

Trakref Inc.

Trakref Inc is providing comments to the Department of Ecology about pending updates to the Washington State plan to improve the management of Hydrofluorocarbons (HFCs) – Chapter 173-443 WAC. We support the state's efforts and intent to improve awareness and better HVAC/R and refrigerant management. Our comments are intended to provide the state with operational insights we have gained during routine interactions with the CARB R3 program over the past 11 years. We welcome any interaction that our comments may motivate and look forward to the work ahead and the opportunity to help reduce refrigerant leak rates.



Comments to Hydrofluorocarbons (HFCs) – Chapter 173-443 WAC

February 13, 2023

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Re: AHRI Comments Regarding Washington Proposed Rule Update - Chapter 173-443 WAC, Hydrofluorocarbons (HFCs).

Dear Ms. Kindahl,

Trakref would like to provide comments related to the State of Washington Department of Ecology, Chapter 173-443 WAC related to Hydrofluorocarbons (HFCs).

Trakref is a comprehensive software solution that works with clients from various industries to help them manage HVAC/R appliances and stay compliant with state and federal regulations. The platform provides a unified solution for capturing data, supporting record keeping, reporting, and registration with relevant agencies.

We have been working in the State of California R3 submission process since 2011 and we have more than 25 years' experience in managing refrigerants.

RECLAIM:

The State has adopted the following definition for reclaim:

“Certified Reclaimed Refrigerant” to mean used (recovered) refrigerant that has been reclaimed by a U.S. EPA-certified refrigerant reclaimer from a previously operational appliance and meets all the following conditions:

- (1) Meets all specifications in 40 C.F.R. Part 82, Subpart F, Appendix A (Specifications for Refrigerants) (January 1, 2017), which is incorporated herein by reference.
- (2) Must have results of the analysis conducted to verify that reclaimed refrigerant meets the necessary specifications as required in (1) above; and
- (3) Contains no greater than fifteen percent (15%) new (virgin) refrigerant by weight to meet the specifications in 40 C.F.R., Part 82, Subpart F, Appendix A (Specifications for Refrigerants) (January 1, 2017). The certified reclaimer must have documentation that supports it has not exceeded the maximum allowable virgin refrigerant content.

We are calling attention to gaps in the definition as provided that will undermine the integrity of the supply chain. For instance:



1. Although section (3) definition does include a statement of post reclaim content, there is **no** defined standard or protocol for either recording, reporting or auditing how buyers or sellers will certify this result.
2. AHRI has a standard 700, which is routinely updated – but there is not allowable packaging format or protocol for packaging of reclaim refrigerant. The label of reclaim therefore is not allowed.
3. Has the state considered the duration of time a material must be in use before it can allowably be considered “reclaim?” For instance, can a user buy refrigerant, apply it to an appliance and then immediately extract it for reclamation? Is there an allowable time theta refrigerant must be in use before it can be considered “reclaimable” as defined in the definition provided by the state?
4. How will companies prove that gas is reclaimed, and what documentation will be acceptable?
5. Two scenarios to consider:
 - a. A company buys virgin R-404A, then they run this gas through a reclaim system and sell it as reclaim - the reclaim will be at a higher price so the premium will justify the extra investment.
 - b. A company buys virgin 404A, then sends the refrigerant into an appliance, the gas stays in the appliance for 24 hours. At that time, the gas is extracted and sent to reclaim, would this gas adequately meet the conditions 1-3 above?

Reclaim refrigerant is an important aspect of supply chain governance. Existing definitions primarily focus on the action process of cleaning and certifying the refrigerant, but they lack any real definition of the terminology related to the packaged material that the industry relies on when buying and selling these materials.

Currently, certified reclaimed refrigerant is labeled similar to virgin refrigerant – with no mention of the reclamation process. We suggest AHRI get involved in setting standards for labeling AHRI 700 certified reclaimed refrigerants.

Workforce & Documentation

Using the state of California as a reference, we encourage The Department of Ecology to refine the documentation related to service techs when submitting service records to your registry.

Presently it has been proposed by Ecology that service professionals provide their EPA ID # when submitting service IDs, however during the 1990’s EPA ID numbers were often Social Security Numbers, therefore if the state matches the EPA ID requirements to the state of California, then it will require that the state also host sensitive personal property.



We suggest the state require that the details be kept on file and provide a means to accept only a representative sample of the data from the ID# so that sensitive Social Security details will not present a problem (risk) for the service provider or the state.

Definitions

We support the adjustment of several terms in WAC 173-443

- Chiller – we suggest the state Adopt the same definition as that defined in EPA SNAP
- Commercial Ice Machines – we suggest the state Adopt the same definition as that defined in EPA SNAP
- Commercial Refrigeration - we suggest the state Adopt the same definition as that defined in EPA SNAP

DATES related to Manufacture & Installation

Trakref seeks further clarification related to the dates as defined by the department of ecology, specifically related to field assembled appliances (systems). Presently the Department of Ecology has defined ‘Date of Manufacture’ as follows:

1. For air conditioning and refrigeration equipment, the date the manufacturer affixed an equipment label indicating the equipment’s date of manufacture.
2. For refrigeration and air conditioning equipment built up and completed onsite, the date that the refrigerant circuit was completed and initially filled with refrigerant.

