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BC Sustainable Energy
ASSOCIATION

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B.C. Ministry of Energy, Mines and Petroleum Resources
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Dear Mr. Pape-Salmon:

Re: comments on five draft regulations under the Energy Efficiency Act

The consolidated comments below have been developed by the BC Sustainable Energy Association, the David Suzuki Foundation, the Pembina Institute for Appropriate Technology, and RDH Building Engineering Ltd. in response to calls for public comment on the following draft regulations under the B.C. Energy Efficiency Act:

- 1) General service lighting (attn: Erik Kaye)
- 2) Refrigerators and freezers (attn: Erik Kaye)
- 3) Water heaters (attn: Katherine Muncaster)
- 4) 1 - 500 horsepower electric motors (attn: Jim Ciccateri)
- 5) Window and door products (attn: Andrew Pape-Salmon)

The general comments below apply to all five proposed regulations and there are comments specific to each regulation in the five subsequent sections.

General comments:

We are supportive of the Ministry's commitment to advance energy efficiency standards in B.C. In many cases, regulations are the most cost-effective way of achieving savings and it allows demand side management programs to focus on the next increment of improvement. In many cases, regulating higher levels of energy efficiency can be a win-win situation. Economically, they can provide better outcomes for consumers, thereby freeing up dollars for other opportunities in B.C.'s economy. Environmentally, they help move towards the province's overall climate change and energy conservation goals.

We see opportunities to be more forward-looking in the regulations. There is a mix of implementation dates ranging from 2009 to 2012, and we encourage the Ministry to set both short and medium term regulations instead of one or the other. This type of approach takes advantage of short-term opportunities, while also providing early signals to manufacturers so that they have the time to contribute to larger gains on a 3-5 year timeframe. Please note that we have not made specific suggestions about short-term and long-term standards with regard to the five regulations reviewed below. That said, we would strongly encourage the Ministry to adopt this approach in the development of future regulations under the Energy Efficiency Act.

As a further suggestion for work going forward, we would also encourage the Ministry to facilitate a dialogue on whether or not it is appropriate to restrict consumer choice in the short-term if it leads to better economic and environmental outcomes. Current regulations (and proposed regulations) are designed to have no or minimal impact on consumer choice. Those regulations could be further strengthened, but beyond a certain point, increased performance would mean limiting the number of compliant choices until manufacturers are able to adapt. This is not a decision to be taken lightly, but given the scale of the environmental challenges we're facing, it seems reasonable and prudent to at least have a conversation on this issue.

We note that several of the consultation documents for the five draft regulations reviewed below calculate the resulting reductions of greenhouse gases (GHGs) only to the year 2016. We believe that some net GHG reductions from these regulations will occur even after 2016 unless the province adopts new policies that prevent the import of inexpensive but carbon-intensive sources of electricity from Alberta or other jurisdictions during off-peak hours. There will be an incentive to reduce the emissions from imported sources through the cap and trade system; however, if this regime is implemented according to the proposed design, it will not compel B.C.'s imported electricity to be carbon neutral. By accounting for the emissions from imported electricity, the Ministry will be able to give full credit to the savings offered by these regulations.

Finally, we suggest that there is a general need for further research in order to determine the potential regulatory changes that will have the greatest benefit in reducing energy consumption. As part of this research, all building functions should be considered as an interactive system so as to ensure that energy consumption improvements do not adversely affect other performance characteristics. As one example, we note that large energy losses via windows will continue to occur if occupants need additional make-up air during cold weather to prevent other performance-related problems such as condensation. In this case, increasing make-up air flow

standards within these buildings would indirectly improve the real-world energy efficiency performance of the windows.

1. General service lighting (attn: Erik Kaye)

We are strongly supportive of the Government of B.C. establishing an energy efficiency regulation for “Type A” light bulbs that effectively bans standard, inefficient incandescent lighting. As the document describing the draft regulation makes clear, implementing an energy-efficiency regulation can result in very significant overall energy cost savings, and greenhouse gas reductions.

We understand that the draft regulation simply aligns B.C. regulations with those of the federal government and the U.S., although it does advance B.C.’s implementation of the 75W and 100W standards by one year. As such, the proposed measure is disappointing in its lack of “additionality.” While we understand the value of having a coordinated policy across jurisdictions so that manufacturers can cost-effectively develop products for large common markets, we are also concerned that a blanket preference for harmonization will supercede B.C.’s historic role in leading the way in the adoption of more- efficient technologies.

Given B.C.’s continuing leadership in the adoption of compact fluorescent light bulbs (CFLs) within the marketplace (thanks to the good work done by PowerSmart), we believe it would be quite possible for British Columbia to implement this regulation sooner than proposed, and we urge that this regulation come into effect Jan 1, 2010 so that B.C. residents can realize significant additional energy cost savings and GHG emission reductions.

We note that the implementation date for the 60W bulbs appears to be wrong, given that it is one year later than the proposed NRCan implementation date shown in the background document. If this is not an error, be aware that we do not support timelines in which implementation in B.C. lags that of other jurisdictions.

This regulation does not make any reference to safe disposal of mercury-containing CFLs. It is very important that the province ensure that an effective system (i.e. one accessible to all residents of the province) in put in place as soon as possible for collecting, recycling, and disposing of burned-out CFLs.

2) Refrigerators and freezers (attn: Erik Kaye)

We are strongly supportive of the Government of B.C. implementing a more stringent energy efficiency regulation for refrigerators and freezers.

We are not clear on the rationale for the narrow scope of this regulation, given that this regulation covers only one-third of the fridges and freezers sold in B.C. Given the overall statistics presented in the consultation document, it seems like there would be scope to implement new energy efficiency standards for additional fridge and freezer types in order to capture a larger share of the market.

