

December 3, 2009

RE: New Municipal Residential Humidifier Replacement Programs

This letter is to inform you that the municipalities of York Region, City of Guelph, and the Region of Peel intend to implement independent programs aimed at encouraging residents to purchase water-efficient humidifiers when replacing or installing furnace-mounted humidification systems. Exact program start dates will vary by municipality with implementation of all programs anticipated for early 2010.

The three participating municipalities have developed a specific list of water efficient humidifiers that are approved and eligible for each of their programs. Each humidifier on the approved list meets the following criteria:

- For water efficiency reasons the volume of water wasted to drain cannot exceed 50L/day.
- For health reasons the unit cannot contain standing water for greater than 48 hours.
- For economic and maintenance reasons the unit must not require more than 2 filter/media changes per season.

In establishing the water efficiency criteria, four types of furnace-mounted humidifier models were laboratory tested to quantify water wastage. For the purpose of this study water wastage is defined as water that flows through the humidifier to the drain without being evaporated. The four models tested were flow-through units, pulsed water supply units, flow restrictor units, and rotary disc units. Drum-type humidifiers did not qualify for this study because they utilize a reservoir that contains standing water which may lead to biofouling and health problems. In essence, the lab testing involved measuring the flow rate of the water supply to each model of humidifier in the study at different supply pressures, and then determining the daily volume of discharge to drain. The study found that all participating models were able to evaporate water to the air at approximately the same rate. The exact rate of evaporation was not critical to this study as the focus was on the volume of water discharged to drain. The calculations were based on operating a 2,500 square foot home's furnace for an average of 10 hours per day during the heating season.

The study results identified that typical flow-through humidifiers can discharge between 100 and 200 litres of water to drain (to waste) per day, whereas the rotary disc model discharges only about 2 litres of water to drain each day.¹ The other models of humidifiers in the study had waste discharge values between these two extremes. The pulsed flow-through discharged approximately 28 litres to drain and the flow restriction model sent approximately 44 litres to drain. The following table identifies the approximate waste discharge volumes for the four types of humidifiers in the study.

¹ The unit actually discharges about 4 litres of water to drain every second day to keep the water in the reservoir fresh to avoid biofouling.

Humidifier Type	Approximate Volume of Water to Waste/Drain per Day (litres)
Rotary Disc	2
Pulsed Flow-through	28
Flow Restriction	44
Typical Flow-through	100 - 200

Please note each rebate eligibility criteria and program logistics, including approved models and performance testing criteria, may differ by municipality. As each program develops the participating municipalities reserve the right to modify any aspect of their humidifier rebate program at any time at their discretion.

For more information please contact your local municipality to obtain a list of the humidifier models that are eligible for a rebate. Additional humidifier models may be added to each municipality's approved list by first submitting a testing protocol (methodology) to each of the municipalities for approval. Once the protocol is approved, a third party verification report stating that the humidifier meets all of the specified municipal program criteria is required.

It is our objective to build relationships and partnerships with manufacturers, distributors, and wholesalers, and we value your input into the proposed criteria and program. If you have any questions specifically regarding this initiative, please contact Johann Manente at (905) 791-7800 ext. 3297 or by email at johann.manente@peelregion.ca. For questions regarding a municipality's program please contact them directly using the information below.

Yours truly,



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