STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

May 2018

Log No. _____

1. State Building Code to be Amended:

- ☐ International Building Code
- ☐ ICC ANSI A117.1 Accessibility Code
- ☐ International Existing Building Code
- ☐ International Residential Code
- ☐ International Fire Code
- ☐ Uniform Plumbing Code
- ☒ International Mechanical Code
- ☐ International Fuel Gas Code
- ☐ NFPA 54 National Fuel Gas Code
- ☐ NFPA 58 Liquefied Petroleum Gas Code
- ☐ Wildland Urban Interface Code

For the Washington State Energy Code, please see specialized energy code forms

Section(s): **2021 IMC Chapter 2 & Sections 1101.1.1, 1103.1, 1103.2 1104.2, 1104.3, 1106.3, 1106.4**

Title: **Chapter 11 and ASHRAE 15**

2. Proponent Name (Specific local government, organization or individual):

Proponent: **Eric Vander Mey, PE**
Title: **Principal**
Date: **11/12/2024**

3. Designated Contact Person:

Name: **Eric Vander Mey**
Company: **Delta E Consulting**

Cell: **(206) 321-1677**
E-Mail: **ericv@deltaeconsulting.com**

4. **Proposed Code Amendment**. Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code, additional pages may be attached.

   Clearly state if the proposal modifies an existing amendment or if a new amendment is needed. If the proposal modifies an **existing amendment**, show the modifications to the existing amendment by underlining all added language and striking through all deleted language. If a new amendment is needed, show the modifications to the **model code** by underlining all added language and striking through all deleted language.

   Code(s) **2021 International Mechanical Code (IMC)**
   Section(s) **Chapter 2, 1101.1.1, 1103.1, 1103.2, 1104.2, 1104.3, 1106.3, 1106.4**

   Enforceable code language must be used.
   Amend section to read as follows:

Base language in black text is from 2021 WSMC
See revisions proposed below with track changes in blue text

Chapter 2: Definitions

MACHINERY ROOM. ~~An enclosed space that is required by Chapter 11 to contain refrigeration equipment and to comply with Sections 1105 and 1106.~~
A designated space meeting the requirements of Sections 1105 and 1106 that contains one or more refrigerating systems or portions thereof.

Commented [EV1]: Update to align with 2027 IMC Code Change Proposal M12-24.

EFFECTIVE DISPERSAL VOLUME. The volume of a space or connected spaces in which leaked refrigerant will disperse.

Commented [EV2]: Add new definitions of 2027 IMC Code Change Proposal M9-24 to align with ASHRAE 15.

EFFECTIVE DISPERSAL VOLUME CHARGE (EDVC). The maximum refrigerant charge permitted for an effective dispersal volume.

1101.1.1 Refrigerants other than ammonia.
~~Refrigerant piping design and installation for systems containing a refrigerant other than ammonia, including pressure vessels and pressure relief devices, shall comply with this chapter and ASHRAE 15.~~
Refrigeration systems using a refrigerant other than ammonia shall comply with this chapter, ASHRAE 15 and the International Fire Code. Refrigeration systems containing carbon dioxide as the refrigerant shall also comply with IIAR CO2 or be part of listed and labeled equipment.

Commented [EV3]: Revise to use the 2024 IMC language and then amend that with 2027 IMC proposed language.

Commented [EV4]: Update to align with 2027 IMC Code Change Proposal M63-24.

1103.1 Refrigerant classification. Refrigerants shall be classified in accordance with ASHRAE 34 as listed in Table 1103.1. Refrigerants without a refrigerant number designation or without a safety group classification in the referenced edition of ASHRAE Standard 34 shall be classified in accordance with the criteria in ASHRAE Standard 34 as a single-compound refrigerant blend of two or more compounds. Such safety classifications not assigned by ASHRAE Standard 34 shall be submitted for approval to the code official. Compliance with the requirements of this code is contingent upon use of approved safety classifications where not assigned by the referenced edition of ASHRAE Standard 34.

Commented [EV5]: Update to align with 2027 IMC Code Change Proposal M64-24.

