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Proposed Change 2024

Code Reference(s):	NPC20 Div.B 2.6.1.6. (first printing)
Subject:	Water-Use Efficiency
Title:	Clarification of Maximum Water Usage for Dual-Flush Water Closets
Description:	This proposed change clarifies the maximum water usage requirements for the full and reduced flush cycles of dual-flush water closets.

This change could potentially affect the following topic areas:

- | | |
|--|--|
| <input type="checkbox"/> Division A | <input checked="" type="checkbox"/> Division B |
| <input type="checkbox"/> Division C | <input type="checkbox"/> Design and Construction |
| <input type="checkbox"/> Building operations | <input checked="" type="checkbox"/> Housing |
| <input type="checkbox"/> Small Buildings | <input type="checkbox"/> Large Buildings |
| <input type="checkbox"/> Fire Protection | <input type="checkbox"/> Occupant safety in use |
| <input type="checkbox"/> Accessibility | <input type="checkbox"/> Structural Requirements |
| <input type="checkbox"/> Building Envelope | <input type="checkbox"/> Energy Efficiency |
| <input type="checkbox"/> Heating, Ventilating and Air Conditioning | <input checked="" type="checkbox"/> Plumbing |
| | <input type="checkbox"/> Construction and Demolition Sites |

Problem

Table 2.6.1.6. in Division B of the National Plumbing Code of Canada states that 4.8 Lpf is the maximum water usage per flush cycle permitted for dual-flush water closets for residential use. However, the intent of the Code is to allow a maximum water usage of 6.0 Lpf for a full flush and 4.1 Lpf for a reduced flush.

This information is currently provided in the first column of Table 2.6.1.6., but its presentation and location may create confusion for Code users and authorities having jurisdiction as to which maximum value is applicable. The 4.8 Lpf value currently provided in the second column is actually intended to represent the effective (or average) water usage of the fixture.

This confusion could lead to the installation of fixtures that do not comply with the intent of the Code, which could lead to either unnecessary extra costs or excessive water use, depending on how the current maximum water usage per flush cycle value (4.8 Lpf) is interpreted.

Justification

This proposed change would eliminate confusion about the maximum water usage per flush cycle permitted for dual-flush water closets by deleting the reference to 4.8 Lpf in Table 2.6.1.6. and replacing it with 6.0/4.1 Lpf.

The additional clarity provided by this proposed change to Table 2.6.1.6. would help to mitigate the risk of confusion among Code users and authorities having jurisdiction, which would limit the probability of fixture installations not complying with the intent of the Code.

Further, by including all intended maximum values for the water usage per flush cycle in the second column, the structure of Table 2.6.1.6. is maintained (i.e., the first column identifies the type of fixture, while the second column identifies the maximum water usage), which should also clarify the Code requirement and its application.

PROPOSED CHANGE

NPC20 Div.B 2.6.1.6. (first printing)

[2.6.1.6.] 2.6.1.6. Flushing Devices

- [1] 1)** Flushing devices that serve water closets or urinals shall have sufficient capacity and be adjusted to deliver at each operation a volume of water that will thoroughly flush the *fixture* or *fixtures* they serve.
- [2] 2)** Where a manually operated flushing device is installed, it shall serve only one *fixture*.
- [3] 3)** Except as provided in Sentence (4), water closets and urinals shall have an integral means of limiting the maximum amount of water used in each flush cycle to that specified in Table 2.6.1.6.

**Table [2.6.1.6.] 2.6.1.6.
Water Usage per Flush Cycle
Forming Part of Sentence [2.6.1.6.] 2.6.1.6.([3] 3)**

<i>Fixtures</i>	Maximum Water Usage per Flush Cycle, Lpf
Water closets – residential	
single-flush	4.8

Fixtures	Maximum Water Usage per Flush Cycle, Lpf
dual-flush: 6.0/4.1 Lpf	4.8 <u>6.0/4.1</u>
Water closets – industrial, commercial, institutional	6.0
Urinals	1.9

- [4] 4)** In residential retrofits, a maximum water usage of 6.0 Lpf shall be permitted for single-flush water closets where it can be demonstrated that a maximum water usage of 4.8 Lpf would be impracticable given the existing *building* or municipal infrastructure.
- [5] 5)** Except where installed in *buildings* not intended to be occupied year-round, flush-tank-type urinals shall be equipped with a device capable of preventing flush cycles when they are not in use. (See Note A-2.6.1.6.(5).)

Impact analysis

No additional cost as a result of the proposed change is anticipated.

Rather, the clarification provided by this proposed change should limit unnecessary additional costs to meet the intended Code requirement where 4.8 Lpf in Table 2.6.1.6. is currently being misinterpreted as the maximum full flush value.

Enforcement implications

Enforcement of this proposed change could be achieved by using the same enforcement methods that are currently in place to verify the specifications and performance of a water closet installed in new construction.

This proposed change should make enforcement easier for authorities having jurisdiction as it clarifies the values for maximum water usage per flush cycle for dual-flush water closets.

Who is affected

This proposed change could impact builders, consumers, manufacturers and product suppliers. However, the impact is expected to be negligible since dual-flush water closets are already on the market with 6.0 Lpf and 4.1 Lpf as the maximum water usage per full and reduced flush cycles, respectively.

This proposed change should confirm for manufacturers supplying dual-flush water closets, for example, with full and reduced cycle values of 4.8 Lpf and 3.5 Lpf or 6.0 Lpf and 4.8 Lpf, that either product would comply with the Code requirements.

Similarly, this proposed change would support manufacturers supplying only dual-flush water closets with 6.0 Lpf and 4.8 Lpf cycle values.

OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

NPC20 Div.B 2.6.1.6. (first printing)

[\[2.6.1.6.\]](#) 2.6.1.6. ([\[1\]](#) 1) [F72-OH2.1]

[\[2.6.1.6.\]](#) 2.6.1.6. ([\[2\]](#) 2) [F72-OH2.1]

[\[2.6.1.6.\]](#) 2.6.1.6. ([\[3\]](#) 3) [F130-OE1.2]

[\[2.6.1.6.\]](#) 2.6.1.6. ([\[4\]](#) 4) [F81-OH2.1]

[\[2.6.1.6.\]](#) 2.6.1.6. ([\[5\]](#) 5) [F130-OE1.2]