



Hydrofluorocarbons (HFCs) Rulemaking Chapter 173-443 WAC

May 10, 2022



DEPARTMENT OF
ECOLOGY
State of Washington

Hydrofluorocarbons (HFCs) Rulemaking Team



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Agenda

- Welcome
- March meeting review
- Updated draft rule language
 - Definitions
 - Refrigeration and air conditioning
- Q & A with grocery retailers
- Wrap up, future meetings

Federal Rules and State Legislation Overview

- 2017 – EPA SNAP Rule 20 vacated
- 2019 – EPA SNAP Rule 21 vacated
- 2019 – Washington approves HB112
- 2020 – Phase out HFCs, starting January 1, 2020
- 2021 – Washington approves HB 1050
- Present – Start new rulemaking

March Meeting Recap

Definitions

- Use EPA definitions when possible
- “Chiller” – treat comfort cooling differently than industrial process
- “Residential dehumidifier” – add definition
- “New” – current definition okay

Refrigeration and air conditioning (new equipment)

Continued concern about residential dehumidifiers and commercial ice machines

MVAC (small cans)

- Request to allow sales to technicians
- Industry committed to providing sales data

Updated Draft Rule Language

- Definitions
- GWP thresholds for new refrigeration and air conditioning equipment
 - RCW 70A.60.020 (HB 1050, Section 8)

“Residential Dehumidifier”

“Residential dehumidifier” means a residential air-conditioning product, other than a portable air conditioner, room air conditioner, or packaged terminal air conditioner, that is a self-contained, electrically operated, portable, and mechanically encased assembly consisting of:

- a) A refrigerated surface (evaporator) that condenses moisture from the atmosphere;
- b) A refrigeration system, including an electric motor;
- c) An air-circulating fan; and
- d) A means of collecting and disposing of the condensate.

Added definition from CARB 2021 HFC rule

“Industrial Process Refrigeration”

“Industrial process refrigeration” means to cool process streams at a specific location in manufacturing and other forms of industrial processes and applications. These complex, customized systems are directly linked to the industrial process. Where one appliance is used for both industrial process refrigeration and other applications, it will be considered an industrial process refrigeration systems if 50 percent or more of its operating capacity is used for industrial process refrigeration. Industrial process refrigeration or cooling using a chiller is regulated as a chiller for purposes of new equipment GWP thresholds. Industrial process refrigeration not using a chiller is regulated as industrial process refrigeration equipment.

New sentence added: "Industrial process refrigeration or cooling using a chiller is regulated as a chiller for purposes of new equipment GWP thresholds."

“Industrial Process Refrigeration”

“Industrial process refrigeration” means to cool process streams at a specific location in manufacturing and other forms of industrial processes and applications. These complex, customized systems are directly linked to the industrial process. Where one appliance is used for both industrial process refrigeration and other applications, it will be considered an industrial process refrigeration systems if 50 percent or more of its operating capacity is used for industrial process refrigeration. **Industrial process refrigeration or cooling using a chiller is regulated as a chiller for purposes of new equipment GWP thresholds.** Industrial process refrigeration not using a chiller is regulated as industrial process refrigeration equipment.

New sentence added

“Chiller”

“Chiller” means a water or heat transfer fluid chilling equipment package custom built in place or a factory-made and prefabricated assembly of one or more compressors, condensers and evaporators, with interconnections and accessories including controls, designed for the purpose of cooling or heating water or a heat transfer fluid. A chiller is a machine specifically designed to make use of a vapor compression cycle or absorption refrigeration cycle to transfer heat from a cold water or heat transfer fluid circulating system to the air, a heat transfer fluid, or other heat exchange media. Chillers can be water-cooled, or evaporatively cooled. Chillers include, but are not limited to, rotary chillers, centrifugal chillers, and positive displacement chillers, including reciprocating, scroll, and screw chillers. **Chillers used solely for comfort cooling are considered air conditioning equipment.**

New sentence added (not yet shown in draft rule language)

“Commercial Refrigeration Equipment”

“Commercial refrigeration equipment” means equipment designed to store and display chilled or frozen goods for commercial sale **or use**, including, but not limited to, stand-alone units, refrigerated food processing and dispensing equipment, remote condensing units, supermarket systems, and vending machines.

