



PROPOSED RULE MAKING

CR-102 (July 2022)
(Implements RCW 34.05.320)
Do **NOT** use for expedited rule making

CODE REVISER USE ONLY

OFFICE OF THE CODE REVISER
STATE OF WASHINGTON
FILED

DATE: July 13, 2023

TIME: 9:47 AM

WSR 23-15-048

Agency: Department of Ecology AO #21-02

Original Notice

Supplemental Notice to WSR _____

Continuance of WSR _____

Preproposal Statement of Inquiry was filed as WSR 21-17-110 ; or

Expedited Rule Making--Proposed notice was filed as WSR _____; or

Proposal is exempt under RCW 34.05.310(4) or 34.05.330(1); or

Proposal is exempt under RCW _____.

Title of rule and other identifying information: (describe subject) Ecology is proposing an amendment to Chapter 173-443 WAC, Hydrofluorocarbons (HFCs) and Other Fluorinated Greenhouse Gases (formerly Hydrofluorocarbons, HFCs).

For more information on this rulemaking visit: <https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-443-455>

Hearing location(s):

Date:	Time:	Location: (be specific)	Comment:
August 24, 2023	10:00 a.m.	Webinar: Join online and see instructions: https://waecy-wa.gov.zoom.us/meeting/register/tZApceGhrj4pHNX4uhu3qnkiftq87WCQKwFp To join by phone: Call 253-215-8782 Enter meeting ID: 844 6890 5361	Presentation, question and answer session followed by the hearing.

Date of intended adoption: November 29, 2023 (Note: This is **NOT** the **effective** date)

Submit written comments to:

Name: Linda Kildahl
Address: Send US mail to:
Department of Ecology
Air Quality Program
PO Box 47600, Olympia, WA 98504-7600

Or

Send parcel delivery services to:
Department of Ecology
Air Quality Program
300 Desmond Dr. SE, Lacey, WA 98503
Email: Submit comments by mail, online, or at the hearing
Fax: N/A

Assistance for persons with disabilities:

Contact Ecology ADA Coordinator
Phone: 360-407-6831

Fax: N/A
TTY: For Washington Relay Service or TTY call 711 or 877-833-6341

Other: Online:
<https://aq.ecology.commentinput.com?id=trCUMYBx2G>
By (date) August 31, 2023 (close of comment period)

Email: ecyADAcordinator@ecy.wa.gov

Other: Visit [https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility for more information](https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility%20for%20more%20information)
By (date) August 17, 2023

Purpose of the proposal and its anticipated effects, including any changes in existing rules: To implement Chapter 70A.60 RCW, the proposed rule amendments will:

- Establish maximum global warming potential (GWP) thresholds for HFCs used in new stationary refrigeration and air conditioning equipment, small cans of refrigerant, and certain nonessential consumer aerosol products.
- Establish a refrigerant management program with registration, leak inspection, leak repair, recordkeeping and reporting requirements for owners or operators of large stationary refrigeration and air conditioning systems.
- Establish required service practices for technicians who service stationary refrigeration and air conditioning systems.
- Amend product labeling and disclosure requirements.
- Establish new labeling and recordkeeping requirements.
- Update Chapter 173-443 WAC to reflect other changes in the law.
- Revise the title of the chapter.

The proposed rule amendments will also add a new section to Chapter 173-455 WAC to establish fees and a process for fee updates to cover the costs of administering and enforcing the refrigerant management program.

Reasons supporting proposal: In 2021, the Legislature passed Hydrofluorocarbons - Emissions Reduction (E2SHB 1050, codified in Chapter 70A.60 RCW) to further reduce HFC and other high-GWP refrigerant emissions in Washington. The 2021 law authorized Ecology to establish GWP thresholds for refrigerants used in new stationary refrigeration and air conditioning equipment and to establish a refrigerant management program to reduce greenhouse gas emissions from large stationary refrigeration and air conditioning systems operating in Washington.

The law requires Ecology to adopt rules that:

- Enforce the statutory GWP threshold for HFCs used in new refrigeration equipment in ice rinks.
- Establish a refrigerant management program for large stationary refrigeration and air conditioning systems.
- Amend product labeling and disclosure requirements.

The law authorizes Ecology to adopt rules that:

- Establish maximum GWP thresholds for HFCs used in new stationary refrigeration and air conditioning equipment.
- Establish new reporting, labeling, and recordkeeping requirements.
- Establish required service practices for technicians who service stationary refrigeration and air conditioning systems.
- Establish fees to support the refrigerant management program.

