DEPARTMENT OF
ECOLOGY
State of Washington

Hydrofluorocarbons (HFCs) Rulemaking
Chapter 173-443 WAC

February 3, 2022
Meet the Panel
Hydrofluorocarbon Rulemaking Team

Eman Jabali – Meeting Host
Tina Maurer – Meeting Host
Leonard Machut – HFC Unit Supervisor
Linda Kildahl – HFC Rulemaking Lead
Tamara Dumitrescu – HFC Technical Lead
Janée Zakoren – Community Outreach & Engagement Specialist
Agenda

- Welcome and logistics
- Overview of 2021 HFC law (HB 1050)
- Common terms
- Overview of rulemaking
- Discuss draft language for GWP thresholds (HB 1050, Section 8)
- Wrap up, next stakeholder meeting
# Common Terms and Acronyms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Code of Washington (RCW)</td>
<td>Laws enacted in Washington</td>
</tr>
<tr>
<td>Washington Administrative Code (WAC)</td>
<td>Codified regulations (i.e., rules) detailing how a state agency will implement a law</td>
</tr>
<tr>
<td>Rulemaking</td>
<td>Administrative process for formulation and adoption of a rule (RCW 34.05.010)</td>
</tr>
<tr>
<td>GWP</td>
<td>Global Warming Potential (100-year)</td>
</tr>
<tr>
<td>SNAP</td>
<td>Significant New Alternatives Program</td>
</tr>
<tr>
<td>RMP</td>
<td>Washington’s Refrigerant Management Program</td>
</tr>
</tbody>
</table>
Hydrofluorocarbons (HFCs)

- Ozone-friendly replacement to chlorofluorocarbons and other ozone depleting substances
- Used as refrigerants, in spray foams, propellants, and others
- High GWP – up to 15,000 times more impactful than carbon dioxide
- HFCs account for 4 million metric tons of carbon emissions in Washington each year
Projected Washington HFC Emissions by End-Use

Federal Rules & State Legislation Overview

- **EPA SNAP Rule 21**
  - Vacated

- **Starting January 1, 2020**
  - Phase Out of HFCs

- **Enter into New Rulemaking**

- **2017**
  - EPA SNAP Rule 20
  - Vacated

- **2018**
  - Washington State Enacts HB 1112

- **2019**

- **2020**
  - Washington State Enacts HB 1050

- **2021**

- **Present**
Passed in 2021, HB 1050 expands the 2019 law to phase out major uses of certain HFCs and reduce HFC emissions by 1.3 million metric tons/year.

Ecology’s Role

• New GWP thresholds

• Development of Refrigerant Management Plan (RMP)

• Legislative reports

• Requirements for handling ozone-depleting substances extended to HFCs
Rulemaking Overview

- Chapter 173-443 WAC, Hydrofluorocarbons (HFCs)
- Chapter 70A.60 RCW, Hydrofluorocarbons Emissions Reduction (HB 1050)
Scope of Rulemaking – Required Elements

• Greenhouse gas potential (GWP) thresholds for new equipment in ice rinks

• Refrigerant Management Program (RMP) for commercial refrigeration and air conditioning systems using 50 pounds of refrigerant or more
Scope of Rulemaking – Required Elements

- HFCs added to existing requirements for ozone depleting refrigerants
  - MVAC small can recharge
  - Nonessential consumer products
- New labeling options for SNAP-restricted products
Scope of Rulemaking – Optional Elements

- GWP thresholds for refrigeration (>50 lbs.) and air conditioning equipment
- Labeling, reporting, and recordkeeping
- Fees to support RMP
  - Adding new section to Air Quality Fee Rule
- Process for exemptions and variances
**Stakeholder Meeting**
Refrigeration air conditioning equipment (GWP) MVAC and nonessential consumer products
Early Spring 2022

**Economic Analysis**
Rule Effective
31 days after adoption
Spring 2023

**Proposed Language and Public Comment Period**
Spring 2023

**Rulemaking Announcement**
August 16, 2021

**Stakeholder Meeting**
New refrigeration and air conditioning equipment (GWP thresholds)
February 3, 2022

**Stakeholder Meetings**
Refrigerant management program
Summer 2022 – Early 2023

**Stakeholder Meeting**
SNAP-restricted products (new labeling options) – Spring 2022

*Meeting timeframes are tentative and subject to change.
Questions
Draft Rule Language Review

- Policy and purpose
- Applicability
- New refrigeration (including ice rinks) and air conditioning equipment
  - RCW 70A.60.020 (HB 1050, Section 8)
    - GWP thresholds
    - Labeling and disclosure
    - Recordkeeping
Draft Rule Language Review

• 010 – Policy and purpose
  • Expanded to include other fluorinated gases

• 020 – Applicability
  • Expanded to include:
    • Manufacturers of products and equipment containing HFCs
    • Owners/operators of stationary refrigeration and air conditioning
    • Technicians and others who service equipment
    • Refrigerant distributors, reclaimers, and recyclers

• 030 – Definitions (future meeting)
Draft Rule Language Review

• 040 – List of prohibited substances
  • Table 1
    • SNAP-like prohibitions
    • Minor formatting changes
  • Table 2 – Refrigeration >50 pounds, 150 GWP
  • Table 3 – Air conditioning, 750 GWP
  • Table 4 – MVAC recharge and nonessential consumer products
    (future meeting)
## Table 2. Stationary refrigeration equipment

