

Refrigerant Management Solutions

Thank you for the opportunity to provide comments. Please see attached.

Keilly Witman

Department Head

Refrigerant Management Solutions

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Linda Kildahl
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Air Quality Program
P.O. Box 47600
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Electronic submittal via <https://aq.ecology.commentinput.com/?id=trCUMYBx2G>

Subject: WAC 173-443 and 173-455, Hydrofluorocarbons (HFCs) Rulemaking

Dear Ms. Kildahl,

On behalf of Refrigerant Management Solutions, a subsidiary of DC Engineering, I appreciate the opportunity to provide comments on the proposed rulemaking Chapters 173-443 and 173-455. Refrigerant Management Solutions helps refrigerant end-users transition to environmentally friendlier refrigerants, implement best practices to reduce refrigerant emissions across their facilities, and comply with the increasing number of refrigerant regulations in the US. Our client-base is made up of large food retail companies, most of which have a significant number of stores in the state of Washington. We request clarification on several parts of the rules with respect to compliance in supermarket/food retail stores.

1. The foundation of WA State's proposed rule seems to be the "system," though the definitions section of the proposed rule does not define this term in a way that helps the food retail industry understand exactly what is regulated. The proposed rule also uses the term "circuit," though the term circuit is not defined in the regulations. The meaning of the terms "appliance," "system," and "circuit," is the most widespread source of confusion in the food retail industry's compliance with existing refrigerant regulations. If these terms are not understood, a regulated entity can make serious mistakes in compliance that extend across that entity's entire portfolio of facilities.

The federal regulations base their requirements on the "appliance." Title 40 Part 82, Section 82.152 of the Code of Federal Regulations (CFR) clarifies that "each independent circuit is considered a separate appliance." We recommend that the state of Washington also base their regulations on the "appliance" for clarity and consistency. If the state of Washington continues to base their regulations on "systems," it would be helpful to clarify whether a "system" in the state of Washington is the same as an "appliance" under the federal regulations.

While the term appliance and the term system are often used interchangeably in food retail, the term circuit can have different meanings in the context of retail food refrigeration and air-conditioning (HVACR). HVACR equipment can contain multiple dependent circuits and/or multiple independent circuits. Dependent circuits *are not* separate appliances/systems. Independent circuits *are* separate appliances/systems. It is common for some air-conditioning units, for instance, to contain several independent circuits, with each independent circuit being separately regulated as appliances under the federal regulations. Other types of equipment, for instance refrigeration racks, can contain multiple

circuits that are all part of one appliance. These circuits are dependent on one common reservoir of refrigerant, i.e. they are not independent circuits. The California Air Resources Board's Refrigerant Management Program clarifies that "a single refrigerant circuit is defined by all piping and components that use refrigerant from a common reservoir of a high-GWP refrigerant".

2. 173-443-115 (5) states that "*the owner or operator of a newly constructed facility, or a facility that is converted for a use that is subject to this chapter, must register the facility with ecology within three months of beginning operations.*" The term "beginning operations" is confusing in the context of retail food refrigeration. Does it refer to the beginning of the operation of the facility or the beginning of the operation of the HVACR appliances?

If the beginning of operations refers to the facility, do you mean the date that the store opens to the public? Or is it the date that a company begins construction of the facility? Or do you mean the date that the facility envelope is complete, the public utilities are hooked up, and employees are working in the facility? For existing facilities, is it the date that a new owner purchases the facility? In situations where a company purchases an existing facility and converts it into a supermarket, it is possible that the purchaser does not even know what type of equipment they are going to install 3 months after the purchase of the facility. In any of these situations, HVACR equipment can be operational prior to the beginning of operation of the facility.

If "beginning operations" refers to when the HVACR equipment begins to operate, does that mean the beginning of the installation of the first HVACR appliance? If this is the intent, it is normal to not know the full charge of the refrigeration systems within 3 months of the date that the first HVAC appliance is installed and begins operations. Also, refrigeration appliances are often installed in sections, with some sections (circuits) of the appliance being fully operational before the entire installation process is complete and the full charge size of the appliance is determined. The process to completely install a full refrigeration rack system can take more than 3 months.