Statutory authority for adoption: Chapter 70A.60 RCW

Statute being implemented: Chapter 70A.60 RCW

Is rule necessary because of a:

Federal Law?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Federal Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
State Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

If yes, CITATION:

Agency comments or recommendations, if any, as to statutory language, implementation, enforcement, and fiscal matters:

Type of proponent: Private Public Governmental

Name of proponent: (person or organization) Department of Ecology

Name of agency personnel responsible for:

	Name	Office Location	Phone
Drafting:	Linda Kildahl	Lacey, WA	360-706-3038
Implementation:	Tamara Dumitrescu	Lacey, WA	360-338-2606
Enforcement:	Leonard Machut	Lacey, WA	360-890-6391

Is a school district fiscal impact statement required under [RCW 28A.305.135](#)? Yes No

If yes, insert statement here:

The public may obtain a copy of the school district fiscal impact statement by contacting:

Name: N/A
Address: N/A
Phone: N/A
Fax: N/A
TTY: N/A
Email: N/A
Other: N/A

Is a cost-benefit analysis required under [RCW 34.05.328](#)?

- Yes: A preliminary cost-benefit analysis may be obtained by contacting:
Name: Linda Kildahl
Address: Department of Ecology
Air Quality Program
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-706-3038
Fax: N/A
TTY: For Washington Relay Service or TTY, call 877-833-6341
Email: linda.kildahl@ecy.wa.gov
Other: N/A
- No: Please explain:

Regulatory Fairness Act and Small Business Economic Impact Statement

Note: The [Governor's Office for Regulatory Innovation and Assistance \(ORIA\)](#) provides support in completing this part.

(1) Identification of exemptions:

This rule proposal, or portions of the proposal, **may be exempt** from requirements of the Regulatory Fairness Act (see [chapter 19.85 RCW](#)). For additional information on exemptions, consult the [exemption guide published by ORIA](#). Please check the box for any applicable exemption(s):

This rule proposal, or portions of the proposal, is exempt under [RCW 19.85.061](#) because this rule making is being adopted solely to conform and/or comply with federal statute or regulations. Please cite the specific federal statute or regulation this rule is being adopted to conform or comply with, and describe the consequences to the state if the rule is not adopted.

Citation and description:

- This rule proposal, or portions of the proposal, is exempt because the agency has completed the pilot rule process defined by [RCW 34.05.313](#) before filing the notice of this proposed rule.
- This rule proposal, or portions of the proposal, is exempt under the provisions of [RCW 15.65.570](#)(2) because it was adopted by a referendum.

This rule proposal, or portions of the proposal, is exempt under [RCW 19.85.025](#)(3). Check all that apply:

- | | |
|--|---|
| <input checked="" type="checkbox"/> RCW 34.05.310 (4)(b)
(Internal government operations) | <input checked="" type="checkbox"/> RCW 34.05.310 (4)(e)
(Dictated by statute) |
| <input checked="" type="checkbox"/> RCW 34.05.310 (4)(c)
(Incorporation by reference) | <input type="checkbox"/> RCW 34.05.310 (4)(f)
(Set or adjust fees) |
| <input checked="" type="checkbox"/> RCW 34.05.310 (4)(d)
(Correct or clarify language) | <input type="checkbox"/> RCW 34.05.310 (4)(g)
(i) Relating to agency hearings; or (ii) process requirements for applying to an agency for a license or permit) |

This rule proposal, or portions of the proposal, is exempt under [RCW 19.85.025](#)(4) (does not affect small businesses).

This rule proposal, or portions of the proposal, is exempt under RCW _____.

Explanation of how the above exemption(s) applies to the proposed rule: Ecology baselines are typically complex, consisting of multiple requirements fully or partially specified by existing rules, statutes, or federal laws. Where the proposed rule differs from this baseline of existing requirements, it is typically subject to (i.e., not exempt from) analysis required under the Regulatory Fairness Act (RFA; Chapter 19.85 RCW) based on meeting criteria referenced in RCW 19.85.025(3) as defined by the Administrative Procedure Act in RCW 34.05.310. The Small Business Economic Impact Statement (SBEIS) below includes a summary of the baseline for this rulemaking, and whether or how the proposed rule differs from the baseline.

(2) Scope of exemptions: Check one.

The rule proposal is fully exempt (*skip section 3*). Exemptions identified above apply to all portions of the rule proposal.

The rule proposal is partially exempt (*complete section 3*). The exemptions identified above apply to portions of the rule proposal, but less than the entire rule proposal. Provide details here (consider using [this template from ORIA](#)): Ecology baselines are typically complex, consisting of multiple requirements fully or partially specified by existing rules, statutes, or federal laws. Where the proposed rule differs from this baseline of existing requirements, it is typically subject to (i.e., not exempt from) analysis required under the Regulatory Fairness Act (RFA; Chapter 19.85 RCW) based on meeting criteria referenced in RCW 19.85.025(3) as defined by the Administrative Procedure Act in RCW 34.05.310. The Small Business Economic Impact Statement (SBEIS) below includes a summary of the baseline for this rulemaking, and whether or how the proposed rule differs from the baseline.

The rule proposal is not exempt (*complete section 3*). No exemptions were identified above.