1104.2 Machinery room. Except as provided in Sections 1104.2.1 and 1104.2.2, all components containing the refrigerant shall be located either outdoors or in a machinery room where the quantity of refrigerant in an independent circuit of a refrigeration system exceeds both of the following:
1. T ~~t~~he amounts shown in Table 1103.1, and
2. The effective dispersal volume charge as calculated in accordance with ASHRAE 15.
For refrigerant blends not listed in Table 1103.1, the same requirement shall apply ~~where the amount for any blend component exceeds that indicated in Table 1103.1~~ for ~~each~~ that component. ~~This~~These requirements shall also apply where the combined amount of the blend components exceeds a limit of 69,100 parts per million (ppm) by volume. Machinery rooms required by this section and containing only Group A1 or B1 refrigerants shall be constructed and maintained in accordance with Section 1105. ~~for Group A1 and B1 refrigerants and in accordance with Sections 1105 and 1106 for Group A2, B2, A3 and B3 refrigerants.~~ Machinery rooms required by this section and containing any Group A2, B2, A3, or B3 flammable refrigerants shall be constructed and maintained in accordance with Sections 1105 and 1106. Machinery rooms required by this section, containing any Group A2L or B2L flammable refrigerants and containing no Group A2, B2, A3, or B3 flammable refrigerants, shall be constructed and maintained in accordance with Section 1105 and Section 1106.4.1 through 1106.4.3.
Exceptions:
1. Machinery rooms are not required for listed equipment and appliances containing not more than 6.6 pounds (3 kg) of refrigerant, regardless of the refrigerant's safety classification, where installed in accordance with the equipment's or appliance's listing and the equipment or appliance manufacturer's installation instructions.
2. Piping in compliance with Section 1107 is allowed in other locations to connect components installed in a machinery room with those installed outdoors.

1104.3: Refrigerant restrictions.
Refrigerant applications, maximum quantities and use shall be restricted in accordance with Sections 1104.3.1 through 1104.3.4.

1104.3.1: ~~Air conditioning for human comfort~~High-probability air conditioners, heat pumps, and dehumidifiers. High-probability ~~systems used for human comfort~~ air conditioners, heat pumps, and dehumidifiers shall use Group A1 or A2L refrigerant.
Exceptions:
1. Equipment listed for and used in residential occupancies containing a maximum of 6.6 pounds (3 kg) of refrigerant.
2. Equipment listed for and used in commercial occupancies containing a maximum of 22 pounds (10 kg) of refrigerant.
3. Industrial occupancies.

1104.3.2: Group A2, A3, B2 and B3 refrigerants.
Group A2 and B2 refrigerants shall not be used in high-probability systems. Group A3 and B3 refrigerants shall not be used except where approved.

Exceptions: ~~This section does not apply to:~~
1. Laboratories where the floor area per occupant is not less than 100 square feet (9.3 m2).
2. Listed self-contained systems having a maximum of 0.331 pounds (150 g) of Group A3 refrigerant.
3. Industrial occupancies.

Commented [EV6]: Make revisions per 2027 IMC Code Change Proposal M9-24.

Commented [EV7]: Update to align with 2027 IMC Code Change Proposal M66-24 and ASHRAE 15 language.

Commented [EV8R7]: See Misc ASHRAE 15 corrections for changes from 2021 IMC to 2024 IMC.

Commented [EV9]: See Misc ASHRAE 15 corrections for changes from 2021 IMC to 2024 IMC.

4. Equipment listed for and used in residential occupancies containing a maximum of 6.6 pounds (3 kg) of Group A2 or B2 refrigerant.
5. Equipment listed for and used in commercial occupancies containing a maximum of 22 pounds (10 kg) of Group A2 or B2 refrigerant.
6. Self-contained equipment using Groups A3 and B3 refrigerants that are listed to UL 60335-2-89 and installed in accordance with the listing, the manufacturer's installation instructions, and ASHRAE 15.
7. Self-contained equipment using Groups A3 and B3 refrigerants that are listed to UL 60335-2-40 and installed in accordance with the listing, the manufacturer's installation instructions, and ASHRAE 15.

Commented [EV10]: Update to align with 2027 IMC Code Change Proposal M67-24.