3. Page 18 of the WA Informational Guidebook states "If a system cannot be repaired within the required timeframe and does not have an approved exemption, the owner/operator must create a retrofit (to a low-GWP refrigerant) or retirement plan." However, the text of the proposed rule does not mention anywhere that a retrofit must be to a low-GWP refrigerant. Under the rule language, between January 1st, 2024, and December 31st, 2024, the requirement to create and implement a retrofit plan for an appliance that did not repair its leaks could be met by retrofitting an R-404A appliance to R-448A; however, that retrofitted R-448A system would still have unrepaired leaks. Would the failure to repair the same leak in the R-448A system that existed in the pre-retrofit R-404A system trigger the requirement to again develop a retrofit or retirement plan? Or is the intent to allow a system that has been retrofitted to use a high-GWP refrigerant to operate with unrepaired leaks?
4. WAC 173-443-030(e) states that a "*system in an existing facility used for commercial refrigeration or industrial process refrigeration that is modified such that the system undergoes cumulative replacement of 75 percent or more of its evaporators (by number) and 100 percent of its compressor racks, condensers, and connected evaporator loads.* What is the cumulative replacement time period? Is this over the lifetime of the equipment, during a single "project," or a different amount of time?

5. WAC 173-443-155 states that the “owner or operator of a facility that has a refrigeration or air conditioning system with a full charge greater than or equal to 50 pounds of a high-GWP refrigerant must ensure that the leak rate of the system is calculated during each leak inspection and each time refrigerant is added to the system.” The term “and” is confusing. Does this mean that the calculation must be done each time a leak inspection is performed, as well as each time refrigerant is added to the system? Or does it mean that a calculation must be done each time a leak inspection is performed in conjunction with adding refrigerant to the system. The federal requirement under Title 40 Part 82, Section 82.157 of the CFR is to “... *calculate the leak rate every time refrigerant is added to an appliance unless the addition is made immediately following a retrofit, installation of a new appliance, or qualifies as a seasonal variance.*”
6. The US EPA added a section to their regulations mandating that third-party service providers supply owners/operators of equipment with certain required data. The EPA added this to their regulations based on feedback from system owners/operators that had difficulty obtaining the required data from their third party service providers. The requirement to document the data falls on the owner/operator, but the owner/operator does not have access to the data until/unless the third-party service provider gives it to them. We recommend adding this requirement to the WA state regulations. We also recommend that a deadline be incorporated for the delivery of this data, especially given the requirement to repair systems within 14 days. If a third-party service provider does not make the owner/operator aware of a leak prior to the 14-day repair deadline, it is impossible for the owner/operator to ensure that the leak has been properly repaired within the 14-day window allowed in the regulation. We suggest that a maximum of 5 calendar days be given to provide the necessary documents.
7. WAC 173-443-155173 states that the “owner or operator of a facility that has a refrigeration or air conditioning system that exceeds the applicable leak rate threshold, based on the 12-month rolling average, must notify ecology, through the WA RMP data reporting system, within 30 days of determination of the exceedance.” There are several clarifications necessary with this requirement:
 - a. This can be interpreted to mean that a system that leaks several times in a 12-month rolling period must only report the system to Ecology once, after the refrigerant addition that causes it to exceed the 16% threshold [see leak scenarios (i)-(iii) below]. The other alternative is that a report must be submitted to Ecology at the point that a system exceeds a 12-month rolling leak rate of 16% and another report must be submitted every time refrigerant is added as long as the system’s 12-month leak rate is in excess of the 16% threshold. In the instance of a 300 lb. system that has the following leaks, would the system have to be reported once, after leak #2, or would it have to be reported after leak #2 and after leak #3?
 - (i) Leak 1 on February 1st involves a 30 lb. leak which results in a 12-month rolling leak rate of 10%;
 - (ii) Leak 2 on March 1st involves a 60 lb. leak which results in a total 12-month rolling average of 30% and the requirement to report the system to Ecology;
 - (iii) Leak 3 on June 1st involves another 30 lb. leak which causes the 12-month rolling leak rate to be 40%.
 - b. The second issue that needs to be clarified is when you are required to start providing the notifications to Ecology; if this requirement starts January 1, 2024, or if this requirement starts after you have registered the facility. If this requirement starts January 1, 2024, how will a

facility report a small or medium-sized system that exceeds the leak rate threshold if the facility has not been required to register with the State yet?

