

# CMX CIPHEX March 2010 Toronto

## National Plumbing Code Changes for 2010

by

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# Outline of Presentation

- Brief Overview of Model Codes System
- Major changes - NPC 2010
- Relevant changes to Parts 6 & 9 NBC
- Use this knowledge in your business
- Challenges for the next lifetime

# Canadian Codes System

- Provinces responsible for enforcement
- NRC provides administrative and technical support for model codes
- Committees of volunteers create codes
- Not a federal government document

# Canadian Codes System

- Constitution allows provinces and territories (P/T) to regulate construction
- NRC runs coordinated code system
- Ensures that needs of P/T are met
- Codes are objectives based

# Major Changes from 2005

- Hot Water Delivery - Interim Change
- 2.6. TG Water Pipe Sizing
- 2.7. CSA B 128.1 Reuse of Water
- Many other updates, edits etc.

# Changes from 2005

## Hot Water Delivery - Interim Change

- 2.2.10.7.- Shower Valves  
Showers and tubs to receive 49°C water
- 2.6.1.12.(1) - Service Water Heaters  
Electric service water heaters set at 60°C

# Changes from 2005

## 2.2.5.13. - Polyethylene /Aluminum/ Polyethylene Composite Pipe

- Now permitted for hot water applications
- Provided has pressure rating of 690 kPa or greater at 82°C

# Changes from 2005

## 2.2.10.14.(1) - Vent Pipe Flashing

- Revised to harmonize vent-flashing requirements between Part 9 of NBC and the NPC

# Changes from 2005

## 2.4.6.4.(4) - Protection from Backflow

- Requirement for a removable screw cap to prevent backflow has been deleted

# Changes from 2005

## 2.4.2.1.(4) & (5) - Connections to Sanitary Drainage Connections

- Requirement to ensure that suds do not disrupt the venting system

# Changes from 2005

## Table 2.4.9.3. - Fixture Outlet Pipes

- Trap sizes for clothes washers revised
- Changed to 2" for new washer designs,
- Pumping at a faster rate
- Lack of capacity can cause flooding

# Changes from 2005

## 2.3.4.5.(5) - Horizontal Piping Support

- Editorial clarification
- Wording easier to understand and apply

# Changes from 2005

## 2.4.9.2.(2) - Macerating Toilets

- Editorial clarification
- Size of discharge pipe not less than  $\frac{3}{4}$ "
- Hydraulic load stated in Table 2.4.9.3.

# Changes from 2005

## 2.4.10.4.(2) - Hydraulic Loads from Roofs

- More scuppers maybe required
- Provides additional capacity
- Alleviate roof loads due to water ponding
- Can handle 200% of 15 min. rainfall

# Changes from 2005

## 2.4.10.4.(4) - Emergency roof overflow

- Roofs with parapets higher than 150 mm
- Overflows as required in 2(c)
- Minimum of 2 roof drains

# Major - Water Pipe Sizing

## 2.6.1.1.(1) - Relocate, Design of piping

- Editorial clarification and relocation as Sentence 2.6.3.1.(2)
- Relocated since it was misplaced in current location

# Major - Water Pipe Sizing

## 2.6.3.1.(1) - Flow Pressure

- Revision to indicate that flow pressures are as recommended by manufacturers
- Previous values were for testing products

# Major - Water Pipe Sizing

## 2.6.3.1.(3) - NFPA 13D Referenced

- One and two family dwelling units
- New requirement to provide guidance on how to design combined water and fire sprinkler systems

# Major - Water Pipe Sizing

## Old Table 2.6.3.1. - Expanded table

- Renamed Table 2.6.3.2.A.
- Revised and expanded with values for many more fixtures.
- Fixture unit values revised for modern products to reflect lower flow rates

# Major - Water Pipe Sizing

## New Tables 2.6.3.2. B and C

- New information to provide values for flush valves for WC and urinals

# Major - Water Pipe Sizing

## 2.6.3.4.(2) - Supply Pipe Size

- Revision for editorial clarification
- Supply pipe serving a fixture listed in Table 2.6.3.2.A.

# Major - Water Pipe Sizing

## 2.6.3.4.(3) - Tail Piece Size

- Revision to clarify application of connectors
- Fixtures listed in Table 2.6.3.2.A.

# Major - Water Pipe Sizing

## 2.6.3.4.(4) - Water Service Pipe

- Revision to improve the capacity and flow characteristics of the distribution system
- 3/4" pipe required to first branch
- Improves flow characteristics

# Major - Water Pipe Sizing

## 2.6.3.4.(5) - Water Service Pipe

- New requirement provides generic information to design hot and cold water systems
- One or two family dwelling units and row houses with separate water service pipes

# Major - Water Pipe Sizing

## 2.6.3.5.(1) - Velocity

- New requirement provides clarification
- Flow velocities as per manufacturers recommendations

# Major - Water Pipe Sizing

## Expanded Appendix Information

- New calculated examples with details and diagrams
- Would help designers, students to use the new water pipe sizing information

# Major - Water Pipe Sizing

## 2.7.4.- Non-potable Water Systems

- New requirement to provide generic information for non-potable water system design - limited application
- CSA Std. B128.1 "Design and Installation of Non-potable Water Systems Utilizing Reclaimed Water"

# Major - Water Pipe Sizing

## 2.7.4.- Non-potable Water Systems

- Non-potable water system design - limited application
- Limited use for water closets, urinals, and underground irrigation systems

# Miscellaneous changes from 2005

- Editorial clarification of Appendix diagrams and information to make it easier to understand code requirements

# NBC Part 6 Changes

## Referencing of B214

- As a “good engineering practice” reference
- Committee did not allow a separate reference
- Standard is essentially for smaller buildings

# NBC Part 9 Changes

Definition “mechanically vented”  
revised

- To ensure that mechanically drafted appliances are included
- Current definition could be read to exclude induced or power-venting

# NBC Part 9 Changes

## “Mechanically vented” implications

- Means “make up air” has to be supplied, or
- Switch to sealed combustion furnaces or water heaters
- More expensive to switch
- Enforcement implications

# NBC Part 9 Changes

## “Mechanically vented” implications

- AHJ determines that no MUA is required, no problems
- AHJ determines MUA is required, then
  - Sealed combustion systems required
- Muddy issue and may need more debate

# NBC Part 9 Changes

## “Mechanically vented” implications

- When sealed combustion systems required
- Major cost implications
- Sealed appliances – cost \$1000 more
- MUA unit would cost \$2000 more

# NBC Part 9 Changes

## Referencing of CSA B214 in 9.33.4.2.

- Hydronic Heating Systems
- Includes best practice, energy efficiency and administrative requirements
- A good guide for installations
- An enforceable document

# How to use this information

- Get yourself informed
- When you approach clients inform them
- Information can be used for new projects
- AHJ allow such proposals, if they are made aware that changes are coming

# Our challenges

- Sustainability
- Resource conservation
  - water use efficiency, energy efficiency
- Climate change
  - it is real
  - we have to reduce our footprint
- We need 2 planets to sustain our lifestyle

# Closing Summary

- Reviewed the Canadian code system
- Reviewed major NPC and NBC changes
- How to use this information
- Major challenges in coming years
- Questions?

# My information

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