



## Overview of Regulatory Actions Influencing the Commercial Refrigeration Industry

### Overview – January 2017

Two Federal Regulatory Agencies, the Department of Energy (DOE) and the Environmental Protection Agency (EPA), are revising existing standards for manufacturers of commercial refrigeration equipment. Several of these standards are now in effect and are impacting commercial refrigeration products.

### DOE 2017

The DOE has published final rules that impact two sectors of the commercial refrigeration industry – display cases and walk in coolers/freezers.

**Concerning display cases:** Effective March 27, 2017, this regulation will greatly reduce the energy allowance for remote and self-contained cases based on reduction calculations specific to models and categories. Depending on the case type, some models must meet energy reductions greater than 70%. Self-contained cases with glass doors bear the greatest burden for energy reductions, but nearly all remote and self-contained models are impacted. As a result, some display case models or configurations from various manufacturers will no longer be available.

These regulations apply only to the sale of new display cases, and the manufacturer, not the retailer, is responsible for compliance. Display cases manufactured before March 27, 2017 are not affected.

**Concerning walk-in coolers and freezers:** After a negotiated rulemaking process, DOE agreed to rework all the refrigeration standards that were challenged during litigation. The proposed date for compliance for these refrigeration standards (condensing units and evaporators) has been extended to January, 2020. The performance standard for energy reduction in walk-in cooler and freezer doors and panels has not changed and is required for all doors and panels manufactured on or after June 5, 2017. Compliance is the responsibility of the manufacturer.

### EPA REFRIGERANT REGULATIONS

The EPA has published a Final Rule which de-lists common HFC's (hydrofluorocarbons) found in the commercial refrigeration industry (e.g. R-134a, R-404A, and R-507A). Allowed refrigerants include naturals R-290 (propane) and R-744 (carbon dioxide) as well as newly listed SNAP (Significant New Alternatives Policy) refrigerants R-450A, R-448A, R-449A, R-449B and R-513A. For remote cases, existing refrigerants R-407A, R-407C and R-407F will still be allowed. Irrespective of purchase date, new equipment that is to be **installed and charged** with a de-listed refrigerant must be commissioned prior to that de-listing date.

The EPA is also de-listing HFC foam blowing agents commonly used for insulating merchandiser walls and walk-in cooler panels.

Below is a summary of the timeline for the EPA HFC de-listing and other relevant information:

1. De-listing of **HFC-404A and HFC-507A** for **new multiplex supermarket systems** will take effect on **January 1, 2017**. Refrigerants R-448A, R-449A, R-449B, R-450A and R-513A were added to SNAP listings for supermarket systems.
2. De-listing of **HFC-404A and HFC-507A** for **new remote condensing systems** will take effect on **January 1, 2018**. Refrigerants R-448A, R-449A, R-449B, R-450A and R-513A were added to SNAP listings for condensing units.
3. **Self-Contained (Stand Alone) cases** were divided into segregated categories. HFC-134a and HFC-404A will be de-listed on the dates shown below. Note: customers who purchase self-contained cases prior to the compliance dates are allowed to store them and install them at a later date.
  - a. **Self-Contained Low Temperature:** The de-listing date (for **HFC-404A**) is **January 1, 2020**. In addition to R-290, R-600a, R-450A and R-744, EPA has SNAP listed R-448A, R-449A, R-449B, and R-513A.
  - b. **Self-Contained Medium Temperature Compressor Capacity Less Than 2,200 BTU/hr.:** The de-listing date (for **HFC-134a and HFC-404A**) is **January 1, 2019**. In addition to R-290, R-600a, R-450A and R-744 EPA has SNAP listed R-513A. EPA did not SNAP list R-448A, R-449A or R-449B for this application.
  - c. **Self-Contained Medium Temperature With Compressor Load Greater Than 2,200 BTU/hr.:** The de-listing date (for **HFC-134a and HFC-404A**) is **January 1, 2020**. In addition to R-290, R-600a, R-450A and R-744 EPA has SNAP listed R-513A. EPA did not SNAP list R-448A, R-449A or R-449B for this application.
4. For all the above categories the EPA has de-listed R-404A, R-507A, R-422A, R-422C, R-422D and other refrigerants for use as retrofit refrigerants effective **July 20, 2016**.
5. Customers may add new equipment to supermarket systems using de-listed refrigerants after the de-listing date, provided the existing system has sufficient capacity. If capacity is not sufficient the new equipment must be added using a listed refrigerant.
6. Service and maintenance of existing cases/systems with de-listed refrigerants is allowed. An end user may keep their system running past the de-listing date. The EPA is not forcing end users to upgrade to a new system.
7. The use of HFC as blowing agents in foam will be phased out as of January 1, 2020.
8. EPA also finalized rules for section 608, Refrigerant Management Systems, which includes adding all refrigerants under the refrigerant management program. Additionally, EPA reduced annual leak rate allowances from 35% to 20%, and it increased leak inspection requirements when leak rates exceed the EPA threshold.
9. Concerning Cold Storage Warehouses under Final Rule 21, the EPA delisted R-404A, R-410A and other less common refrigerants effective January 1, 2023. Some replacements include R-134a, R-407F, R-407C, R-450-A, R-513A and R-744.

Hussmann is aggressively taking steps to address all of the new DOE and EPA standards and rules.

- We are re-engineering cases and systems to operate with new refrigerants.
- We are transitioning to acceptable blowing agents in all of our operations.
- We are reducing energy consumption while maintaining performance standards.

For more information on these regulations, please contact Ron Shebik, Principal Engineer, Global Product Compliance, Hussmann Corporation. Phone: 314-298-6483. E-mail: [ron.shebik@hussmann.com](mailto:ron.shebik@hussmann.com).

Appendix:

Key Dates for Refrigerants

Application	Supermarket: Racks, Protocol, Port-a-Rack	Remote Condensing Units With Up To 2 Compressors	Stand-Alone Med Temp <2,200 BTUH	Stand-Alone Med Temp >2,200 BTUH	Stand-Alone Low Temp
Compliance Date	Jan. 1, 2017	Jan. 1, 2018	Jan. 1, 2019	Jan. 1, 2020	Jan. 1, 2020
Key Delisted Refrigerants	R-404A, R-507A	R-404A, R-507A	R-404A, R-507A, R-134a, R-407A/F/C, R-410A	R-404A, R-507A, R-134a, R-407A/F/C, R-410A	R-404A, R-507A, R-407A/F/C, R-410A
Key Acceptable Refrigerants	R-134a, R-513A, R-407A/C/F, R-448A, R-449A, R-449B, R-744, R-450A	R-134a, R-513A, R-407A/C/F, R-448A, R-449A, R-449B, R-744, R-450A, R-410A	R-290, R-600a, R-450A, R-744, R-513A	R-290, R-600a, R-450A, R-744, R-513A	R-290, R-600a, R-450A, R-744, R-448A, R-449A, R-449B, R-513A, R-134a

- **Compliance date** is based on when refrigerant system install is completed and ready for use

Note: R-22, which is allowed for servicing existing equipment, has not been allowed in new equipment for several years. It is being phased out of production and will be completely phased out of production by 2020, although reclaimed inventories may still be available. Prices for R22 will continue to rise.

Covered products compliant with DOE regulations can be found in the US DOE compliance certification database at: [www.regulations.doe.gov/certification-data](http://www.regulations.doe.gov/certification-data).