(3) Small business economic impact statement: *Complete this section if any portion is not exempt.*

If any portion of the proposed rule is **not exempt**, does it impose more-than-minor costs (as defined by RCW 19.85.020(2)) on businesses?

No Briefly summarize the agency's minor cost analysis and how the agency determined the proposed rule did not impose more-than-minor costs. _____

Yes Calculations show the rule proposal likely imposes more-than-minor cost to businesses and a small business economic impact statement is required. Insert the required small business economic impact statement here:

This Small Business Economic Impact Statement (SBEIS) presents the:

- Compliance requirements of the proposed rule.
- Results of the analysis of relative compliance cost burden.
- Consideration of lost sales or revenue.
- Cost-mitigating action taken by Ecology, if required.
- Small business and local government consultation.
- Industries likely impacted by the proposed rule.
- Expected net impact on jobs statewide.

A small business is defined by the Regulatory Fairness Act (chapter 19.85 RCW) as having 50 or fewer employees.

Estimated costs are determined as compared to the existing regulatory environment—the regulations in the absence of the rule. The SBEIS only considers costs to “businesses in an industry” in Washington State. This means that impacts, for this document, are not evaluated for government agencies.

The existing regulatory environment is called the “baseline” in this document. It includes only existing laws and rules at federal and state levels.

This information is excerpted from Ecology's complete set of regulatory analyses for this rulemaking. For complete discussion of the likely costs, benefits, minimum compliance burden, and relative burden on small businesses, see the associated Regulatory Analyses document (**Ecology publication no. 23-02-081, July 2023**)

COMPLIANCE REQUIREMENTS OF THE PROPOSED RULE, INCLUDING PROFESSIONAL SERVICES

2.2 Baseline

The baseline for our analyses generally consists of existing rules and laws, and their requirements. This is what allows us to make a consistent comparison between the state of the world with and without the proposed rule amendments.

For this rulemaking, the baseline includes:

- The existing rule: Chapter 173-443 WAC, Hydrofluorocarbons (HFCs).
- The authorizing statute: Chapter 70A.60 RCW, Hydrofluorocarbons – Emissions Reduction (ES2HB 1112 passed in 2019; ES2HB 1050 passed in 2021).
- The American Innovation and Manufacturing (AIM) Act of 2020, 42 USC 7675.
- EPA Significant New Alternatives Policy (SNAP) Program, 40 CFR Part 82, Subpart G.
- EPA HFC Allowance Allocation and Reporting Program, 40 CFR Part 84, Subpart A.
- The proposed EPA Technology Transitions rule: 87 FR 76738, Phasedown of Hydrofluorocarbons: Restrictions on the Use of Certain Hydrofluorocarbons Under Subsection (i) the American Innovation and Manufacturing Act of 2020.

We note that while the EPA rulemaking is occurring at the same time as this Ecology rulemaking, its authorizing AIM Act indicates the likely baseline will include an EPA rule that phases down the production and consumption of HFCs by 85 percent by 2036. The proposed EPA rule is the best current representation of the specifics of this baseline element, and is likely to be adopted on a similar timeline as our proposed rule .

- The Kigali Amendment (2016) to the Montreal Protocol on Substances that Deplete the Ozone Layer.

While they are not elements of baseline regulations in Washington State or at the federal level, we note the following are regulations that may apply to some of the entities impacted by the proposed rule amendments, if they sell products across multiple markets. Entities affected by similar regulations across multiple jurisdictions in which they do business may be able

to take advantage of economies of scale, for example mitigating cost increases by streamlining production attributes for products sold across entire regions.

- California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4, Sub article 5. Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Stationary Air-conditioning, and Other End-Uses.
- California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4, Sub article 5.1 Management of High Global Warming Potential Refrigerants for Stationary Sources.

2.3 Proposed rule amendments

2.3.1 Proposed amendments to manufacturer requirements

Baselines, proposed amendments, and expected impacts described in this section reflect the assumption that compliance behavior would be undertaken by manufacturers. We acknowledge that other participants along supply chains may incur some of the costs discussed in this section if manufacturers decide to pass on their compliance costs to their customers in the form of higher prices, but in the interest of avoiding double-counting of costs or benefits, we made the simplifying assumption that costs would be borne by manufacturers where this information was unavailable or unknown.

2.3.1.1 Adding centrifugal chillers to existing prohibitions

Baseline

Under the baseline, Chapter 173-443 WAC lists specific prohibited substances and the prohibition effective dates for various end-uses of new products and equipment.

Proposed

The proposed rule amendments would add the following chillers to baseline prohibitions starting in 2025:

- Centrifugal chillers (heating; heating and cooling), effective 2025.
- Positive displacement chillers (heating; heating and cooling), effective 2025.