<table>
<thead>
<tr>
<th>General End-Use</th>
<th>Specific End-Use</th>
<th>Prohibited Substances (Refrigerant GWP)</th>
<th>Effective Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>* New Facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td># Existing Facilities</td>
</tr>
<tr>
<td>Refrigeration equipment</td>
<td>Retail food refrigeration containing more than 50 pounds of refrigerant</td>
<td>150+</td>
<td>* January 1, 2024</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td># January 1, 202--</td>
</tr>
<tr>
<td>Industrial process refrigeration, excluding chillers</td>
<td>Industrial process refrigeration that does not use a chiller containing more than 50 pounds of refrigerant</td>
<td>150+</td>
<td>* January 1, 2024</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td># January 1, 202--</td>
</tr>
<tr>
<td>Chillers used for industrial process refrigeration purposes</td>
<td>Industrial process refrigeration containing more than 50 pounds of refrigerant</td>
<td>150+</td>
<td>* January 1, 2024</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td># January 1, 202--</td>
</tr>
<tr>
<td>Cold storage warehouses</td>
<td>Cold storage warehouses containing more than 50 pounds of refrigerant</td>
<td>150+</td>
<td>* January 1, 2024</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td># January 1, 202--</td>
</tr>
<tr>
<td>Ice rinks (new facilities)</td>
<td>Refrigeration equipment containing more than 50 pounds of refrigerant installed in a new facility</td>
<td>150+</td>
<td>* January 1, 2024</td>
</tr>
<tr>
<td>Ice rinks (existing facilities)</td>
<td>Refrigeration equipment containing more than 50 pounds of refrigerant installed in an existing facility</td>
<td>750+</td>
<td># January 1, 2024</td>
</tr>
</tbody>
</table>
## Table 3. Stationary air conditioning equipment

<table>
<thead>
<tr>
<th>General End-Use</th>
<th>Specific End-Use</th>
<th>Prohibited Substances (Refrigerant GWP)</th>
<th>Effective Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air conditioning equipment</td>
<td>Room/wall/window air conditioning equipment, PTACs, PTHPs, portable air conditioning equipment, and residential dehumidifiers</td>
<td>750+</td>
<td>* January 1, 2024 # January 1, 2025</td>
</tr>
<tr>
<td>Air conditioning equipment</td>
<td>Variable refrigerant flow (VRF) or volume system</td>
<td>750+</td>
<td>* January 1, 2026 # January 1, 2025</td>
</tr>
<tr>
<td>Air conditioning equipment</td>
<td>Other types of air conditioning equipment used in residential and nonresidential applications</td>
<td>750+</td>
<td>* January 1, 2025 # January 1, 2025</td>
</tr>
</tbody>
</table>
Draft Rule Language Review

• 050 – Exemptions to prohibitions
  • Table 1
    • SNAP-like prohibitions
    • No changes
  • Table 2 – Refrigeration equipment
  • Table 3 – Air conditioning equipment
  • Table 4 – MVAC recharge and nonessential consumer products (future meeting)
Table 2. Exemptions for stationary refrigeration equipment

<table>
<thead>
<tr>
<th>Retail refrigeration equipment</th>
<th>Refrigerants with a GWP 150 or more</th>
<th>Equipment with 50 pounds or less of refrigerant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial process refrigeration, excluding chillers</td>
<td>150+</td>
<td>&lt;50 pounds</td>
</tr>
<tr>
<td>Chillers used for industrial process refrigeration</td>
<td>150+</td>
<td>&lt;50 pounds</td>
</tr>
<tr>
<td>Cold storage warehouses</td>
<td>150+</td>
<td>&lt;50 pounds</td>
</tr>
</tbody>
</table>
Table 3. Exemptions for stationary air conditioning equipment

<table>
<thead>
<tr>
<th>End-Use Category</th>
<th>Prohibited Substances (Refrigerant GWP)</th>
<th>Exemptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room/wall/window air conditioning equipment, PTACs, PTHPs, portable air conditioning equipment, and residential dehumidifiers</td>
<td>750+</td>
<td></td>
</tr>
<tr>
<td>Variable refrigerant flow (VRF) or volume system</td>
<td>750+</td>
<td></td>
</tr>
<tr>
<td>Other types of air conditioning equipment used in residential and nonresidential applications</td>
<td>750+</td>
<td></td>
</tr>
</tbody>
</table>
Draft Rule Language Review

065 - Requirements for refrigeration with >50 pounds of refrigerant (Table 2)

070 - Requirements for air conditioning (Table 3)

Disclosure: On-product label
- Refrigerant type
- Charge size
- Date of manufacture

Recordkeeping: 5 years
- Types of records
Draft Rule Language Review

• 080 – Petition for variance
• GWP thresholds, Tables 2 and 3
  • Impossibility
    • Application, demonstrate lower risk substitute is not available, does not harm human or environmental health
    • Public comment period
    • Approval and disapproval
  • Force majeure
    • Application
    • Public comment period
    • Approval and disapproval
Draft Rule Language Review – Wrap Up

• Comment online: https://aq.ecology.commentinput.com/?id=6FM8R
Future Meetings

• Continued refrigeration and air conditioning discussion (March)
• MVAC recharge and nonessential consumer products (March)
• New SNAP labeling options (TBD)
• Refrigerant Management Program (TBD)
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HFC Web Pages

Compliance assistance, submitting reports
https://ecology.wa.gov/Air-Climate/Climate-change/Reducing-greenhouse-gases/Hydrofluorocarbons

Rulemaking

Informal comments
https://aq.ecology.commentinput.com/?id=6FM8R