BSR/ASHRAE Addendum I

to ANSI/ASHRAE Standard 15-2019

Second Public Review Draft

Proposed Addendum I to
Standard 15-2019, Safety Standard
for Refrigeration Systems

Second Public Review (February 2022)
(Draft shows Proposed Independent Substantive
Changes to Previous Public Review Draft)

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FOREWORD

This proposed addendum 1 to ANSI/ASHRAE Standard 15-2019 modifies portions of the document to incorporate requirements for commercial refrigeration applications with the use of A2L, A2, and A3 refrigerants. The text developed is in response to CMP 0004-001 based on information and requirements in conjunction with proposed product safety standard UL/CSA 60335-2-89, as well as research performed in collaboration of AHRI, ASHRAE, the U.S. Department of Energy, California Energy Commission.

Many of the proposed requirements use of flammable refrigerants for commercial refrigeration applications, found mostly in new Section 7.7, are very similar to the existing requirements for A2L refrigerants for human comfort applications, found mostly in Section 7.6. Note the A2L requirements for human comfort were published in addendum d to Standard 15-2016. Notably, several of the Section 7.7 requirements refer back to Section 7.6.

Note: This public review draft of addendum 1 makes proposed independent substantive changes to the previous public review draft. These substantive changes to the previous public review draft and related changes to Standard 15-2019 are indicated by blue-colored text with double-underlining (for additions) and red-colored text with strikethrough (for deletions), except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard shown in blue or red text are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.

Addendum 1 to Standard 15-2019

Modify Section 7 as follows. The remainder of Section 7 remains unchanged.

7. RESTRICTIONS ON REFRIGERANT USE

[ ... ]

7.7 Group A2L Refrigerants for Refrigeration Systems Other than Human Comfort. High-probability systems using Group A2L refrigerants for other than human comfort applications shall comply with Sections 7.7.1 through 7.7.6.

7.7.1 Refrigerant Charge Limits. Refrigerant charge shall be limited as follows:

[ ... ]

2. Refrigeration systems shall contain a releasable refrigerant charge no more than $9.2 \times LFL$ (lb), where $LFL$ is in pounds per 1000 ft$^3$ (260 $\times LFL$ [kg], where $LFL$ is in kg/m$^3$) of Group A2L refrigerant per independent circuit.

[ ... ]

7.7.3 Listing and Installation Requirements. Refrigeration systems shall be listed to UL 60335-2-89/CSA C22.2 No. 60335-2-89 and shall be installed in accordance with listing, the manufacturer's instructions, and any markings on the equipment restricting the installation.

[ ... ]

7.7.3.4 When a refrigerant detector required by Section 7.7.3 senses a rise in refrigerant concentration above the value specified in Section 7.6.5(b) or 7.6.6(b), the actions of Section 7.6.2.4 shall be taken.

[ ... ]

7.7.5 Compressors and Pressure Vessels Located Indoors. For refrigeration compressors and pressure vessels ...
located in an indoor space that is accessible only during service and maintenance, it shall be permissible to exceed maximum refrigerant charge calculated in use larger refrigerant amounts than those given in accordance with Section 7.2, provided a mechanical ventilation system is used to prevent exceeding the RCL and all of the following provisions are met:

[ ... ]

7.7.6 Refrigerant Detectors and Mitigation Activation. Refrigerant detectors required by Section 7.7.3 shall meet the requirements of Section 7.6.5.