The proposed rule would also list automatic commercial ice machines with expanded lists of prohibited refrigerants, rather than applying a maximum GWP threshold. The list included in our proposed rule matches the list for ice machines with more than 500 grams of refrigerant in the proposed federal Technology Transitions rule, for:

- Refrigeration:
 - o Automatic commercial ice machines (remote condensing units), effective 2025.
 - o Automatic commercial ice machines (stand alone units), effective 2025.

2.3.1.2 Setting maximum GWP thresholds for new refrigeration equipment

Baseline

Ecology's existing HFC rule does not contain GWP thresholds. The 2021 law established specific GWP thresholds and effective dates for new equipment used in ice rinks. In particular, the 2021 law set the following GWP thresholds for new equipment manufactured after December 31, 2023:

- 150 GWP threshold for new equipment installed in new ice rinks; and
- 750 GWP threshold for new equipment installed in existing ice rinks.

The proposed EPA Technology Transitions rule would establish GWP thresholds and prohibitions for a set of end uses of new refrigeration equipment effective in 2025. In particular, the proposed EPA Technology Transition rule would set the following GWP thresholds:

- 300 GWP threshold for new refrigeration equipment with less than 200 lbs. charge capacity;
- 150 GWP threshold for new refrigeration equipment with more than 200 lbs. charge capacity; and
- 700 GWP threshold for chillers used for industrial process refrigeration.

Proposed

The proposed rule amendments would add GWP thresholds for substances consistent with the proposed EPA Technology Transitions rule, except:

- Our proposed rule would set a 150 GWP threshold for all new refrigeration equipment with charge capacities exceeding 50 lbs. .
- Our proposed rule would set a 750 GWP threshold for chillers used for industrial process refrigeration.

Our proposed rule would also incorporate the GWP thresholds and effective dates for ice rinks from the state law.

2.3.1.3 Setting maximum GWP thresholds for new air conditioning equipment

Baseline

RCW 70A.60.020, which was added by the 2021 law, authorizes but does not require Ecology to set a 750 GWP threshold for substances used in new stationary air conditioning (excluding chillers) and sets the earliest dates such prohibitions could begin.

The state building code council did not adopt all four safety standards specified in RCW 70A.60.020(2)(b)(i) by January 1, 2023. The council is expected to complete the required adoption by November 2025. Accordingly, January 1, 2028 is the

earliest possible effective date for all stationary air conditioning equipment other than dehumidifiers, room air conditions, and systems with variable refrigerant flow or volume.

The proposed EPA Technology Transitions rule would set a GWP limit of 700 for:

- Air conditioning except variable refrigerant flow systems, beginning in 2025.
- Variable refrigerant flow systems, beginning in 2026.

Proposed

The proposed rule would set a 750 GWP threshold for substances used in new air conditioning equipment as follows:

- Room air conditioners and residential dehumidifiers, effective 2024. This is one year later than the earliest possible effective date for this type of equipment.
- Variable refrigerant flow or volume systems, effective 2026. This is the earliest possible effective date for this type of equipment.
- Other types of air conditioning equipment used in residential and nonresidential applications, effective 2028. This is based on our understanding that the state building code council will adopt the four specified safety standards no later than January 1, 2026.

2.3.1.4 Setting maximum GWP thresholds for small containers and nonessential consumer products

Baseline

RCW 70A.60.080, which was amended by the 2021 law, prohibits the use of substances with greater than 150 GWP in small containers of refrigerant and nonessential consumer products. These statutory prohibitions went into effect on July 25, 2021.

Proposed

The proposed rule amendments would incorporate the new statutory prohibitions without change.

2.3.1.5 Establishing exemptions

Baseline

The 2021 law established acceptable uses (exemptions) for specified substances for certain end use categories.

For refrigeration equipment, the 2021 law also exempts:

- Equipment with 50 lbs. or less of refrigerant.
- Replacement of components in existing facilities as part of normal maintenance.
- Facilities with new equipment with a building permit issued before the effective date of the amended rule.

Under the 2021 law, stationary air conditioning equipment is also exempt for facilities with new equipment with a building permit issued before the effective date.

Proposed

The proposed rule amendments would establish new exemptions consistent with additional prohibitions being proposed (see previous sections). These exemptions include certain applications of centrifugal chillers and positive displacement chillers:

- Using HFC-134a for some military marine vessels.
- Using HFC-134a and R-404A for some human-related spacecraft and support equipment).

Our proposed rule would also incorporate the other statutory exemptions described above.

2.3.1.6 Amending and adding labeling requirements

Baseline

Under the 2019 and 2021 laws, manufacturers of products and equipment using substances that are listed under the existing rule (see previous sections in 2.3.1) must meet labeling requirements, unless their products are exempt.

RCW 70A.60.060(4)(c), added by the 2021 law, requires Ecology to allow for alternative disclosure methods if Ecology determines that compliance with the applicable labeling requirement is not feasible for a particular product or equipment.