Commented [EV11]: Update to align with 2027 IMC Code Change Proposal M67-24.

1104.3.3: All occupancies.
The total of all Group A2, B2, A3 and B3 refrigerants shall not exceed 1,100 pounds (499 kg) except where approved.

1104.3.4: Protection from refrigerant decomposition.
Where any device having an open flame or surface temperature greater than 800°F (427C) is used in a room containing more than 6.6 pounds (3 kg) of refrigerant in a single independent circuit, a hood and exhaust system shall be provided in accordance with Section 509.
Such exhaust system shall exhaust combustion products to the outdoors.
Exception: A hood and exhaust system shall not be required where any of the following apply:
1. The refrigerant is R-718 (water) or R-744 (carbon dioxide).
2. The combustion air is ducted from the outdoors in a manner that prevents leaked refrigerant from being combusted.
3. A refrigerant detector is used to stop the combustion in the event of a refrigerant leak (see Sections 1105.3 and 1105.5).

1106.3 Class 2 and 3 refrigerants. Where any flammable refrigerants of Groups A2, A3, B2 and B3 are used, the machinery room shall conform to the Class I, Division 2, hazardous location classification requirements of NFPA 70.

Commented [EV12]: Make revisions per 2027 IMC Code Change Proposal M9-24.

Incorporate revisions below from 2024 IMC to 2021 WSMC:

2021 WSMC language for reference:

1106.4 Special requirements for Group A2L refrigerant machinery rooms.

Machinery rooms with systems containing Group A2L *refrigerants* that do not conform to the Class I, Division 2, hazardous location electrical requirements of NFPA 70, as permitted by the exception to Section 1106.3, shall comply with Sections 1106.4.1 through 1106.4.3.

Exception: *Machinery rooms* conforming to the Class I, Division 2, hazardous location classification requirements of NFPA 70 are not required to comply with Sections 1106.4.1 and 1106.4.2.

[F] 1106.4.1 Ventilation system activation.

Ventilation shall be activated by the refrigerant detection system in the *machinery room*. Refrigerant detection systems shall be in accordance with Section 608.9 of the *International Fire Code* and all of the following:

1. The detectors shall activate at or below a *refrigerant* concentration of 25 percent of the *LFL*.
2. Upon activation, the detection system shall activate the emergency ventilation system required by Section 1106.4.2.
3. The detection, signaling and control circuits shall be supervised.

1106.4.2 Emergency ventilation system.

An emergency ventilation system shall be provided at the minimum exhaust rate specified in ASHRAE 15 or Table 1106.4.2. Shutdown of the emergency ventilation system shall be by manual means.

TABLE 1106.4.2 MINIMUM EXHAUST RATES

REFRIGERANT	Q(m/sec)	Q(cfm)
R32	15.4	32,600
R143A	13.6	28,700
R444A	6.46	13,700
R444B	10.6	22,400
R445A	7.83	16,600
R446A	23.9	50,700
R447A	23.8	50,400
R451A	7.04	15,000
R451B	7.05	15,000
R1234yf	7.80	16,600
R1234ze(E)	5.92	12,600

1106.4.3 Emergency ventilation system discharge.

The emergency ventilation system point of discharge to the atmosphere shall be located outside of the structure at not less than 15 feet (4572 mm) above the adjoining grade level and not less than 20 feet (6096 mm) from any window, *ventilation* opening or *exit*.

2024 IMC language

1106.4 Group A2L and B2L refrigerants. Machinery rooms ~~for~~ containing any Group A2L ~~and~~ or B2L refrigerants and containing no refrigerants of Group A2, A3, B2, or B3 shall comply with Sections 1106.4.1 through 1106.4.3.

Commented [EV13]: Make revisions per 2027 IMC Code Change Proposal M9-24.

1106.4.1: Elevated temperatures. P

Open flame-producing devices or continuously operating hot surfaces over 1290°F (700°C) shall not be permanently installed in the room.

1106.4.2: Refrigerant detector. P

In addition to the requirements of Section 1105.3, refrigerant detectors shall signal an alarm and activate the ventilation system in accordance with the response time specified in Table 1106.4.2.

