

Challenges Facing a New Commercial Refrigeration Equipment Standard



AHRI, NAMA, NAFEM Meeting
with the Office of Management and Budget (OMB)
August 7, 2023



Introductions



we make life better®



Introductions

- OMB
- AHRI
- NAMA
- NAFEM
- Members

Our Industry Has a History of Environmental Stewardship

The products and equipment manufactured by our members require energy – there's no getting around that fact

For more than 50 years, we have prioritized energy efficiency and environmental stewardship

- Our industry has:
- Improved overall efficiency 50 percent over the past 20 years
- Innovated “green” HVACR and water heating products, including high efficiency motors, variable frequency drives, and lower GWP refrigerants and foam blowing agents and other technological advances
- Led the development and continued maintenance of the ENERGY STAR[®] program for commercial foodservice equipment

Recommended Path Forward

Because of uncertainty caused by refrigerant transition and the current redesigning of the entire commercial refrigeration market by January 1, 2025, **we recommend that OMB send the energy conservation standard for commercial refrigeration equipment proposed rule back to DOE and direct DOE to issue a “No (new) Standard Standard” for these products,** which would provide an additional three years before a new standard is promulgated.

Delay would provide time to:

- Collect actual data on products that are in the market
- Collect accurate data on current design options
- Conduct actual tear-down analysis on current models
- Assess the impact of safety mitigation measures required for new refrigerants and blowing agents
- Plan for the impacts of PFAS regulation on HVACR industry products
- Realign the changes requested on splitting size ranges for some categories
- Reduce burden on manufacturers and end-users
- Align with product redesign cycles

Refrigerant Transition

- Refrigeration Transition is Ongoing
- Sector Refrigerant Controls
- EPA Approval of Refrigerants
- Safety Standards Status
- Building Code Status
- Impact of Lack of Coordination
- Impact of Regulatory Burden

Technology Transition EPA Proposed Rule for Commercial Refrigeration Equipment



Commercial Refrigeration: January 1, 2025

	Refrigeration Equipment (Proposed Compliance Date 1/1/25)	GWP
Industrial Process Refrigeration	Systems with refrigerant charge capacities of 200 pounds or greater	150
	Systems with refrigerant charge capacities less than 200 pounds	300
	High temperature side of cascade systems	300
	Chillers	700
Retail Food Refrigeration	Stand-alone units	150
	Refrigerated food processing and dispensing equipment	150
	Supermarket systems with refrigerant charge capacities of 200 pounds or greater	150
	Supermarket systems with refrigerant charge capacities less than 200 pounds charge	300
	Supermarket systems, high temperature side of cascade system	300
	Remote condensing units with refrigerant charge capacities of 200 pounds or greater	150
	Remote condensing units with refrigerant charge capacities less than 200 pounds	300
	Remote condensing units, high temperature side of cascade system	300
	Vending machines	150
Cold Storage Warehouse	Systems with refrigerant charge capacities of 200 pounds or greater	150
	Systems with refrigerant charge capacities less than 200 pounds	300
	High temperature side of cascade system	300
	Ice rinks	150
	Automatic commercial ice machines – selfcontained with refrigerant charge capacities of 500 grams or lower (Note: Does not align with petition)	150
	Transport refrigeration – intermodal containers	700
	Residential refrigeration	150

Sector Refrigerant Controls - Foams

January 1, 2025

Foam Blowing Agents (Proposed Compliance Date 1/1/25)	GWP
Polystyrene – extruded boardstock and billet	150
Phenolic insulation board and bunstock	150
Rigid polyurethane – slabstock and other	150
Rigid polyurethane – appliance foam	150
Rigid polyurethane – commercial refrigeration and sandwich panels	150
Rigid polyurethane – marine flotation foam*	150
Rigid polyurethane – low pressure, twocomponent spray foam	150
Rigid polyurethane – one-component foam sealants	150
Flexible polyurethane	0
Integral skin polyurethane	0
Polystyrene – extruded sheet	0
Polyolefin	0
Rigid polyurethane and polyisocyanurate laminated boardstock	0

