



**CANADIAN INSTITUTE OF PLUMBING & HEATING  
L'INSTITUTE CANADIEN DE PLOMBERIE ET DE CHAUFFAGE**

**A National Voice with Regional Roots | Une histoire régionale, une voix nationale**

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Ms. K. Muncaster  
Senior Policy Analyst, EEPB  
Government of British Columbia  
P.O. Box 9314, Stn. Prov. Government  
Victoria, BC V8W 9N1

**SUBJECT: Province of BC Proposed Energy Efficiency Requirements for Residential Water Heaters**

Good Morning Katherine!

As a follow-up to our teleconference call meeting of January 7, 2009, here are the Institute's supplemental comments:

1. It appears that the Province is in agreement with Phase I of CIPH's counter proposal with respect to natural gas water heaters. This is good news!
2. The Province has made it quite clear that the proposed regulation will most likely proceed "as is" for electric water heaters. We strongly encourage the Province to thoroughly review Hydro Quebec's report on "Energy Efficiency Levels of Domestic Electric Water Heaters" and the EPL assessment of the Caneta Report before concluding a decision. There are compelling and convincing arguments that the Province must not ignore. Furthermore, if the Province intends to mandate the use of heat trap devices and/or pipe insulation, the Province is encouraged to mandate this at the time of installation and not with the product unless they are already supplied on certain models. Ensuring the availability of heat trap devices and pipe insulation can be accomplished by CIPH working with its wholesaler distributor members who sell directly to the installing contractor.

The Province's suggested alternative proposal regarding increasing the cavity thickness of foam insulation to a minimum 2.5" as an option to the Province's original proposal which favours bottom inlet may be something to consider. However, increasing the cavity thickness if 2.5" models are not currently available will take time and the cost of shipping these will increase due to a larger size. Some time is needed to evaluate this option from both a manufacturing and market acceptance perspective.

The size of the electric water heater market in BC is such that the overall energy savings will be minimal when considering the overall electrical load and the fact that the technology may change in two years. Based on CIPH's water heater shipment data, the Caneta and EPL reports, we can conclude that the savings are small. The table that follows confirms this. To arrive at the result, shipments between gas and electric have been divided on the assumption that shipments track the installed base of water heaters for BC, where the installed base data comes from the NRCAN 2003 Survey of Household Energy Use. We calculated the electricity to be saved based on the proposed 10 W standby loss for 8760 hrs/yr. We then reduced this by 50% to account for the heat that is recovered during the heating season, as per the letter from Hydro Quebec. Using the rate for electricity of \$0.06/kWh cited in the Caneta report we derived the annual cost savings for the consumers in the Province. We divided this by the number of electric water tanks sold per year to determine the annual energy cost savings per consumer.

2003

Region	Total Water Heater Shipments per CIPH*	Gas Water Heaters Shipped*	Electric Water Heaters Shipped*	Electricity savings @ 10 W/Tank, kWh/yr	Adjusted Electricity Savings Based on 50% Recovered for Space Heating kWh/yr	Estimated Total Annual Electricity Cost Savings to Consumers @ \$0.06/kWh	Estimated Total Annual Electricity Cost Savings per New Electric Tank, \$/yr
Canada	958,900	417,493	530,797				
BC	118,506	69,683	48,823	4,276,884	2,138,442	\$128,307	\$2.63

\* Estimate for BC based on SHEU water heater installed base

295 THE WEST MALL, SUITE 330, TORONTO, ONTARIO M9C 4Z4

INFO@CIPH.COM, FAX 416-695-0450, WWW.CIPH.COM, TEL. 1-888-ASK-CIPH (275-2474), 416-695-0447.



Furthermore, the savings generated during peak demand periods, although not null as NRCan stated during our discussion, are inherently miniscule compared to the actual load generated by the operation of the heating elements caused by the overall hot water consumption.

3. It appears that the Province's ultimate vision is to arrive at .80 EF for gas water heaters. It is important for the Province to consider "The Consumer Report" on tankless water heaters and the article from PM Engineer magazine which are attached.
4. Industry requests that the date of manufacture be the method of establishing the effective date in the field vs. the date of sale for the ease of administering the regulation across the broad range of companies, regulatory authorities and individuals that are directly impacted.

The Institute is prepared to take ownership and communicate this to the distribution and retail channel prior to the implementation of the proposed regulation. The time of sale method being proposed will only create a bureaucratic nightmare for the Province and industry.

Additionally, if the proposed regulation takes another month to work through the Cabinet, then industry has lost another one to two months to be prepared.

5. At your request the following will provide you with a generic definition of "power vent". It is based on similar CSA B149 terminology:

**"a natural gas or propane storage type water heater factory equipped with an electrically powered blower assembly located at the water heater flue that provides mechanical drafting of the products of combustion".**

The Province should understand that Power Vent water heaters increase the electrical load vs. atmospherically vented types in addition to a significantly higher upfront cost to consumers.

In closing, it continues to be industry's desire to cooperate with the Province to find practical solutions and we thank you for acknowledging an industry/government partnership to explore and develop Phases 2 and 3 together. The Institute agrees with the Province's assessment that the consultation timeline process has been very aggressive and in some cases decisions are not being based on sound technical data and formal surveys. The Province's philosophy of adapting and changing on the run in our estimation is not the proper approach.

Let's do it right the first time, together! We look forward to receiving a copy of the proposed draft regulation.

Yours sincerely,  
Canadian Institute of Plumbing & Heating

Ralph P. Suppa, CAE  
President & General Manager

RS/djp

c.c. A. Pape-Salmon, BC Ministry of Mines & Resources  
B. Killins (NRCan)

Attachments