Table 1106.4.2 Group A2L and B2L detector activation

ACTIVATION LEVEL	MAXIMUM RESPONSE TIME (seconds)	ASHRAE 15 VENTILATION (seconds)	ALARM RESET	ALARM TYPE
Less than or equal to the OEL in Table 1103.1	300	1	Automatic	Trouble
Less than or equal to the refrigerant concentration level in Table 1103.1	15	2	Manual	Emergency

1106.4.3: Mechanical ventilation. P

The *machinery room* shall have a mechanical ventilation system complying with ASHRAE 15.

5. **Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.** Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

   Clarify IMC requirements to correlate to latest ASHRAE 15-2022 requirements.

6. **Specify what criteria this proposal meets.** You may select more than one.
   - ☒ The amendment is needed to address a critical life/safety need.
   - ☒ The amendment clarifies the intent or application of the code.
   - ☒ The amendment is needed to address a specific state policy or statute.
   - ☒ The amendment is needed for consistency with state or federal regulations.
   - ☐ The amendment is needed to address a unique character of the state.
   - ☒ The amendment corrects errors and omissions.

7. **Is there an economic impact:** ☒ Yes ☐ No

   If no, state reason:

   Clarifies IMC requirements to correlate to ASHRAE 15 a referenced standard in IMC Chapter 11 that is required to be complied with.

   Cost savings based on every project will not have to use alternate means and methods code alternate request with the Authority Having Jurisdiction to utilize the latest ASHRAE 15-2022 and ASHRAE 34-2022 requirements.

   As the 2021 IMC requires compliance with both IMC Chapter 11 and ASHRAE 15.

   If yes, provide economic impact, costs and benefits as noted below in items a – f.

   Soft cost engineering and AHJ savings of a minimum of $2,500 per applicable project.
   Construction cost savings will be much greater depending on the project and the pathway selected.

   a. ***Life Cycle Cost.*** Use the OFM Life Cycle Cost **Analysis tool** to estimate the life cycle cost of the proposal using one or more typical examples. Reference these **Instructions;** use these **Inputs.** Webinars on the tool can be found **Here** and **Here**). If the tool is used, submit a copy of the excel file with your proposal submission. If preferred, you may submit an alternate life cycle cost analysis.

   b. ***Construction Cost.*** Provide your best estimate of the construction cost (or cost savings) of your code change proposal.
      Show calculations here, and list sources for costs/savings, or attach backup data pages

   c. ***Code Enforcement.*** List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:

      Resolves conflict between ASHRAE 15-2022 and 2021/2024 IMC.

      Does not require design professional to submit code alternate for AHJ review and approval saving engineering and code official costs.

   d. ***Small Business Impact.*** Describe economic impacts to small businesses:
      No impact as this provides cost savings and aligns with ASHRAE 15-2022 simplifying code compliance.

e. ***Housing Affordability.*** Describe economic impacts on housing affordability:

f. ***Other.*** Describe other qualitative cost and benefits to owners, to occupants, to the public, to the environment, and to other stakeholders that have not yet been discussed:

Allows for more cost effective transition to A2L and other refrigerants to meet Washington State Department of Ecology and US EPA requirements.

Please send your completed proposal to: sbcc@des.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.

M12-24

IMC®: SECTION 202

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2024 International Mechanical Code

Revise as follows:

MACHINERY ROOM. ~~An enclosed space that is required by Chapter 11 to contain refrigeration *equipment* and to comply with Sections 1105 and 1106.~~
A designated space meeting the requirements of Sections 1105 and 1106 that contains one or more refrigerating systems or portions thereof.

Reason: The proposed change creates better language for a definition to avoid creating what looks like a requirement (to be enclosed), as that is better to do in the main text of Chapter 11.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

Editorial only. We consider it editorial because the original takes information from 1105 and 1106 and includes it in the definition. We are not saying this information no longer applies, but that it's not appropriate for a definition. In other words, the definition should not say when a space is to be enclosed; that should be determined between 1105 and 1106.
"Enclosed space" is now a designated space that meets 1105 and 1106 (same compliance is expected as before).

