



we make life better®

2311 Wilson Boulevard Suite 400 Arlington VA 22201 USA  
Phone 703 524 8800 | Fax 703 562 1942  
[www.ahrinet.org](http://www.ahrinet.org)

March 25, 2020

Linda Kildahl  
Washington State Department of Ecology  
300 Desmond Dr SE  
Lacey, WA 98503  
(Submitted online at <http://ac.ecology.commentinput.com/?id=Ypx2G>)

Re: AHRI Comments to Washington: Chapter 173-443 WAC, Hydrofluorocarbons (Informal Comment Period)

---

Dear Ms. Kildahl,

The Air Conditioning Heating and Refrigeration Institute (AHRI) submits this letter in response to the Washington State Department of Ecology (Ecology) stakeholder meeting on January 28, 2020 regarding the Chapter 173-443 WAC initial draft rule language to regulate HFCs.

AHRI represents over 300 air-conditioning, heating, and refrigeration equipment manufacturers. In North America, the annual output of the HVACR and water heating industry is worth more than \$44 billion. In the United States, the industry supports 1.3 million jobs and \$256 billion in economic activity annually.

AHRI has been working for more than a decade to support regulations to reduce the consumption and production of HFCs. Our members strongly supported the agreement to amend the Montreal Protocol on Substances that Deplete the Ozone Layer to phase down HFC production and consumption as a proven, predictable, and practical approach. Our industry has worked closely with governments, both foreign and domestic, to prepare and successfully execute the safe, orderly, and economical transition to low-GWP refrigerants.

We are working closely with the Climate Alliance states that have announced an intent to regulate HFCs in the United States to help states and provinces adopt and implement laws and regulations consistently across jurisdictions. We recognize that regulations must meet greenhouse gas reduction objectives while still providing critical benefits to society like preserving food and medicine and, in some cases, life-saving facility cooling. As a matter of general policy, AHRI would prefer a federal initiative to address low-GWP refrigerants to avoid a patchwork of regulations, and AHRI is actively pursuing federal legislation to achieve a national HFC phase down. We recognize Washington State's commitment to solving this important issue and appreciate the opportunity to provide feedback.

AHRI would like to thank your team for considering the comments received at the last stakeholder meeting and making helpful changes to the draft language. In particular, we appreciate the changes to the draft regulation that allows refrigeration equipment and chillers to use symbolic and online databases as disclosure methods, clarifies that foam installed in

refrigeration equipment and chillers can be disclosed through an owner's manual, among others. We believe that this collaboration is instrumental in establishing effective and consistent regulations across states.

Our comments focus on recommendations designed to harmonize aspects of the regulation with existing regulations, to align with the intent of the original Environmental Protection Agency (EPA) Significant New Alternatives Policy (SNAP) rules, and to achieve a workable, enforceable framework to provide certainty and consistency for industry by addressing the following topics:

1. Proposed definition of "New Refrigeration Equipment;"
2. Proposal to clarify that the manufacture of products intended for service or maintenance is permitted;
3. Request to allow flexible options such as nameplate disclosures for refrigeration equipment and chillers;
4. Proposed definition of Owner's Manual;
5. Clarify intent for foam labeling requirements;
6. Proposed revision to the definition of "Remote condensing units";
7. Consider technician training requirements; and
8. Additional input regarding the date of manufacture.

## 1. PROPOSED DEFINITION OF "NEW REFRIGERATION EQUIPMENT"

AHRI strongly supports definitions which are consistent with the EPA's SNAP 20 & 21 regulations and, at the very least, those seen in other U.S. Climate Alliance states to prevent potential ambiguities for prohibitions in the regulation.

