[redacted]

From: Cheryl Blundon
Sent: February 29, 2012 2:20 PM
To: Engineering Specialties
Cc: NL Public Utilities Board; Barbara Thistle
Subject: MUSKRAT FALLS REVIEW - Written Comments - WA

Thank-you.

From: Engineering Specialties [mailto:engineeringspecialties@hotmail.com]
Sent: February-29-12 1:36 PM
To: Cheryl Blundon
Subject: MUSKRAT FALLS REVIEW

COMMENTS:

In my presentation I have stated that there is potential to reduce our island peak demand by 423 MW from domestic heating alone. My other analysis for reductions possible from domestic hot water and small commercial would raise that potential for a total of about 600MW. This is a huge number, exceeding the continuous firm capacity of Muskrat Falls.

I see that [redacted] and [redacted] are consultants to the PUB for this review. I am sure their knowledge and experience as electrical engineers in the power field will be an asset to your review, as this project is an electrical project.

My presentation is with respect to the future load growth forecast and how efficient heatpump systems can and likely will reduce demand . I would expect that your consultants will assess my presentation. And of importance is to separate an estimate from actual performance in our Nfld climate. Our test house is occupied normally from Friday to Sunday and unoccupied from Monday to Friday noon, but with the heat remaining on at minimum 71 degree F. During this time the only other heat source is a fridge and deep freeze which uses 4.1 kwh per day total for both. I have a clamp on meter to measure the amps feeding the heatpump. So it is simple to determine the energy for the heat only. The unit has no internal backup heaters. The regular baseboard heaters are turned off.

I invite both [redacted] and [redacted] ,or other of your board to visit during a cold day Mon to Fri morning to see the power consumption during what is a near peak demand situation. I am sure this would assist in an appropriate assessment of the potential impact for heating load reduction when viewing the demand of the whole province. As I live in Logy Bay and the test house is at Bishop's Cove,an early morning visit there would be ideal as there would be no occupant contribution and it is usually coldest in early morning.

My presentation is not much more than doing for the domestic what mechanical engineers have been doing for large commercial jobs etc for decades for ducted air systems , but more recent for non-ducted systems. Mechanical engineers have considerable knowledge about these systems, although I have enhanced the installation and performance, which they could assess. Basically , the suggestion is that the cost effective solution to a increasing electrically demand is a mechanical one- with electromechanical heatpumps. So you might consider getting an opinion from local mechanical engineers on the merits of my presentation. I would suggest [redacted] or [redacted] is also technically good, but as they are owned by SNC, he may be in a conflict of interest. Any mechanical consultant would also be be welcome to verify the system's low power consumption. This past weekend when occupied , but at late night and very early morning, without lights or TV, the unit took 1.99 amps [458 watts] at 24 degree outside temperature[low wind condition] for 796 sq ft . External heat contribution was from the fridge and small deep freeze , a hot water tank in the closet and two occupants. This is a very efficient cost effective

system.

Winston Adams
Logy Bay