8. Under WAC 173-443-030 "*Mothballing*" or "*system mothballing*" means the intentional shutting down of a refrigeration or air conditioning system for longer than 60 days by the owner or operator of the facility, where the refrigerant has been evacuated from the system or affected component, at least to atmospheric pressure. It is common practice when a system cannot be repaired within a required time period to mothball the system or section of the system by isolating the leaking section, evacuating all refrigerant from it, and by-passing that section, thereby stopping the leak and allowing the rest of the system to continue to operate. While WAC 173-443-165(3)(b) allows for a 45-day allowance to repair the leak if the parts necessary to repair the leak are not available, if an owner/operator elects to stop the leak by mothballing the system or component while waiting for the parts to complete the repair and those parts arrive earlier than 60-days from when the leak was detected, why should they be required to wait until after the 60-day period to resume operation of the system/component? For instance, if they "mothball" a case because there was an evaporator coil that was leaking, and they received the coil on day 47, would they not be able to replace the coil and return the case to normal operation until after 60 days? How the regulation is written, it seems that if they elect to mothball the system/component it must remain that way for more than 60 days, or you cannot mothball the system/component and you would be required to allow the system to continue to leak for 14-days, or 45-days if the allowance criteria is met. In order to allow owners/operators to stop leaks as quickly as possible, thereby reducing environmental and financial impacts of leaks, the requirement to mothball the system/component for more than 60 days should be removed.

9. The total fee amount for initial and annual implementation fees are not clear in the proposed rule. WAC 173-443-135 indicates that the fee is based on the largest system within a facility while WAC-173-455-160 indicates that the fees are per system. As an example, WAC 173-443-135(2)(b)(i)(A) states that "*Beginning January 1, 2024, the annual implementation fee for facilities that have a refrigeration or air conditioning system that have a refrigeration or air conditioning system with a full charge of 1,500 pounds or greater is \$370*". WAC-173-455-160(2)(b) states that "*For a facility with multiple refrigeration and/or air conditioning systems, the owner or operator must pay an annual implementation fee for each system pursuant to (b)(i) and (ii) of this subsection. (i) The annual implementation fee is \$370 for a refrigeration or air conditioning system with a refrigerant charge greater than or equal to 1,500 pounds*". Clarification should be provided so facilities with multiple system know how much they will be required to pay for the initial and annual implementation fees. As an example, if a facility has (1) large system and (2) medium systems, will they be required to pay an annual implementation fee based on the largest system at the facility (\$370), or based on each of the systems at the facility (\$710)?

In addition, it is very confusing that both fees are called implementation fees. It seems that the initial implementation fee is a registration fee and the annual implementation fee, which is not implementing anything, is actually an annual reporting fee.

10. The informational guidebook states that Ecology estimates the final rule will be adopted in November 2023, with the rule effective 31 days after filing. Requirements under Part II Refrigerant Management Program have an effective date of January 1, 2024. This is an incredibly short timeframe for companies to come into compliance with the Refrigerant Management Program, including but not limited to development of policies and procedures to meet compliance requirements, development of forms to

ensure recordkeeping requirements are being met, training of internal technicians and third-party service providers, and updating software to align with the Washington online reporting system, which users will not even be able to see until the rule is finalized.

Thank you for considering these comments. We hope to receive clarification on the above-mentioned ambiguities. We also hope you will consider the need for more time between the issuance of the final regulation and the beginning of the compliance requirements.

Sincerely,



Keilly Witman
Department Head
Refrigerant Management Solutions