"Contain refrigerant equipment" means to contain one or more refrigerating systems or portions thereof (same meaning but probably less possibility for gaming).

M63-24

IMC®: 1101.1.1

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2024 International Mechanical Code

Revise as follows:

1101.1.1 Refrigerants other than ammonia. *Refrigeration systems* using a refrigerant other than ammonia shall comply with this chapter, ASHRAE 15 and the *International Fire Code*. *Refrigeration systems* containing carbon dioxide as the refrigerant shall also comply with IIAR CO2 or be part of listed and labeled equipment.

Reason: The scope of IIAR CO2 specifically excludes “Listed equipment or systems.” There are many listed refrigeration systems using carbon dioxide as the refrigerant. Field erected systems may also be evaluated by NRTLs to existing industry safety standards, such as UL 60335-2-40, UL 60335-2-89, and UL 471.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This change is only meant to address an inconsistency in order to maintain the intent of the scope.

M65-24

IMC®: 1103.1

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2024 International Mechanical Code

Revise as follows:

1103.1 Refrigerant classification. Refrigerants shall be classified in accordance with ASHRAE 34 as listed in Table 1103.1. Refrigerants without a refrigerant number designation or without a safety group classification in the referenced edition of ASHRAE Standard 34 shall be classified in accordance with the criteria in ASHRAE Standard 34 as a single-compound refrigerant blend of two or more compounds. Such safety classifications not assigned by ASHRAE Standard 34 shall be submitted for approval to the code official. Compliance with the requirements of this code is contingent upon use of approved safey classifications where not assigned by the referenced edition of ASHRAE Standard 34.

Reason: This change accounts for the fact that new refrigerants will be approved during continuous maintenance of ASHRAE 34 that cannot all be reflected in the latest edition of the IMC due to timing. It offers flexibility to use approved refrigerants even though they are not yet specified in the IMC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal will provide more choice to the user and, thus, direct costs could ultimately be lower. In general, this change is not expected to have a bearing on cost.

Staff Analysis: The standard referenced within the new code text is in the current edition of the IMC.

M9-24

IMC®: SECTION 202 (New), 1104.2, 1106.3, 1106.4

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2024 International Mechanical Code

Add new definition as follows:

EFFECTIVE DISPERSAL VOLUME. The volume of a space or connected spaces in which leaked *refrigerant* will disperse.

EFFECTIVE DISPERSAL VOLUME CHARGE (EDVC). The maximum *refrigerant* charge permitted for an *effective dispersal volume*.

Revise as follows:

1104.2 Machinery room. Except as provided in Sections 1104.2.1 and 1104.2.2, all components containing the refrigerant shall be located either outdoors or in a *machinery room* where the quantity of refrigerant in an independent circuit of a *refrigeration system* exceeds both of the following:

1. T ~~the~~ amounts shown in Table 1103.1 , and
2. The effective dispersal volume charge as calculated in accordance with ASHRAE 15.

For refrigerant blends not listed in Table 1103.1, the same requirement shall apply ~~where the amount for any blend component exceeds that indicated in Table 1103.1~~ for each~~that~~ component. ~~This~~These requirements shall also apply where the combined amount of the blend components exceeds a limit of 69,100 parts per million (ppm) by volume. *Machinery rooms* required by this section and containing only Group A1 or B1 refrigerants shall be constructed and maintained in accordance with Section 1105. ~~for Group A1 and B1 refrigerants and in accordance with Sections 1105 and 1106 for Group A2, B2, A3 and B3 refrigerants.~~ *Machinery rooms* required by this section and containing any Group A2, B2, A3, or B3 flammable refrigerants shall be constructed and maintained in accordance with Sections 1105 and 1106. *Machinery rooms* required by this section, containing any Group A2L or B2L flammable refrigerants and containing no Group A2, B2, A3, or B3 flammable refrigerants, shall be constructed and maintained in accordance with Section 1105 and Section 1106.4.1 through 1106.4.3.