A critical distinction for commercial refrigeration equipment affected by this regulation is the definition of "New Refrigeration Equipment." Based on the EPA's definition, the below proposal has been developed to allow existing systems to continue to be serviced and maintained for its useful life using the original refrigerant, whereas new systems manufactured after the compliance date will not be allowed to use prohibited refrigerants. This proposed definition clearly allows a supermarket to undergo an expansion and continue to use the existing refrigerant "if there is sufficient cooling capacity within the system to support the expansion" as EPA stated in SNAP Rule 20 that in such a situation "the store is not changing the intended purpose of the system." Therefore, the replacement of existing display cases with ones that operate at a higher evaporator temperature, but still provide the same purpose of maintaining products at required temperatures, is one way in which a system may be remodeled without changing the intended purpose of the system. Alternatively, if a supermarket remodel or expansion changes the intended purpose of the original equipment, for instance by adding additional cases, compressors, and refrigerant that were not supported by the original compressor system, EPA would consider the expanded system a "new" system. **AHRI proposes the following definitions for "New Refrigeration Equipment" and "Nominal Compressor Capacity":**

*"New Refrigeration Equipment" means products or equipment that are manufactured after the date of prohibition or equipment first installed for an intended purpose with new or used*

*components after the date of prohibition, expanded by the addition of components to increase the total Nominal Compressor Capacity after the date of prohibition, or replaced or cumulatively replaced such that the cumulative capital cost of replacement after the date of prohibition exceeds 50% of the capital cost of replacing the whole system.*

*“Nominal Compressor Capacity” means the capacity of the system’s compressor(s) based on published ratings in accordance with a recognized standard such as AHRI Standard 540.*

## 2. CLARIFY THAT THE MANUFACTURE OF PRODUCTS INTENDED FOR SERVICE OR MAINTENANCE IS ALLOWED

It is not clear that products or substances intended for servicing, maintenance, or repairs may still be manufactured and used after the effective date, so long as they do not fall under the definition of “new refrigeration equipment.” Clarification is needed in the regulation to allow for continued servicing of existing equipment as it is not the Department of Ecology’s intention to force the replacement of equipment before the end of its useful life. Similar statements have been proposed during discussions with other states adopting EPA Significant New Alternatives Policy (SNAP) Program Rules 20 & 21.

**AHRI requests the addition of the following statement to part (3) of WAC 173-443-060 Prohibitions:**

*(3) Except where an existing system is retrofit, nothing in this regulation requires a person that acquired a product or equipment containing a prohibited substance prior to the effective date of a prohibition in WAC 173-443-040 to cease use of that product or equipment. **Products, equipment, or substances may be manufactured, sold, imported, exported, distributed, installed, and used if it is manufactured after the effective date of a prohibition in WAC 173-443-040 to service existing equipment or for use outside the state.***

## 3. ALLOW NAMEPLATE DISCLOSURES FOR CHILLERS AND REFRIGERATION EQUIPMENT

Various Climate Alliance states are considering a range of administrative requirements related to disclosure to end-users and to regulatory agencies. AHRI requests that nameplates be accepted as a means for disclosure to ease the burden on manufacturers and capitalize on existing labeling methods. Examples of existing labeling methods on commercial refrigeration products and chillers are attached as Exhibit 1. As shown in Exhibit 1 (a), many centrifugal chillers have distinct refrigerant labels stating what refrigerant is used. However, screw and scroll chillers do not have a dedicated refrigerant label, but a nameplate that specifically indicates the refrigerant type and charge amount as shown in Exhibit 1 (b). The draft regulation currently requires that the refrigerant used in commercial refrigeration equipment and chillers have a “New dedicated label” or “UL or equivalent safety label,” but does not allow for nameplate disclosures. For commercial refrigeration products, an example of a dedicated refrigerant label is shown in Exhibit 1 (c), while Exhibit 1 (d) discloses the refrigerant via an existing nameplate. Exhibit 1 (e)

For refrigeration equipment and chillers, the nameplate provides an existing means of sufficient disclosure of the use of substitutes in the product or equipment, and AHRI requests that the draft rule language explicitly allow for the use of nameplate disclosures.