RCW 70A.60.020(5), added by the 2021 law, authorized Ecology to establish labeling requirements for new stationary air conditioning and refrigeration equipment that is subject to our proposed GWP thresholds.

Proposed

The proposed amendments would also implement the statutory directive to allow for alternative disclosure methods by specifying the required contents and process for requesting approval to use alternative disclosure methods.

The proposed rule amendments would also establish new, separate labelling and disclosure requirements, consistent with the proposed EPA rule, for the following equipment subject to our proposed GWP thresholds:

- New refrigeration equipment.
- New air conditioning equipment.

2.3.1.7 Adding recordkeeping requirements

Baseline

RCW 70A.60.060 requires Ecology to establish reporting and recordkeeping requirements. The existing rule includes reporting and recordkeeping requirements for manufacturers of products containing substances that are restricted under the baseline.

The proposed EPA Technology Transition rule includes reporting requirements and 3-year recordkeeping requirements for covered products.

Proposed

The proposed rule amendments would specify that existing reporting requirements would apply to products and equipment using substances that are restricted under with amended requirements.

The proposed rule amendments would also establish new, separate recordkeeping requirements, consistent with the proposed EPA rule, for new stationary air conditioning and refrigeration equipment that subject to our proposed GWP thresholds.

The proposed rule would require an additional 2 years of records retention (5-year retention of records compared to the 3 years required in the proposed EPA rule).

2.3.1.8 Establishing a variance process and criteria

Baseline

RCW 70A.60.020(5)(c), added by the 2021 law, gives Ecology the authority to grant variances from the proposed GWP thresholds and associated requirements for new stationary air conditioning and refrigeration equipment.

Proposed

The proposed rule amendments would establish three types of variances, with associated eligibility criteria, for which manufacturers can apply by demonstrating that issuance of the requested variance would not increase overall risk to human health or the environment.

2.3.2 Proposed amendments to requirements for facilities

2.3.2.1 Establishing refrigerant management program (RMP) registration requirements

Baseline

RCW 70A.60.030, added by the 2021 law, directs Ecology to adopt rules to implement a refrigerant management program (RMP) applicable to stationary refrigeration and air conditioning systems using high-GWP refrigerants and with a volume of 50 or more lbs., and installation and servicing of these systems.

RCW 70A.60.030(3) establishes annual registration requirements that apply to the owner or operator of a stationary refrigeration or air conditioning system with a charge capacity of 50 lbs. or more.

Under RCW 70A.60.030(7), Ecology must adopt rules requiring the following entities to provide an annual report to Ecology:

- Facilities with refrigeration or air conditioning system with a full charge of at least 50 lbs. of high-GWP refrigerant.
- Any person who wholesales, distributes, or reclaims any amount of high-GWP refrigerant.

Under RCW 70A.60.030(8), Ecology is also authorized to adopt rules establishing service practices for stationary appliances, which may include reporting requirements for technicians.

The statute also allows Ecology to phase in RMP requirements over time based on the relative full charge of refrigeration or air conditioning systems.

Proposed

The proposed rule amendments would incorporate the annual RMP registration requirement from the 2021 law. The proposed rule would also establish reporting requirements.

The proposed rule would phase in a requirement to register and provide information to Ecology.

Wholesalers, distributors, and reclaimers of any amount of high-GWP refrigerant would also be required to register with Ecology and provide detailed information about the facility with which they interact (including facility information, ownership, operation, and industry)

2.3.2.2 Setting implementation fees and annual fees

Baseline

RCW 70A.60.030(9), added by the 2021 law, gives Ecology authority to charge fees to cover the costs of implementing the RMP. Fees must be based on the direct and indirect costs of administering and enforcing the RMP.

The statute also allows Ecology to phase in RMP requirements over time based on the relative full charge of refrigeration or air conditioning systems.

Proposed

The proposed rule amendments would set an initial implementation fee of \$150 for facilities with refrigeration or air conditioning systems with a full charge of at least 1,500 lbs. of high-GWP refrigerant.

The proposed rule amendments would also set an annual implementation fee for facilities with refrigeration or air conditioning systems with full charge of at least 200 lbs. of high-GWP refrigerant as follows:

- Beginning in 2024: \$370 for facilities whose equipment has a full charge of at least 1,500 lbs.
- Beginning in 2026: \$170 for facilities whose equipment has a full charge of between 200 and 1,499 lbs.

Ongoing fees (beginning in 2025 and 2027, respectively) would be established using a process consistent with the updating process for other air quality fees. This would be specified in a new section of the Air Quality fee rule, in WAC 173-455-160 (see discussion in Section 2.3.7).

2.3.2.3 Requiring leak inspection and monitoring

Baseline

RCW 70A.60.030, added by the 2021 law, directs Ecology to establish requirements for leak detection and monitoring as part of the RMP. At a minimum, RCW 70A.60.030(6) requires the owner or operator of a registered stationary air conditioning or refrigeration system to inspect for leaks each time significant amounts of refrigerant are added to the system.