New text added

“Nonessential Consumer Products”

“Nonessential consumer products” means the following products if they are propelled by, contain, or manufactured with a chlorofluorocarbon, hydrochlorofluorocarbon, or hydrofluorocarbon:

- 1) Any plastic party streamer or noise horn including, but not limited to:
 - (a) String confetti;
 - (b) Marine safety horns;
 - (c) Sporting event horns;
 - (d) Personal safety horns;
 - (e) Wall-mounted alarms used in factories or other work areas; and
 - (f) Intruder alarms used in homes or cars.
- 2) Any cleaning fluid for electronic and photographic equipment:
 - (a) Including but not limited to liquid packaging, solvent wipes, solvent sprays, and gas sprays;
 - (b) Except for those sold or distributed to a commercial purchaser.
- 3) Any plastic foam product, except any plastic foam product blown with CFC-11, but which contains no other Class I substances and where this product is used to provide thermal protection to external tanks for space vehicles.

Added definition, based on 40 CFR Part 82 – Ban on nonessential consumer products containing class I substances and ban on nonessential products containing or manufactured with class II substances.

040: List of Prohibited Substances

- Table 1. SNAP-like prohibitions
- Table 2. New refrigeration equipment
- Table 3. New air conditioning equipment
- Table 4. Automotive refrigerant and other products

040: Table 2, New Refrigeration Containing >50 Pounds Refrigerant

Refrigeration End-Uses > 50 Pound Charge	Prohibited Substances (Refrigerant GWP)	Effective Date
Retail food refrigeration (new and existing facilities)	150+	January 1, 2025
Cold storage warehouses (new and existing facilities)	150+	January 1, 2025
Industrial process refrigeration excluding chillers (new facilities)	150+	January 1, 2025
Industrial process refrigeration excluding chillers (existing facilities)	2,200+	January 1, 2025
Ice rinks (new facilities)	150+	January 1, 2024
Ice rinks (existing facilities)	750+	January 1, 2024

040: Table 4 Chillers (Industrial Process)

End-Use	Prohibited Substances	Effective Date
Chillers – industrial process refrigeration designed for chilled fluid leaving the chiller at temperatures of > +35 degrees Fahrenheit	Refrigerants with a GWP of 750 or more	January 1, 2025
Chillers – industrial process refrigeration designed for chilled fluid leaving the chiller at temperatures of \leq 35 degrees Fahrenheit and > -10 degrees Fahrenheit	Refrigerants with a GWP of 1,500 or more	January 1, 2025
Chillers – industrial process refrigeration designed for chilled fluid leaving the chiller at temperatures of \leq -10 degrees Fahrenheit and > -58 degrees Fahrenheit	Refrigerants with a GWP of 2,200 or more	January 1, 2025

Other Items in Air Conditioning and Refrigeration

- Residential dehumidifiers – no change to January 2024 effective date
- Commercial ice machines – tentatively ready to add language that removes commercial ice machines from requirements

Questions or Comments

Question & Answer Session

Opportunity for grocery retailers to share information as end-users of affected equipment

1. What is your most expensive refrigeration component? What is its average lifespan?
2. Which equipment can be retrofitted for a low GWP refrigerant (meaning little other adjustment is needed)?
3. Which equipment cannot be retrofitted for a low GWP refrigerant (meaning that replacing this component would trigger other replacements)?
4. What is the most significant barrier to complying with a 2025 effective date for purchases of new equipment that complies with a 150 GWP?
5. What is the most significant barrier to transitioning to a low GWP on a store-wide level? On a company-wide level? CARB's HFC rule allows for a company-wide weighted average approach to GWP reductions.
6. This was not originally contemplated in Washington.
7. Would you want to see Washington take this approach? Why or why not?
8. What else should we know?

Future Meeting Dates

- July 6
- August 16
- September 29

All meeting times: 9:30 a.m. – noon PDT

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More Information

HFC Web Pages

Compliance assistance, submitting reports

<https://ecology.wa.gov/Air-Climate/Climate-change/Reducing-greenhouse-gases/Hydrofluorocarbons>

Rulemaking

<https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-443-455>

Informal comments

<https://aq.ecology.commentinput.com/?id=6FM8R>