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Proposed Change 1731

Code Reference(s):	**NPC20 Div.B 2.6.2. (first printing)**
Subject:	Potable Water Systems
Title:	Protection of the Potable Water System
Description:	This proposed change introduces a reference to CSA B214:21, "Installation code for hydronic heating systems."
Related Code Change Request(s):	CCR 1081

This change could potentially affect the following topic areas:

☐	Division A	☑	Division B
☐	Division C	☐	Design and Construction
☐	Building operations	☑	Housing
☑	Small Buildings	☑	Large Buildings
☐	Fire Protection	☐	Occupant safety in use
☐	Accessibility	☐	Structural Requirements
☐	Building Envelope	☐	Energy Efficiency
☐	Heating, Ventilating and Air Conditioning	☑	Plumbing
		☐	Construction and Demolition Sites

Problem

The fluid in a hydronic heating system can be potable water. Since this water travels in the potable water system for human consumption and can also circulate in a hydronic heating system without a heat exchanger, there is a risk of contamination of the potable water system. To avoid this risk, the National Plumbing Code of Canada (NPC) should reference a standard that takes these heating systems into account and requires them to meet certain conditions.

Justification

This proposed change adds a reference to a new standard, CSA B214:21, "Installation code for hydronic heating systems," which provides the requirements for hydronic systems for the protection of the potable water system where potable water is used for heating purposes.

This proposed change would reduce the possibility of building occupants being exposed to unsanitary conditions, which could lead to illness due to the consumption of contaminated water.

PROPOSED CHANGE

[2.6.2.] 2.6.2. Protection from Contamination

[2.6.2.1.] 2.6.2.1. Connection of Systems

[2.6.2.2.] 2.6.2.2. Back-Siphonage

[2.6.2.3.] 2.6.2.3. Backflow Caused by Back Pressure

[2.6.2.4.] 2.6.2.4. Backflow from Fire Protection Systems

[2.6.2.5.] 2.6.2.5. Separation of Water Supply Systems

[2.6.2.6.] 2.6.2.6. Premise Isolation

[2.6.2.7.] 2.6.2.7. Hose Bibb

[2.6.2.8.] 2.6.2.8. Cleaning of Systems

[2.6.2.9.] 2.6.2.9. Air Gap

[2.6.2.10.] 2.6.2.10. Vacuum Breakers

[2.6.2.11.] 2.6.2.11. Tank-Type Water Closets

[2.6.2.12.] 2.6.2.12. Backflow Preventers

[2.6.2.13.] --- Protection of the Potable Water System

[1] --) A hydronic heating system that uses a *potable water system* as its fluid source shall conform to CSA B214:2021, "Installation code for hydronic heating systems."

Impact analysis

This proposed change would have the positive impact of aligning the NPC with the National Building Code of Canada (NBC), which already references CSA B214 in Parts 6 and 9. This proposed change would also align the NPC with current industry practice by limiting the probability that hydronic heating systems using potable water as fluid would be improperly installed. As a result, these systems would meet an acceptable level of performance and safety when used.

Adding a reference to the standard would also provide clarification of the Code requirements to designers, contractors and manufacturers.

There is no cost impact as this standard is already referenced in the NBC.

Enforcement implications

Inspectors, authorities having jurisdiction and other service providers would need to ensure that hydronic heating systems are installed in accordance with the standard, which may require training for building officials.

Who is affected

Designers, specifiers, manufacturers, building owners, building officials, occupants and contractors.

OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

[2.6.2.1.] 2.6.2.1. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.1.] 2.6.2.1. ([2] 2) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.1.] 2.6.2.1. ([3] 3) [F70,F81,F82-OH2.2,OH2.3]

[2.6.2.2.] 2.6.2.2. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.2.] 2.6.2.2. ([2] 2) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.3.] 2.6.2.3. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.3.] 2.6.2.3. ([2] 2) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.3.] 2.6.2.3. ([3] 3) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.4.] 2.6.2.4. ([1] 1) no attributions

[2.6.2.4.] 2.6.2.4. ([2] 2) [F46,F70,F81-OH2.1,OH2.2,OH2.3]

[2.6.2.4.] 2.6.2.4. ([3] 3) [F46,F70,F81-OH2.1,OH2.2,OH2.3]

[2.6.2.4.] 2.6.2.4. ([4] 4) [F46,F70,F81-OH2.1,OH2.2,OH2.3]

[2.6.2.5.] 2.6.2.5. ([1] 1) [F46,F70,F81-OH2.2]

[2.6.2.5.] 2.6.2.5. ([1] 1) no attributions

[2.6.2.6.] 2.6.2.6. ([1] 1) [F70,F81,F82-OH2.1,OH2.2,OH2.3]

[2.6.2.7.] 2.6.2.7. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.8.] 2.6.2.8. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.9.] 2.6.2.9. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.9.] 2.6.2.9. ([2] 2) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.10.] 2.6.2.10. ([1] 1) no attributions

[2.6.2.10.] 2.6.2.10. ([2] 2) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.10.] 2.6.2.10. ([3] 3) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.10.] 2.6.2.10. ([4] 4) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.11.] 2.6.2.11. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.12.] 2.6.2.12. ([1] 1) [F70,F81,F46-OH2.1,OH2.2,OH2.3]

[2.6.2.13.] -- ([1] --) [F46-OH2.2]