**AHRI strongly requests the option for nameplate disclosures for the labeling of refrigerant used in commercial refrigeration equipment and chillers through the following edits to WAC 173-443-070 Product Labeling (3) (c) and 4 (a):**

*For the refrigerant used in commercial refrigeration equipment:*

- (i) New dedicated label;*
- (ii) UL or equivalent safety label;*
- (iii) On-product or on-equipment symbol; and online disclosure, or*
- (iv) Nameplate containing refrigerant used.*

*For the refrigerant used in centrifugal and positive displacement chillers:*

- (i) New dedicated label;*
- (ii) UL or equivalent safety label;*
- (iii) On-product or on-equipment symbol; and online disclosure, or*
- (iv) Nameplate containing refrigerant used.*

#### 4. PROPOSED DEFINITION OF OWNER'S MANUAL

AHRI appreciates the Department of Ecology's willingness to include "Owner's manual" as part of our industry's foam labeling options. AHRI would like to propose a definition to clarify what qualifies as an "Owner's Manual" for clarity:

*"Owner's manual" means a paper or online instructional book that is available for an end-use product which provides basic information about the product. This may also be called an instruction manual, user guide or installation, product catalog, Installation and Service Instructions or Operation and Maintenance (IOM) manual.*

#### 5. CLARIFICATION OF FOAM DISCLOSURE REQUIREMENTS

AHRI understands that "Non-retail foam products" does not include air-conditioning equipment other than chillers (such as unitary or air-side equipment) based on the scope of this regulation, so HVAC equipment other than chillers are not required to disclose foams containing HFCs. **However, if labels are required for other HVACR equipment with foams containing HFCs, AHRI would requests to add the option for Owner's Manual disclosures for non-retail foam products WAC 173-443-070 (5) (a)(ii) to maintain consistency with chillers and refrigeration equipment, as follows:**

*(a) For foam non-retail products:*

- (i) Unit label; or*
- (ii) One of the following methods for each individual product within a unit:*

- (A) *New dedicated label*
- (B) *Existing product label*
- (C) *A label required by another jurisdiction with sufficient HFC disclosure requirements; and online disclosure;*
- (D) *On-product symbol or code; and online disclosure; or*
- (E) *Owner's Manual*

We would also like to clarify that products that are prohibited and exempted based on this regulation should not be subject to the labeling requirements in this regulation.

Furthermore, the implementation date for labeling should be some time after the final rule is published. Manufacturers should not be expected to label equipment before details are final and current wording implies that labels perhaps have been required since January 1, 2020.

## 6. PROPOSED REVISION TO THE DEFINITION OF REMOTE CONDENSING UNITS

AHRI members have identified a potential concern with the definition of “Remote condensing units,” because it can be interpreted to include a larger scope of equipment than what was intended by EPA SNAP Rules 20 and 21.

The Department of Ecology defines “Refrigeration equipment” as shown below:

*“Refrigeration equipment” means any stationary device that is designed to contain and use refrigerant gas, including but not limited to retail or commercial refrigeration equipment, household refrigeration equipment, and cold storage warehouses.*

We believe that other types of HVAC equipment can be considered “Refrigeration equipment” because of the “including but not limited to” phrase in the proposed definition. This becomes a concern considering that the definition of “Remote condensing units” could be interpreted to include remote condensing units that are used for comfort cooling. EPA SNAP Rule 20 explicitly calls out “Remote condensing units” only under “Retail food refrigeration,” not other types of HVAC equipment. While this is clear in the EPA documentation, the proposed Washington state language can be interpreted to include remote condensing units in other HVAC applications such as comfort cooling.

