

1 Q. The response to PUB-Nalcor-94 states in part: *'In considering emissions, the*
2 *Government of Canada has also published its proposed greenhouse gas (GHG)*
3 *regulations for coal fired generating facilities, and has proposed a 45 year design life*
4 *for coal fired facilities. These have been filed in Exhibit 107.'* The response goes on
5 to state: *"...Nalcor expects the Government of Canada to impose limitations on*
6 *heavy fuel oil fired generating facilities that are similar to those proposed for coal*
7 *fired generation."*

8

9 Exhibit 107, pg. 37 of 147 states *"In 2008...GHG emissions from the electricity*
10 *generation sector contributed around 16% (or approximately 120 megatonnes(Mt)*
11 *to Canada's inventory of emissions. In the same year, coal fired electricity*
12 *generation was responsible for 93 Mt of GHG emissions in Canada, which represent*
13 *78% of total electricity sector emissions."*

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15 Has Nalcor had any formal discussions with the Government of Canada regarding
16 confirmation that oil fired plants will be subject to similar regulations as coal fired
17 plants and, if so, the projected timeline for such regulations? What is the basis for
18 the statement that Nalcor expects similar restrictions to those for coal fired plants
19 to be extended to heavy fuel oil plants?

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21

22 A. Nalcor has not had formal discussions with the Government of Canada regarding
23 the future regulations for oil fired generating facilities. The basis for Nalcor's
24 expectation of future regulation on oil fired generating facilities is as follows:

25

26 The Government of Canada has announced GHG regulation for coal fired generating
27 facilities, and has stated that the long term GHG intensity target for replacement

1 facilities is that of a modern natural gas fired combined cycle plant. Heavy fuel oil
2 generating plants such as Holyrood have a GHG intensity more than double that of
3 a natural gas fired combined cycle plant. Based on the long term target for
4 replacement thermal facilities, and the extent by which oil fired facilities exceed
5 that natural gas fired combined cycle target, Nalcor expects that new standards will
6 be applied in the future to oil fired facilities.

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8 The federal government has indicated publicly that the GHG emissions target in its
9 proposed regulations for coal fired plants would also be applicable to natural gas
10 fired facilities.¹ According to Environment Minister Peter Kent,

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12 “We wanted to make sure that we didn’t bring in regulations for the
13 coal-fired folks to hit a performance standard that would then have to
14 be changed when we turned to working with the gas-fired sector. [The
15 standard] reflects a fairly high efficiency for a natural-gas equivalent
16 plant and it would probably mean that we would be consistent with
17 that number when we get around to the natural gas reg[ulation].”

18
19 Given Holyrood’s high GHG intensity, the action taken to introduce coal plant GHG
20 regulation, and statements made by the Government of Canada, Nalcor expects
21 that other generating facilities, including oil-fired plants, will also be captured by
22 GHG regulation in the future.

23
24 For the purpose of its DG2 analysis, Nalcor has not assumed any new GHG
25 standards in its Isolated Island Alternative, but as noted in its response to MHI-

¹ *The Globe and Mail*, Wednesday, August 31, 2011 (attached on the following page).

- 1 Nalcor-3, believes there is a risk that GHG emissions standards may be applied to oil
- 2 fired facilities.

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ELECTRICITY

Natural gas plants face new emission rules

TransAlta CEO says rules governing generators switching from coal will drive up electricity prices

SHAWN McCARTHY
GLOBAL ENERGY REPORTER
OTTAWA

The federal government plans to regulate emissions on new natural-gas-fired power plants, posing a major challenge for an industry that is being forced to phase out traditional coal-fired plants.

The electricity sector should expect to meet emission standards for new gas plants that will have to be built to replace coal-fired plants that reach the end of their commercial life after 2015, Environment Minister Peter Kent revealed in an interview on Tuesday.

The climate regulations will hit hardest in Alberta and Saskatchewan, where booming economies are driving up electricity demand even as companies will need to replace aging coal plants.

The power companies responded forcefully to the plans, arguing the coal regulations will reduce the reliability of the electricity system and drive up costs to consumers in provinces that depend on coal-fired power, while the proposed gas rules would simply be unworkable.

The emission standard contained in the coal regulations is an "idealistic" threshold that can't be met by coal-fired or gas-fired plants that will be needed as the coal plants are phased out, TransAlta Corp. chief executive officer Stephen Snyder said.

The draft coal regulations were released in the Canada Gazette last weekend, and will be finalized after a 60-day comment period. They require that any new or refurbished coal-fired plant, commissioned after July 1, 2015, emit no more carbon dioxide than a high efficiency gas-fired station, and set individual retirement dates for the country's 21 coal plants.

Mr. Kent said the emission standard – 375 tonnes of CO₂ per gigawatt hour – was set with a view to incorporating it into gas-fired power regulations in the coming years.

"We wanted to make sure that we didn't bring in regulations for the coal-fired folks to hit a performance standard that would then have to be changed when we turned to working with the gas-fired sector," he said.

The standard "reflects a fairly high efficiency for a natural-gas equivalent plant and it would probably mean that we would be consistent with that number when we get around to the natural gas reg."

He did not indicate when Environment Canada would release draft regulations, but said it would come relatively quickly after finalizing the coal rules, in part because it is "less challenging" than the effort to impose greenhouse gas limits on sectors like the oil sands.

In an interview, Mr. Snyder said the industry has concerns about the government's planned coal regulations, and is concerned that the future gas rules would seriously erode its ability to generate electricity without dramatically driving up prices.

He is urging Ottawa to adopt a "fleetwide approach" – so that companies would have to meet an emission standard across their entire operation – rather than bring in plant-by-plant regulations.

"TransAlta and many members of the industry feel we can actually do perhaps even better than the government has laid out and with less economic impact if we can get the regulations to be a bit more flexible and a bit less pre-

scriptive," Mr. Snyder said.

"It's very difficult to have a prescriptive approach as laid out ... these rules get at CO₂ reduction but they don't necessarily look at the economics, or the reliability, or the customer impact."

TransAlta owns, either wholly or in partnership, four coal-fired stations in Alberta, but is also a major investor in wind and hydro projects in the province. It also has gas, hydro and wind power stations in eastern Canada.

In an analysis accompanying the regulations, Environment Canada said it expects the provinces will meet their electricity needs by adopting carbon-capture-and-storage technology for new coal-fired plants, building new gas plants, and increasing imports from provinces with large hydro power capacity.

It said Canada's consumption of coal-fired power will drop by nearly half between 2015 and 2030, while use of natural gas for electricity will nearly double over the same period. Alberta, Saskatchewan and Nova Scotia will be most affected because they are most dependent on coal-fired electricity. Ontario is to phase out its remaining 15 plants by 2015.

But Mr. Snyder said companies will be reluctant to invest in new gas-fired plants until they are assured they will not face onerous regulations on existing plants, or an unattainable standard for new generating stations. The emission standard for coal plants "will really limit new gas plants in Canada," Mr. Snyder said.

While the standard may be appropriate for a base-load plant at sea level in moderate temperatures, gas plants operate less efficiently – and therefore emit more CO₂ – at higher elevations and colder temperatures. And it would be impossible to meet the 375-tonne standard at natural gas plants used intermittently for peak-power needs.

"What the industry said is that, 'We agree with setting a standard, we just don't agree with the standard you picked. It's an idealistic, perfect solution that just doesn't work for most of Canada,'" the TransAlta executive said.