CANADIAN INSTITUTE OF PLUMBING & HEATING
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January 13, 2009
C.Memo: C.010.09

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SUBJECT: Province of B.C. Proposed Energy Efficiency Requirements for Residential Water Heaters

Good Afternoon Katherine!

We anticipate that the following proposal will provide the Province with a win/win resolution and we look forward to your favourable response. We appreciate the opportunity for input to this very aggressive consultation process and believe we are providing the Province with the best available technical information to develop a practical and workable regulation.

Here is CIPH's proposal for resolution to this matter based upon our current understanding of the B.C. proposal and options provided over the past few days:

- **Natural Gas and Propane:**
  (With a nominal input of 75,000 BTU/hour or less and rated volume of 76 to 380 litres)

The Province accepts the CIPH counter proposal. That is EF greater or equal to 0.70 – (0.0005*V) for **Power Vent models effective December 1, 2009** and for **Conventional models effective September 1, 2010.** We would now, however, suggest that the 75 and 100 gallon versions be exempt from this regulation as they tend to be used in light commercial applications vs. residential.

- **Electric Water Heaters:**

  Bottom Connect
  Continue with the current federal minimum efficiency requirements for bottom inlet water heaters.
  The Province's proposed Phase 2 and 3 will determine the next steps for bottom entry water heaters.

- Top Connect
  - Product must conform to current C191-04 test protocol with an additional 15 watts loss saving when compared to bottom connect. This can be achieved by adding a heat trap device and pipe insulation. This is the only available practical option at this time;
  - The Province's suggestion that top connect product must have an equivalent 2.5 inch cavity foam insulation based on the Province's estimated formulas is not workable. Codes and standards are objective-based in relation to the NBC/NPC Codes of Canada in order to achieve compliance. Achieving the agreed-upon objective must be at the design discretion of the manufacturer and in meeting the additional 15 watts requirement, new designs may, in fact, have foam cavities increased to an equivalent 2.5 inches. The Province must not be in the business of setting standards as they see opportunities arise;
  - We strongly request that when there are potential improvements to be made, it be done through the consensus standards writing process. As the Province has recognized, achieving the additional 15 watts loss criteria will require re-tooling and redesign and for this reason we recommend that the effective date for top connect models also be September 1, 2010 which again will align with conventional gas water heater products.

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Heat Trap Devices / Pipe Insulation

- Based on the current Canadian C191-04 test standard, heat trap devices may assist manufacturers in reaching the desired standby loss requirements; however each manufacturer will need to determine the best design and construction to reach the new standard;

  Our recommendation is that a heat trap device be added at the discretion of each manufacturer to determine whether heat trap device(s) would be added with the water heater;
- The nature of the C191-04 test methodology does not take into consideration pipe insulation. Therefore it could be supplied with the water heater or added at time of installation;
- Rather than specifying specific standards and formulas to which the pipe insulation must comply (ref your email Jan 9th), we would propose that all pipe insulation must be the equivalent of R4 as suggested in your email of Jan 8th;
- Effective date – The Province has the discretion to mandate a heat trap device and pipe insulation requirement as soon as it can be implemented in the province. We would recommend aligning the dates to avoid confusion.

Field Implementation

- Will be date of manufacture based on the serial number and nomenclature;
- Common national water heater registration program (NRCan).

Katherine, it is important that decisions are not based on anecdotal information but on sound business, technical and formal surveys. Communicating with industry in advance of proposing a regulation and doing it right the first time is a critical process. This will encourage other provinces to take B.C.'s lead in achieving energy efficiency requirements for residential water heaters without having them also adapt and change on the run with inconsistent regulations. Let's close the dialogue on Phase 1 so we can move forward together on the agreed-upon industry/government partnership to develop Phases 2 and 3 of the proposed regulation.

Yours sincerely,
Canadian Institute of Plumbing & Heating

Ralph P. Suppa, CAE
President & General Manager

RS/djp

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