Regarding item (2) the challenge is related to the date the unit goes live or is transferred from construction to ownership. Sometimes this process of setting up an appliance (system) can take months, or even a year. During that time, the system may be partially or even fully charged with refrigerant but not under the control of the owners/operators responsible for registering, tracking, recordkeeping and reporting on maintenance and emissions. We encourage the state to clarify the definition and recognize two dates, one for acquisition and another for install.

Leak rate Calculations

The determination of the amount of refrigerant leaked from a system is a complicated process that involves proper activity management and proper tracking of refrigerant usage over an extended period, as long as 365 days. Presently the definition provided by the state Department of Ecology adopted from the EPA 608, is missing some critical elements of clarity related to the extent of the leak inspection required to certify an appliance (system) as leak free. The existing definition proposed in Chapter 173-443 WAC:



“Leak rate calculation” means the rate at which a refrigeration or air conditioning system is losing refrigerant, measured between refrigerant charges or inspections. The leak rate is expressed in terms of the average percentage of the system’s full charge lost on a monthly basis over the previous 12-months. The leak rate must be calculated using the 12-month rolling average method as follows

1. Step 1. Take the sum of the pounds of refrigerant added to the system over the previous 365-day period (or over the period that has passed since the last successful verification test showing all identified leaks were repaired if that period is less than one year);
2. Step 2. Divide the result of step 1 by the pounds of refrigerant the system normally contains at a full charge; and
3. Step 3. Multiply the result of step 2 by 100 to obtain a percentage

We suggest the state specify the extent of the leak inspection required to certify that a leak has been resolved to the state’s satisfaction.

The present definition does not go far enough in providing the workforce with clarity. The Business-as-Usual approach is to find a leak, make a repair and then certify that the leak you repaired is no longer leaking. If, as the state indicates, they expect the *entire* system to be leak-free before applying the formula and its conditions, then the Department of Ecology needs to state that it is mandatory to inspect the *entire* system, not just the location of the leak repaired and then further clarify the documentation process.

Initial and follow up verification test

The Department of Ecology has provided the following definitions related to initial and follow up verification:

The results of an initial verification test required under WAC 173-443-120(5) within 45 days of the leak rate threshold exceedance based on the 12-month rolling average; (c)The results of a follow up verification test, if required under WAC 173-443-120(6), within 60 days the

This definition is **not** in sync or harmonized with the Federal definitions provided in EPA 608.

We request that the Department of Ecology adopt the Federal EPA terms, definitions, and processes for both initial and follow up verification tests. The alternate definitions provided by the Department of Ecology although well thought out, will cause confusion by a workforce that will not be required to participate in new training and there is



precedence that even if the state does not require the follow up verification and adjusts creates a new definition for Initial Verification, that these would fall under the supremacy clause and therefore the workforce would still be required to perform the initial and follow up verification as defined by EPA 608. This would further complicate the documentation and recordkeeping process.

Leak Detection Methods

The Department of Ecology has adopted EPA 608 leak methods, including the “Oil residue” method as included in this statement and referenced six times:

The leak inspection must be conducted using a calibrated refrigerant detection device, a bubble test, or observation of oil residue on a refrigerant circuit component

We suggest the state remove the “oil residue” option from the allowable leak detection method.

The oil residue option provides a very low-quality result and offers technicians the option to simply observe for leaks without the need to actually evaluate equipment. The oil residue method would empower service people to simply walk into a room, look for oil and if they did not see any, then they could certify that no leaks were present. Data collected over more than 13 years indicate that less than 5% of interval leak inspections detect a leak. The oil residue test is the least effective and least accurate process. Furthermore, oil residue could be the result of a previous leak that a previous tech had not cleaned up. We encourage the use of more reliable, proven, and scientific processes such as electronic leak detection, bubbles or specialized sensors or hardware installed in a facility.

Computerized Reporting Platform

The state has signaled that a portal is being developed to host the data, accept records and to help manage the interaction between the State and the companies that need to file records. We welcome the opportunity to work with the state to improve and streamline the data transfer process. Service companies and owner/operators impacted by these regulations are already likely using a software solution like Trakref for recordkeeping. In the spirit of reducing keystrokes and simplifying the process of capturing and transferring data, we look forward to a future of continued improvement. Please keep us in the loop at regular intervals as you evolve your process so we can be a valued partner and help support the Department of Ecology’s goals as well as the partners whose operations we are actively supporting.



Thank you for the opportunity to provide comments and participate in the rulemaking process. Your office has provided ample opportunities to listen, interact and provide comments.

Have a Great Safe Day

R Ted Atwood
CEO, Trakref Inc.