Exceptions:

1. *Machinery rooms* are not required for *listed equipment* and *appliances* containing not more than 6.6 pounds (3 kg) of refrigerant, regardless of the refrigerant's safety classification, where installed in accordance with the *equipment's* or *appliance's* listing and the *equipment* or *appliance* manufacturer's installation instructions.
2. Piping in compliance with Section 1107 is allowed in other locations to connect components installed in a *machinery room* with those installed outdoors.

1106.3 Class 2 and 3 refrigerants. Where any flammable refrigerants of Groups A2, A3, B2 and B3 are used, the *machinery room* shall conform to the Class I, Division 2, *hazardous location* classification requirements of NFPA 70.

1106.4 Group A2L and B2L refrigerants. *Machinery rooms* ~~for~~containing any Group A2L ~~and~~or B2L refrigerants and containing no refrigerants of Group A2, A3, B2, or B3 shall comply with Sections 1106.4.1 through 1106.4.3.

Reason: This proposal harmonizes with Addendum q to ASHRAE 15-2019. The latest published language of ASHRAE 15-2022 was used as the basis for this update. The revisions clarify which requirements apply in cases where a machinery room contains refrigerants from multiple safety groups. The revisions also refer to ASHRAE 15 for EDVC calculations, with the updated requirements for refrigerant charge quantity limits, for determination of when a machinery room is required.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal will have no impact on the cost of construction. These changes for clarity are largely editorial in nature to better align the IMC with ASHRAE 15.

M66-24

IMC®: 1104.3.1

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2024 International Mechanical Code

Revise as follows:

1104.3.1 ~~Air conditioning for human comfort~~High-probability air conditioners, heat pumps, and dehumidifiers. High-probability ~~systems used for human comfort~~ air conditioners, heat pumps, and dehumidifiers shall use Group A1 or A2L refrigerant.

Exceptions:

1. Equipment *listed* for and used in residential *occupancies* containing a maximum of 6.6 pounds (3 kg) of refrigerant.
2. Equipment *listed* for and used in commercial *occupancies* containing a maximum of 22 pounds (10 kg) of refrigerant.
3. Industrial *occupancies* .

Reason: This code change proposal is for correlation with provisions in Addendum e of ASHRAE 15-2022. ASHRAE 15 has removed the term “human comfort” from the standard, as it did not adequately describe the applications it covered, and replaced it with “air conditioners, heat pumps, and dehumidifiers”. This proposal better aligns the IMC with the current language in ASHRAE 15.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These changes will have no impact on the cost of construction. They simply provide better clarity on what applications are intended by this section of the code.

M67-24

IMC®: 1104.3.2

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2024 International Mechanical Code

Revise as follows:

1104.3.2 Group A2, A3, B2 and B3 refrigerants. Group A2 and B2 refrigerants shall not be used in high-probability systems. Group A3 and B3 refrigerants shall not be used except where *approved*.

Exceptions: ~~This section does not apply to:~~

1. Laboratories where the floor area per occupant is not less than 100 square feet (9.3 m^2).
2. *Listed* self-contained systems having a maximum of 0.331 pounds (150 g) of Group A3 refrigerant.
3. Industrial *occupancies*.
4. *Equipment listed* for and used in residential *occupancies* containing a maximum of 6.6 pounds (3 kg) of Group A2 or B2 refrigerant.
5. *Equipment listed* for and used in commercial occupancies containing a maximum of 22 pounds (10 kg) of Group A2 or B2 refrigerant.
6. Self-contained *equipment* using Groups A3 and B3 refrigerants that are listed to UL 60335-2-89 and installed in accordance with the listing, the manufacturer's installation instructions, and ASHRAE 15.
7. Self-contained *equipment* using Groups A3 and B3 refrigerants that are listed to UL 60335-2-40 and installed in accordance with the listing, the manufacturer's installation instructions, and ASHRAE 15.

Reason: This code change proposal better aligns the IMC with Addendum l of ASHRAE 15, 2019 edition (which was incorporated into the 2022 edition), which allows for larger charge sizes of Group A3 refrigerants in commercial refrigeration applications.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal involves optional equipment choices.

Staff Analysis: The proposed referenced standard, ASHRAE 15, is currently referenced in the IMC.