**AHRI strongly requests the following minor revision to the definition of “Remote condensing units” to remain consistent with the intention of the EPA SNAP rules:**

*“Remote condensing units” means retail **food** refrigeration equipment or units that have a central condensing portion and may consist of compressor(s), condenser(s), and receiver(s) assembled into a single unit, which may be located external to the sales area. The condensing portion (and often other parts of the system) is located outside the space or area cooled by the evaporator. Remote condensing units are commonly installed in convenience stores, specialty shops (e.g., bakeries, butcher shops), supermarkets, restaurants, and other locations where food is stored, served, or sold.*

## 7. CONSIDER TECHNICIAN TRAINING FOR FUTURE REGULATIONS

Training and servicing requirements for technicians will be important considerations for future regulations. AHRI suggests that Ecology consider including a requirement that technicians have refresher training on some frequency as the transition to lower-GWP refrigerants will require new uses of different American Society of Heating and Refrigeration Engineers (ASHRAE) refrigerant safety classifications than have been historically used.

## 8. FURTHER INPUT FROM AHRI - DATE OF MANUFACTURE

AHRI is concerned with classifying the date of manufacture of “refrigeration equipment and chillers not factory-charged or pre-charged with refrigerant” as the date the refrigerant is added to the equipment. We are gathering input from manufacturers and will provide an official proposal to the Department of Ecology staff by March 31, 2020.

We would also like to confirm our understanding that the date of manufacture as part of a serial number is sufficient for indicating the date of manufacture on a piece of equipment.

We thank you for providing stakeholders another opportunity to provide feedback during the rulemaking process to ensure state-to-state harmonization of rules. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

Jennifer Kane  
Regulatory Engineer  
Direct: (703) 600-0304  
Email: [jkane@ahrinet.org](mailto:jkane@ahrinet.org)

Exhibits:

- 1) Examples of Product Labels Disclosing Refrigerants

AHRI Comments to Washington State Regarding its HFC Rulemaking  
 Exhibit 1 – Examples of Product Labels Disclosing Refrigerants

### CHILLERS

a. Dedicated Refrigerant Label on a Centrifugal chiller:



b. Nameplate Refrigerant information on Screw/Scroll Chillers:

		MADE IN PUEBLO, CO 81001 U.S.A.	TYPE OF USE 65	CRC 64	SERIAL NUMBER 63	GWP 62
MODEL NUMBER 61						
RATED VOLTAGE/HZ/PH 60		VOLT UTILIZATION RANGE 59		SHORT CIRCUIT CURRENT RATING 45 A RMS SYMMETRICAL AT 44 VOLTS MAX		
MIN CKT AMPACITY (A) 57		MAX FUSE/BREAKER (A) 58		COMPR MTR 1A 46 47 48		
C1		COMPR MTR 1B 51 50 49		COMPR MTR 2A 41 42 43		
C2		COMPR MTR 1C 52 53 54		COMPR MTR 2B 40 39 38		
COMPR MTR 2C 35 36 37		FIXED SPEED FAN MOTORS QTY HP EA FLA EA 6 7 8		2 SPEED FAN MOTORS QTY HP EA FLA EA 9 10 11		
VELOCITY CONTROLLED FAN MOTORS QTY HP EA FLA EA 5 4 3		VEFO INPUT (A) 2		MTR VOLT 1		
VELOCITY CONTROLLED FAN MOTORS QTY HP EA FLA EA 15 14 13		*PUMP MOTORS QTY HP EA FLA EA 12		EXCLUSIVITY INTERLOCKS		
RATED VOLTAGE/HZ/PH 34		VOLT UTILIZATION RANGE 33		REFRIGERANT TYPE 16		
C3 FREEZE PROTECTION HEATERS WATTS 31		C4 BUFFER TANK HEATER CONV OUTLET WATTS 32		OIL TYPE 17		
C1		FACTORY REFRIGERANT CHG 21 KG		FACTORY OIL CHG 20 LITRE		
C2		FACTORY REFRIGERANT CHG 22 KG		FACTORY OIL CHG 23 LITRE		
C1		FIELD REFRIGERANT CHG 19 KG		FIELD OIL CHG 18 LITRE		
C2		FIELD REFRIGERANT CHG 24 KG		FIELD OIL CHG 25 LITRE		
INSTALLATION, OPERATION, & MAINTENANCE MANUAL 30		WIRING BOOK 29		DESIGN PRESSURES - BAR HIGH SIDE 28 LOW SIDE 27		
MIN MARKED DESIGN BAR FOR ANY REMOTE COND 26		<small>MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS/          CORRESPONDING FOREIGN PATENTS OWNED BY TRANE          5,231,546 5,419,146 5,419,155 5,454,738 5,502,284 5,583,489 5,570,383 5,600,390 5,632,154 5,638,891 5,781,914          5,805,794 5,884,684 5,900,445 6,030,851 6,049,299 6,050,058 6,087,804 6,085,333 6,131,471 6,181,260 6,187,713          6,265,984 6,278,152 6,293,112 6,381,492 6,341,493 6,357,239 6,382,310 6,516,627 6,563,287 6,600,122 6,666,042          6,830,092 6,866,695 6,917,807 7,000,108 7,086,346 7,158,121 7,202,858 7,385,583</small>				