RCW 70A.60.030(5) authorizes Ecology to scale the requirements for periodic leak-detection inspections based on the relative full charge of the refrigeration or air conditioning systems. RCW 70A.60.030(5) also authorizes Ecology to exempt systems that use low-GWP substances or that have automatic leak-detection systems from the requirements for periodic inspections.

Proposed

The proposed rule amendments would set leak inspection requirements for facilities with year-round refrigeration and air conditioning systems with a full charge capacity of at least 1,500 lbs., beginning in 2024.

The rule amendments would also set requirements for automatic leak detection for year-round refrigeration systems with a full charge capacity of at least 1,500 lbs., beginning in 2025.

For facilities with refrigeration or air conditioning systems with full charge between over 200 and 1,500 lbs., beginning in 2024 the proposed rule amendments would require inspections.

For facilities with refrigeration or air conditioning systems with full charge between 50 and 200 lbs., beginning in 2024 the proposed rule amendments would require less frequent inspections.

2.3.2.4 Setting leak rate thresholds and establishing notification requirements

Baseline

The EPA has existing leak-related requirements and leak rate thresholds for any person maintaining, servicing, or repairing appliances containing class I, class II, or non-exempt substitute refrigerants, for the following uses, under Section 608 of the Clean Air Act:

- Industrial process refrigeration.
- Commercial refrigeration.
- Comfort cooling.
- Other covered appliances.

RCW 70A.60.030(7)(f), added by the 2021 law, requires Ecology to establish leak rate thresholds that achieve greater emissions reductions than the federal rules adopted by EPA.

Proposed

The proposed rule amendments would set thresholds for leak rates and associated notification requirements.

2.3.2.5 Establishing requirements for leak repair, timing, and verification

Baseline

The EPA has existing leak-related requirements and leak rate thresholds, as listed above.

EPA requirements include timing requirements for corrective action if the applicable EPA leak rate thresholds (“triggers”) are exceeded.

RCW 70A.60.030(7)(a), added by the 2021 law, requires Ecology to adopt rules that require leaking systems to be repaired within a specified amount of time.

Proposed

The proposed rule amendments would establish timing and other requirements for leak repair, beginning in 2024.

The proposed amendments would require verification tests upon completion of leak repairs, as well as follow-up verification tests within 14 days of reaching normal operating conditions for a system that requires evacuation to conduct a repair.

2.3.2.6 Establishing requirements for retrofit and retirement plans

Baseline

The EPA has existing leak-related requirements and leak rate thresholds, as above.

These leak-related EPA requirements include development of a retrofit or retirement plan within 30 days of detecting a leak in excess of leak thresholds.

Proposed

The proposed rule amendments would require facilities with refrigeration or air conditioning systems with full charge of at least 50 lbs. of high-GWP refrigerant, with leaks that are not capable of repaired within the applicable timeframes and are not exempt, to prepare and implement a retrofit or retirement plan.

2.3.2.7 Establishing exemption criteria and process for leak repair, retrofit, and replacement.

Baseline

RCW 70A.60.030(8)(b), added by the 2021 law, authorizes Ecology to establish a process for wholesalers, distributors, reclaimers, and equipment operators to apply for an exemption from rule requirements related to leak repair and retrofit or

replacement. The statute authorizes Ecology to grant such exemptions on the basis of economic hardship, natural disaster, or based on a calculation of the impact on lifecycle GHG emissions.

Proposed

The proposed rule amendments would add three types of exemptions, with associated eligibility criteria, for which facilities can apply by demonstrating that approval of the requested exemption would not increase overall risk to human health or the environment.

Applicants would also need to demonstrate they made a good faith effort to anticipate, address, and mitigate potential noncompliance.

The proposed rule would establish the application process for an exemption.

2.3.2.8 Establishing reporting requirements

Baseline

RCW 70A.60.030(7), added by the 2021 law, directs Ecology to establish annual reporting requirements for facilities.

The statute also directs Ecology to require refrigerant wholesalers, distributors, and reclaimers to report annually.

Under RCW 70A.60.030(8), Ecology is also authorized to adopt rules establishing service practices for stationary appliances, which may include reporting requirements for technicians.

Proposed

The proposed rule amendments would specify the timing and required contents of annual reports.

The proposed rule amendments would also require refrigerant wholesalers, distributors, and reclaimers to report annually for the previous calendar year, beginning in 2025 for 2024.

2.3.2.9 Establishing recordkeeping requirements

Baseline

The EPA has existing requirements for class I, class II, or non-exempt substitute refrigerants, as above.

EPA requirements include recordkeeping requirements for three years.

RCW 70A.60.030(7)(e), added by the 2021 law, directs Ecology to adopt recordkeeping requirements for facility operators as well as refrigerant wholesalers, distributors, and reclaimers.