Proposed Refrigerant Bans for Refrigeration Applications

Refrigeration Refrigerant Bans (Proposed Compliance 1/1/25)	
Automatic commercial ice machines – self-contained with refrigerant charge capacities more than 500 grams	R-404A, R-507, R-507A, R-428A, R-422C, R-434A, R-421B, R-408A, R-422A, R-407B, R-402A, R-422D, R-421A, R-125/R-290/R134a/R-600a (55/1/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, R-410B, R-407A, R-410A, R-442A, R-417C, R-407F, R-437A, R-407C, RS-24 (2004 formulation), HFC134a
Automatic commercial ice machines – remote	R-404A, R-507, R-507A, R-428A, R-422C, R-434A, R-421B, R-408A, R-422A, R-407B, R-402A, R-422D, R-421A, R-125/R-290/R134a/R-600a (55/1/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, R-410B
Transport refrigeration – road systems	R-404A, R-507, R-507A, R-428A, R-422C, R-434A, R-421B, R-408A, R-422A, R-407B, R-402A, R-422D, R-421A, R-125/R-290/R134a/R-600a (55/1/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, R-410B
Transport refrigeration – marine systems	R-404A, R-507, R-507A, R-428A, R-422C, R-434A, R-421B, R-408A, R-422A, R-407B, R-402A, R-422D, R-421A, R-125/R-290/R134a/R-600a (55/1/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, R-410B

U.S. Path For Using Flammable Refrigerants



Bottom Line: EPA SNAP approval + building codes requires compliance with safety standards

EPA SNAP
Approval
Process is
Complex and
Unintegrated

- SNAP 25 Final Rule
 - Final rule published May 2023
- SNAP 26 Proposed Rule
 - Comments submitted July 10th
 - Proposed A2L and A3 approvals for CRE
- SNAP 27 Proposed Rule?
 - Proposed rule possible by end of 2023

Implementation of UL Safety Standards is Still an Evolving Process

- UL 60335-2-89 Second Edition was published October 27, 2021
- As of Sept. 29, 2024, new CRE products can only be certified to UL 60335-2-89 and any significant product modifications must be certified to UL 60335-2-89
- Products using A2L refrigerant, or A3 with charge larger than 150 grams, can only be certified to UL 60335-2-89
- UL 60335-2-89 requires significantly more testing to meet safety requirements
- Substantial modifications may be needed to meet safety requirements for products and components
- UL 60335-2-89 includes significant new requirements for product markings and instructions
- NRTLs and manufacturers are still learning the requirements for UL 60335-2-89, and there is still a lack of clear interpretation in some areas

Status of UL- 60335-2-89

- Second Edition Published October 2021
 - New requirements for electrical and refrigerant safety
- Certification Labs Use Latest Version of Standards to Test Equipment
- 2024 IMC has been Updated
 - References 2nd edition in 2024 International Mechanical Code
- 2024 UMC References First Edition
 - AHRI is submitting a Tentative Interim Agreement (TIA) to IAPMO to update the Uniform Mechanical Code's reference of the standard to the 2nd edition
- With changes of this magnitude, it is typical for OSHA NRTL laboratories to run 3 to 6 months to certify/recertify equipment

Updates to Building
Codes Will Impact
Availability of
Equipment to be
Installed

Impact of Cumulative Regulatory Burden

- Uncertainty
- Less Optimized Equipment
- Higher Costs for Manufacturers *and* Consumers
- Lack of Laboratory Availability/Testing Capacity
- Availability of Components

Recommended Path Forward

We recommend that OMB to send the energy conservation standard for commercial refrigeration equipment proposed rule back to DOE and direct DOE to issue a “No (new) Standard Standard” for these products proposed rule back to DOE and direct DOE to issue a “No (new) Standard Standard” for these products.

Thank you!



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