Moreover, we believe the regulation for types 5, 7, 9, and 10 could be made more stringent by referencing more recent Power Smart ratings. Other freezer types could be referenced to an older standard if highly efficient models do not currently have a significant share of the market.

We urge the government to ensure that the design of these energy efficiency standards drives manufacturers to install better insulation and more efficient cooling systems. We understand that many manufacturers have previously met energy efficiency standards, at least in part, by reducing the cooling capacity of their appliances. Research suggests that this strategy leads to spoiled and wasted food.

We support the idea of permanent labels and would encourage that labeling requirements be treated in an analogous way to what is being proposed in the draft windows energy efficiency regulation, so that this information cannot easily be removed from the unit.

3) Water heaters (attn: Katherine Muncaster)

We are strongly supportive of the Government of B.C. establishing an energy efficiency regulation for water heaters.

We interpret the fact that most available water heaters are at or near the current standard as a strong argument for a more stringent medium-term regulation that would push the market towards improved performance. We note that the government consultation document also indicates that NPV values for the new standards are positive under almost all scenarios, suggesting that the standard could be made more aggressive than currently proposed. Based on historical patterns, the industry is likely to respond to a more stringent standard by ensuring that most models are at, or slightly ahead of, that standard.

We find it counter-intuitive that larger water heaters would be allowed to be less efficient, which is how the proposed formula appears to work. We believe that increased demand should be met at least as efficiently, and that a strong argument could be made for requiring even better energy performance at increased demand given the reduced heat loss ratio of larger volumes.

Given that the consultation document notes that installers often disable heat traps when installing water heaters, there appears to be a significant need for an education and outreach campaign targeted either at installers or at customers in order to dissuade this behaviour. The effectiveness of this regulation might be further maximized by educating the consumer on how to “right-size” their choice of a new water heater (as opposed to buying a larger capacity unit than they require).

4) 1 - 500 horsepower electric motors (attn: Jim Ciccateri)

We are strongly supportive of the Government of B.C. implementing a more stringent energy efficiency regulation for industrial motors rated from 1 to 500 horsepower.

We are concerned that the current proposal appears to be content with a business-as-usual approach that has B.C. slide from being a pioneer of high-efficiency motors (thanks to PowerSmart market transformation work), to simply keeping up with the US and Canadian federal government standards.

We note that the discussion document provided by the ministry does not indicate whether more aggressive energy efficiency standards have been developed elsewhere, or if a more stringent standard was found to be not cost-effective. This information would be helpful in assessing whether or not a more stringent regulation is appropriate.

Based on the information provided by the ministry, there appears to be some scope for implementing a more stringent standard within B.C. Most of the market segments covered by the regulation show extremely fast simple paybacks for the regulation-compliant motors. Moreover, even in the market segments with the lowest overall cost benefits, regulation-compliant motors already comprise 80% of the market. Finally, the discount rate used in the analysis (8%) is relatively high for an analysis of societal benefits, so a lower discount rate could result in more stringent standards while still providing a positive net present value.

5) Window and door products (attn: Andrew Pape-Salmon)

We are strongly supportive of the Government of B.C. implementing a more stringent energy efficiency regulation for windows and doors, and establishing a new energy efficiency standard covering windows used in high-rise retrofits.

This is a complex regulation, with lots of exceptions. We note that the consultation document does not provide any information on alternative standards used elsewhere. We presume that standards adopted in some other jurisdictions may be more stringent, given the mild climate in southeast British Columbia where most of the province's buildings are, and this region's reputation for sub-optimal building energy efficiency performance.

We urge the government to mandate the highest cost-effective standards for windows in general; for both low-rises and high-rises, and for both new construction and retrofits, since we believe this approach will produce greater societal cost savings, increased GHG reductions, and make regulatory compliance and enforcement easier.

The proposed regulation requires a maximum overall U-value of $2.57 \text{ W/m}^2\cdot\text{K}$ by January 1, 2011 for window wall assemblies in high-rise buildings. We believe that existing window wall systems should be able to readily achieve this requirement today, since the majority of the high-rise buildings built in BC already incorporate window wall type glazing assemblies. We would therefore encourage the government to implement this standard as soon as possible, rather than waiting for 2011. We note that this proposed standard only applies where glazing assemblies in high-rises are being replaced, and that the less-stringent ASHRAE 90.1 2004 standard glazing requirements still applies to glazing assemblies in the much larger market segment of new construction. As such, it is clearly important to raise the energy-efficiency standards for new construction as well.

Continuing to allow the use of poorer-performing aluminum and "other metal" windows after they have been prohibited for other uses (i.e. post 2011) implies that these products could be readily available in the B.C. marketplace for the foreseeable future. We are concerned that this could allow continued use of these products in non-permitted situations where monitoring and enforcement is lacking.

We understand that the reason for the regulation's differentiated energy-efficiency standards for high-rise buildings is that the building code requires the use of (generally less energy-efficient) non-combustible elements in high-rise construction. However, we further understand that these requirements were adopted into the building code prior to additional requirements that high-rise buildings be sprinklered. At present, the only way to gain approval for the use of high-efficiency – but combustible – components in high rises is to retain a specialist fire protection engineering firm to rationalize the code fire safety requirements and undertake modeling. However, the resources required to do this generally discourage the use of more energy efficient window frame materials in non-combustible construction. The government may want to examine existing code requirements in more detail to see if changes can be made that encourage the use of more energy efficient windows without sacrificing fire and life safety priorities.

We appreciate this opportunity to provide input on these draft regulations, and hope our comments will be of use to the provincial government in developing effective regulations for British Columbia.

Please feel free to contact us if you have any questions with regard to the points raised above.

Yours sincerely,

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