AHRI Comments to Washington State Regarding its HFC Rulemaking  
 Exhibit 1 – Examples of Product Labels Disclosing Refrigerants

COMMERCIAL REFRIGERATION

c. Commercial refrigeration Specialty Display Case nameplate:

**Intertek 40427**  
 CONFORMS TO UL STD 471  
 CONFORMS TO NSF STD 7 Type 1  
 CERTIFIED TO CAN/CSA STD

TOTAL CASE LOAD			
VOLTS	AMPS	Hz	MOP
115			
208	19.54	1 60	25
240	19.35	1 60	25

430-01-0386A - 4/15/16 - RPT

**HUSSMANN** SERIAL #: 1030404201615874  
 CHINO, CA 917109 LICENSE# 64440 PROD. #

#	CIRCUIT LOADING	VOLTAGE - AC			Hz	MCA
		120	208	240		
1	EVAPORATOR FAN	0.60			1 60	0.75
2						
3						
4						
5						
6						
7	LIGHTS	2.85	1.53		1 60	3.56
8						
9	EVAPORATOR PAN		10.84	12.51	1 60	15.64
10	COND. PUMP	1.90			1 60	2.38

MOP = Maximum rating of Overcurrent Protection device

REFRIGERANT CHARGE	
R-404A	5.4 LBS.

DESIGN PRESSURE  
 LOW SIDE: 189 PSIG  
 HIGH SIDE: 346 PSIG

**Intertek 40427**  
 CONFORMS TO UL STD 471  
 CONFORMS TO NSF STD 7 Type 1  
 CERTIFIED TO CAN/CSA STD

d. Commercial refrigeration Scroll Product label (for specific refrigerant)

**EMERSON** Climate Technologies  
**Copeland Scroll**

Model: XXXXXXX-XXX-XXX  
 Serial: XXXXXXXX

**R-410A USE ONLY**

OIL	V	PH	Hz	LR	I-BLOCK	I-OPER	MAX	VIN(N)	N(N)1	BOX	MAX OPER PRES	PLA
1	115	1	60	1	1	1	1	1	1	1	1	1

MADE IN THE USA OF US & IMPORTED PARTS

**WARNING** **AVERTISSEMENT** **ADVERTENCIA**

**CAUTION** **ATTENTION** **ATENCIÓN**

e. Commercial refrigeration Scroll product label (No refrigerant called out as several can be used)

**EMERSON** Climate Technologies  
**Copeland Scroll**  
 Digital

Model: ZBD38KCE-TF5-265  
 Serial: 19J0128CD

OIL	V	PH	Hz	LR	I-BLOCK	I-OPER	MAX	VIN(N)	N(N)1	BOX	MAX OPER PRES	PLA
1	115	1	60	1	1	1	1	1	1	1	1	1

MADE IN THE USA OF US & IMPORTED PARTS

**WARNING** **AVERTISSEMENT** **ADVERTENCIA**

**CAUTION** **ATTENTION** **ATENCIÓN**