Proposed

The proposed rule would require recordkeeping beginning in 2024. Facilities with refrigeration or air conditioning systems with full charge of at least 50 lbs. of high-GWP refrigerant would be required to maintain records on site for at least 5 years.

The proposed rule would also require refrigerant wholesalers, distributors, and reclaimers to maintain records on site for at least 5 years.

2.3.4 Proposed amendments to requirements for service technicians

2.3.4.1 Establishing required service practices

Baseline

RCW 70A.60.030(8)(a), added by the 2021 law, authorizes Ecology to adopt rules establishing required service practices for stationary appliances. The rules may include requirements for service technician certification and prohibitions on practices that are likely to result in releases to the environment.

Service practices are required by the EPA under their Phaseout of Ozone-Depleting Substances (ODS) program, for class I and class II controlled substances.

Proposed

The proposed rule amendments would require the same service practices for HFCs as are required under the baseline for other refrigerants that are also ODS. The proposed rule amendments would also require that additional refrigerant charge may not be added to equipment known to have a leak unless the charge is needed to maintain operations while preparing for or conducting repairs.

2.3.6 Making corresponding changes to the Air Quality Fee Rule

The proposed rule amendments would add a new section to Chapter 173-455 WAC to establish the proposed RMP implementation fees authorized by the 2021 law. This proposed rule amendments would facilitate annual updating of the RMP implementation fees.

COSTS OF COMPLIANCE: EQUIPMENT, SUPPLIES, LABOR, PROFESSIONAL SERVICES, ADMINISTRATIVE COSTS, AND OTHER COSTS

Summary	PV Cost (low, fewer businesses)	PV Cost (high, fewer businesses)	PV Cost (low, larger business count)	PV Cost (high, larger business count)
Adding Prohibitions	\$79,558	\$385,211	\$79,558	\$385,211

Refrigeration GWP thresholds	(\$25,812,527)	\$292,536,326	(\$62,836,435)	\$123,645,506
AC GWP thresholds	\$11,104,972	\$11,104,972	\$11,104,972	\$11,104,972
RMP registration	\$375,585	\$375,585	\$1,713,345	\$1,713,345
Fees	\$7,443,265	\$7,443,265	\$78,627,164	\$78,627,164
Leak detection	\$40,239,706	\$47,078,609	\$329,633,817	\$363,986,224
Leak rate thresholds	\$2,072,923	\$2,072,923	\$16,691,009	\$16,691,009
Repair timing	Qualitative	Qualitative	Qualitative	Qualitative
Retrofit requirements	Qualitative	Qualitative	Qualitative	Qualitative
Reporting	\$8,472,992	\$8,472,992	\$87,176,863	\$87,176,863
TOTAL	\$43,976,472	\$369,469,882	\$462,190,293	\$683,330,294

COMPARISON OF COMPLIANCE COST FOR SMALL VERSUS LARGE BUSINESSES

Type of Cost	Small Business Low	Small Business High	Large Business Low	Large Business High
Amending prohibitions on the use of certain substances in specified new products and equipment	\$52.22	\$210.71	\$0.02	\$0.09
Setting GWP thresholds for prohibited substances used in new refrigeration equipment with a refrigerant charge capacity of more than 50 lbs	\$5,414.69	\$5,745.28	\$2.25	\$2.38
Setting GWP thresholds for prohibited substances used in new air conditioning equipment	N/A	N/A	N/A	N/A
Establishing refrigerant management program (RMP) registration requirements	\$2.62	\$2.62	\$0.00	\$0.00
Setting implementation fees and annual fees	\$59.09	\$59.09	\$0.02	\$0.02
Requiring leak detection and monitoring	\$68.05	\$141.49	\$0.03	\$0.06
Setting leak rate thresholds and establishing notification requirements	\$4.56	\$4.56	\$0.00	\$0.00
Establishing requirements for leak repair, timing, and verification	N/A	N/A	N/A	N/A
Establishing requirements for retrofit and retirement plans	N/A	N/A	N/A	N/A
Establishing reporting requirements	\$13.05	\$13.05	\$0.01	\$0.01
TOTAL	\$5,614.28	\$6,176.80	\$2.33	\$2.56

MITIGATION OF DISPROPORTIONATE IMPACT

Ecology considered:

- Reducing, modifying, or eliminating substantive regulatory requirements;
- Simplifying, reducing, or eliminating recordkeeping and reporting requirements;
- Reducing the frequency of inspections;
- Delaying compliance timetables;
- Reducing or modifying fine schedules for noncompliance; or
- Any other mitigation techniques including those suggested by small businesses or small business advocates.”

