

MEMORANDUM

TO: All Interested Parties
FROM: Taylor Duran, UMC Staff Liaison
DATE: August 22, 2023
SUBJECT: Proposed TIA (Log No. 002-24) to Uniform Mechanical Code, Section 1104.6.2.4 (Refrigerant Concentration Above Limit).

In accordance with the IAPMO's [Regulations Governing Committee Projects](#), the attached proposed Tentative Interim Amendment (TIA) to the 2024 edition of the Uniform Mechanical Code is being submitted for public comment. The TIA (Log No. 002-24) is on UMC, Section 1104.6.2.4 (Refrigerant Concentration Above Limit).

We invite all interested parties to review the proposed TIA. If you wish to submit a comment in regards to this TIA, fill out the attached [TIA Comment Form](#). Email the completed form to Taylor.Duran@iapmo.org. The closing date for submitting comment forms for this TIA is **Tuesday, September 5, 2023**.

Thank you for your time and interest in the development of the Uniform Mechanical Code.

In accordance with the IAPMO's [Regulations Governing Committee Projects](#), a proposed TIA, which has been submitted for processing pursuant to 5-1 of the Regulations, will be automatically docketed as an appeal on the agenda of the IAPMO Standards Council. Any party may advocate their position before the Council. Please note that most Council Meetings are held via teleconference.

Parties wishing to address the Council shall notify the Council Secretary no later than 48 hours prior to the Council meeting. Although not required, parties wishing to advocate a position are encouraged, to the extent practicable, to file written submissions in general conformance with sections 1-6.3 and 1-6.4 of the Regulations in advance of the meeting at which action will be considered.

When an automatically docketed appeal has not been pursued by any party, the Council will not consider the matter as an appeal.

This TIA will be on the Standards Council Meeting Agenda to be held on November 9, 2023.

Should you require assistance, please contact me at (909) 218-8126 or by email at Taylor.Duran@iapmo.org.

Best Regards,

Taylor Duran

FORM FOR TIA COMMENT ON IAPMO UPC/UMC COMMITTEE DOCUMENT

NOTE: All comments MUST be received by 5:00 PM (Pacific Time) on Tuesday, September 5, 2023.

For further information on the standards-making process, please contact
Codes and Standards Administration at 909-472-4110

For technical assistance, please call IAPMO at 909-230-5535

FOR OFFICE USE ONLY

RESP # : _____

DATE REC'D: _____

Date: _____ Name: _____ Telephone #: _____

Company: _____

Street Address: _____ City: _____ State: _____ Zip: _____

Please Indicate Organization Represented (if any): _____

1. a) IAPMO Document Title: Uniform Mechanical Code Document Year: 2024

b) Section/Paragraph: Section 1104.6.2.4 (Refrigerant Concentration Above Limit)

c) Comment on TIA: UMC 002-24

2. Comment Recommends (check one): AGREE DISAGREE

3. Substantiation for Comment:

Signature (**Required**): _____

Please use separate form for each comment.

INSTRUCTIONS FOR SUBMITTING COMMENTS
– PLEASE READ CAREFULLY –

1. Complete form digitally by filling in each item described.
2. Check the appropriate box to indicate whether this comment recommends agreeing or disagreeing with the proposed TIA.
3. In the space title “Substantiation for Comment”, state the reason for your comment.
4. Sign the comment. (Required)

NOTE: The IAPMO Regulations Governing Committee Projects in Section 5-4(c): All public comments, ballots, and comments on ballot on the proposed TIA shall be summarized in a staff report and forwarded to the Council for action in accordance with Section 5-5.

UMC TIA 002-24

UNIFORM MECHANICAL CODE: TIA FORM – 2024

Reference Code Section: 2024 UMC Section 1104.6.2.4

Submitter Name: Julius Ballanco
Company: JB Engineering and Code Consulting, P.C.
Phone Number: (219) 922-6171

Proposed language for TIA:

Revise Section 1104.6.2.4 as follows:

1104.6.2.4 Refrigerant Concentration Above Limit. When the refrigerant detection system senses a refrigerant exceeding its setpoint, the following actions shall be taken:

- (1) The supply air fan of the equipment shall activate with a minimum airflow rate specified by the manufacturer.
- (2) Turn off the compressor and all other electrical devices, excluding the control power transformers, control systems, and the supply air fan. The supply air fan shall continue to operate for at least five minutes after the refrigerant detection system has sensed a drop in the refrigerant concentration below the ~~setpoint value specified in Section 1104.6.6(b).~~
- Exception:** The compressor operation shall not be turned off when the compressor operation reduces the leak rate or the total amount of released refrigerant to the indoor space.
- (3) Any device that controls airflow located within the product or in ductwork that supplies air to the occupied space shall be fully open. Any device that controls airflow shall be listed.
- (4) Mitigation action required by the equipment listing shall be initiated. {ASHRAE 15:7.6.2.4}

(for information purposes only)

(2024 UMC) Section 1104.6.6 (b) For refrigerating systems that are directly connected to the occupied space without ductwork, the refrigerant sensor shall be located in the equipment in accordance with the equipment listing. Additional remote refrigerant sensors shall be permitted within the occupied space when included as part of the equipment mitigation system according to manufacturer's instructions. {ASHRAE 15:7.6.5}

(ASHRAE 15-2019) Section 7.6.2.4 (b) Turn off the compressor and all other electrical devices, excluding the control power transformers, control systems, and the supply air fan. The supply air fan shall continue to operate for at least five minutes after the refrigerant detector has sensed a drop in the refrigerant concentration below the value specified in Section 7.6.5(b).

(ASHRAE 15-2019) Section 7.6.5 (b) Refrigerant detectors, as installed, shall activate the functions required by Section 7.6.2.4 within a time not to exceed 15 seconds when the refrigerant concentration reaches 25% of the LFL.

SUBSTANTIATION:

Technical Merit: The current section directs the code user to an incorrect requirement. ASHRAE 15, Section 7.6.2.4 intends to reference requirements pertaining to refrigerant detector setpoint values which were not incorporated into the 2024 UMC. This proposed change to UMC Section 1104.6.2.4 (Refrigerant Concentration Above Limit) aligns with the requirements for refrigerant detection systems in ASHRAE 15. The supply air fan is required to continue to operate until 5 minutes after the refrigerant concentration falls below the refrigerant detection system setpoint. This is consistent with the standard referenced for A2L equipment, UL 60335-2-40.

UMC TIA 002-24

Emergency nature: This proposed TIA meets the emergency nature based on Section 5-2(a) of the [Regulations Governing Committee Projects](#) which reads, "the document contains an error or an omission." There is an error or omission regarding the provided ASHRAE extract and the corresponding referenced requirement for setpoint values. This proposed TIA corrects that error.

I hereby grant IAPMO all and full rights in copyright, in this proposal, and I understand that I acquire no rights in any publication of IAPMO in which this proposal appears in this or another similar or analogous form.

Submitter signature (required):  Date: 7/31/23

Mail to: Codes Department · IAPMO · 4755 E. Philadelphia Street · Ontario · CA · 91761-2816
FAX: 909-472-4198 or 909-472-4246