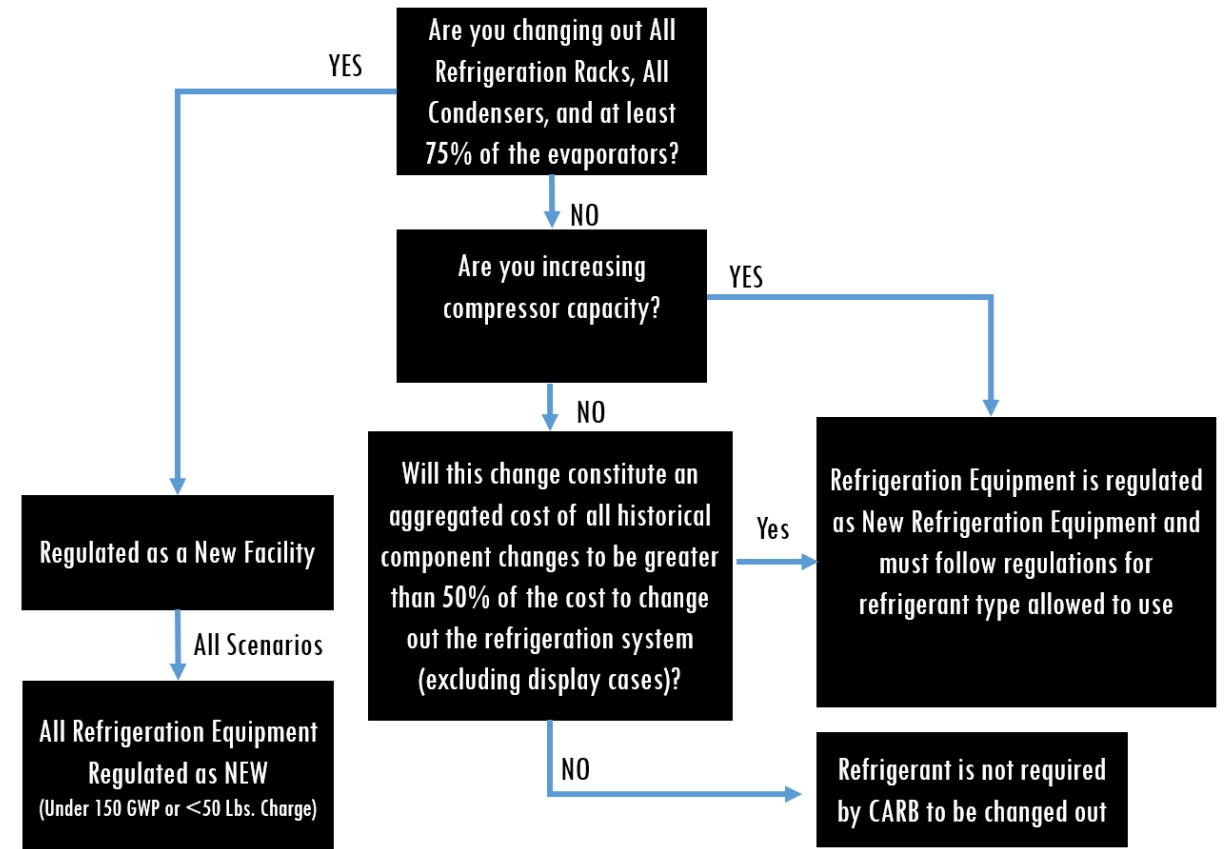
- Identify individual(s) responsible for training
- Training Program
 - Operations team – processes, watchouts, enforcement actions
 - Contractors – Leak detection techniques, documentation and tracking requirements, expectations and comparisons.
 - Design Consultants
 - Construction/Project Managers
- Internal resources/Operations should be trained to handle and properly react to inquiries (enforcement)

Training – Communicate the Details



- New Stores and Remodels, Refrigerant Management Program (RMP)
 - Define and communicate who is responsible and what actions to take
 - Flow charts and forms

Supermarket Application - CARB - New Equipment or Existing Supermarket



Changes to Business Systems and Process Proactive Refrigerant Management



- Be prepared for Regulatory Agencies to ask questions
- Developing enforcement readiness policies and procedures
 - Audit stores for enforcement readiness
 - Pull your compliance report (for every store!)
 - Example - mismatched leak inspections vs. appliance lists
 - Appliances inspected that don't exist
 - Existing appliances with no inspections



Discussion



Speakers

- Glenn Barrett, DC Engineering
Gbarrett@dcengineering.net
- Leia Waln, Refrigerant Management Solutions
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GreenChill

- Annie Kee, U.S. EPA
kee.annie@epa.gov

Webinar Materials Available

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