We considered all of the above options, the goals and objectives of the authorizing statutes and included the following:

- Businesses that have refrigeration equipment with a refrigerant charge capacity of less than 50 lbs are not required to comply with the requirements of the rule.
- Exemptions from requirements of the rule may be granted if an exemption will not increase the overall risk to human health and the environment and the facility is a retail food facility or a small business, compliance with the requirements would result in extreme financial hardship, and the applicant has made a good faith effort to mitigate any potential noncompliance.

SMALL BUSINESS AND LOCAL GOVERNMENT CONSULTATION

- Met with Washington Food Industry Association and Air Conditioning Contractors Association representatives in June 2021.
- Presented a rulemaking overview at North American Sustainable Refrigeration Council conference in September 2021 (including a session focused on impacts to small businesses) and September 2022.
- Held seven open stakeholder meetings in 2022 and 2023.

- Met with the Washington chapter of the United Association of the Plumbers and Pipefitters Industry.
- Held a webinar on the legislative leak report to review Ecology methods for setting leak thresholds in the RMP.
- Met with the Washington Air Conditioning Contractors Association in December 2022.

NAICS CODES OF INDUSTRIES IMPACTED BY THE PROPOSED RULE

NAICS definitions and industry hierarchies are discussed at <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2017>.

NAICS Code	Description
115x	Support Activities for Agriculture and Forestry
221x	Utilities
311x	Food Manufacturing
312x	Beverage and Tobacco Product Manufacturing
313x	Textile Mills
323x	Printing and Related Support Activities
324x	Petroleum and Coal Products Manufacturing
325x	Chemical Manufacturing
326x	Plastics and Rubber Products Manufacturing
327x	Nonmetallic Mineral Product Manufacturing
332x	Fabricated Metal Product Manufacturing
334x	Computer and Electronic Product Manufacturing
335x	Electrical Equipment, Appliance, and Component Manufacturing
336x	Transportation Equipment Manufacturing
339x	Miscellaneous Manufacturing
423x	Merchant Wholesalers, Durable Goods
424x	Merchant Wholesalers, Nondurable Goods
425x	Wholesale Trade Agents and Brokers
441x	Motor Vehicle and Parts Dealers
444x	Building Material and Garden Equipment and Supplies Dealers
445x	Food and Beverage Retailers
488x	Support Activities for Transportation
493x	Warehousing and Storage
512x	Motion Picture and Sound Recording Industries
518x	Computing Infrastructure Providers, Data Processing, Web Hosting, and Related Services
522x	Credit Intermediation and Related Activities
524x	Insurance Carriers and Related Activities
531x	Real Estate
532x	Rental and Leasing Services
541x	Professional, Scientific, and Technical Services
551x	Management of Companies and Enterprises
561x	Administrative and Support Services
611x	Educational Services
621x	Ambulatory Health Care Services
622x	Hospitals
623x	Nursing and Residential Care Facilities
711x	Performing Arts, Spectator Sports, and Related Industries
712x	Museums, Historical Sites, and Similar Institutions
713x	Amusement, Gambling, and Recreation Industries
721x	Accommodation
722x	Food Services and Drinking Places
811x	Repair and Maintenance
812x	Personal and Laundry Services
813x	Religious, Grantmaking, Civic, Professional, and Similar Organizations

The x in the 4-digit NAICS codes listed in the table represent subcategories within NAICS codes that described.

CONSIDERATION OF LOST SALES OR REVENUE, IMPACT ON JOBS**Low-Cost modeled impacts to output accounting for social cost of carbon (millions of \$)**

Cost Impact	2025	2033	2043
Dun & Bradstreet	-\$619	-\$7	-\$6
Data Axle	-\$505	-\$120	-\$79

High-Cost modeled impacts to output accounting for social cost of carbon (millions of \$)

Cost Impact	2025	2033	2043
Dun & Bradstreet	-\$595	\$44	\$66
Data Axle	-\$554	-\$181	-\$122

Low-cost impacts on jobs (Dun & Bradstreet)

Industry	2025 Jobs Impact	2043 Jobs Impact
Whole state	-3219	-16
Retail trade	-586	-3
Construction	-584	5
Food services and drinking places	-153	-1
Real estate	-149	-1
Individual and family services	-49	-1


Low-cost impacts on jobs (Data Axle)

Industry	2025 Jobs Impact	2043 Jobs Impact
Whole state	-2642	-286
Construction	-500	1
Retail trade	-360	-26
State and Local Government	-150	-32
Food services and drinking places	-131	-17
Real estate	-118	-13

The public may obtain a copy of the small business economic impact statement or the detailed cost calculations by contacting:

Name: Linda Kildahl
 Address: Department of Ecology
 P.O. Box 47600
 Olympia, WA 98504-7600

Phone: 360-706-3038
 Fax: N/A
 TTY: For Washington Relay Service or TTY, call 877-833-6341
 Email: lindal.kildahl@ecy.wa.gov
 Other: N/A

Date: July 13, 2023	Signature: 
Name: Heather Bartlett	
Title: Deputy Director	