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Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
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Norton Rose OR to create Norton Rose Canada.

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EB-2012-0031

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Dear Ms. Walli:

Hydro One Networks Inc. – Transmission Rates (EB-2012-0031)

Please find attached responses to interrogatories for APPrO in connection with the above-noted proceeding. Interrogatory responses are organized and labelled as per instructions from Board Staff:

- HQ Energy Marketing Inc. interrogatories on APPrO evidence: Exhibit L–I/Tab 23/Schedule 11/HQ IR #
- Board Staff interrogatories on APPrO evidence: Exhibit L–I/Tab 23/Schedule 11/Board Staff IR #
- VECC interrogatories on APPrO evidence: Exhibit L–I/Tab 23/Schedule 11/VECC IR #

Please do not hesitate to contact me should you have any questions or concerns.

Yours very truly,

Original signed by

John Beauchamp

JB/mnm

cc: All Interested parties

[DOCSTOR: 2537971\1](#)

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
HQ ENERGY MARKETING INC.**

INTERROGATORY #1

Ref.: Cliff Hamal, "Evaluation of the Export Tariff" ("Hamal Evidence"), p. 4

The evidence states that any producer surplus that is attributable to Ontario Power Generation's non-prescribed assets will "accrue to the province and ultimately consumers." It does not address the ultimate beneficiary of producer surplus that is attributable to Ontario Power Generation's prescribed assets. As HQEM understands it, the payment amounts chargeable to consumers for electricity generation by Ontario Power Generation's prescribed assets is largely determined by on a cost of service basis so that an increase in forecasted revenues results in a decrease in the amounts collected from consumers as payment amounts. Please confirm whether this is the author's understanding.

RESPONSE

OPG has prescribed and non-prescribed assets. The question references the treatment of the non-prescribed assets in the Hamal evidence, then asks about the prescribed assets.

The prescribed assets consist of the bulk of OPG's assets and are regulated on a cost of service basis. If HOEP changes in Ontario, it is Mr. Hamal's understanding that this will not change how much consumers pay for the energy from these assets. It is also Mr. Hamal's understanding that consideration of this effect was included in the CRA report, such that none of the calculated producer surplus was associated with the effect of price changes on revenues for the prescribed assets.

The October 5, 2012 response to Schedule 11.07 APPRO 7 from HONI confirmed that the entire change in producer surplus calculated in the CRA Report was associated with OPG's non-prescribed assets. Thus, despite assertions to the contrary in the question, the Hamal evidence does address the ultimate beneficiary of producer surplus attributable to OPG's prescribed assets, in that there is no such producer surplus in the first place.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
ONTARIO ENERGY BOARD (BOARD STAFF)**

INTERROGATORY #1

APPRO Evidence (Prepared by Cliff Hamal (Managing Director, Navigant Economics))

Ref: Hamal Evidence, p. 6 (Figure 2), and p. 27 (Figure 7)

- 1. The first row of data in Figure 2 and the fifth row are both titled Consumer Surplus, but have different values. The data in the first row appear to match the information in the CRA report that is cited in footnote 2. Why was the fifth row of data included in Figure 2, and why was the information in this row used in Figure 7 rather than the data in the first row?**

RESPONSE

1. The consumer surplus figures in the first row of data in Figure 2 come from the CRA Report. Also taken from the CRA Report are the Intertie Congestion Revenue and Producer Surplus data that follow. All of this data is under the sub-heading "CRA Analysis".

As explained on pages 3-6 of the Hamal evidence, it is reasonable to conclude that all, or at least a very large portion, of the Intertie Congestion Revenue and Producer Surplus will accrue to consumers. It is on this basis that the two additional rows were provided under the sub-heading of "Total". If all of this accrues to consumers, the Ontario surplus would equal the consumer surplus and this is the first row of data. The second row of data, listed as "Consumer Surplus" assumes that 100% of the intertie congestion rents and 95% of the producer surplus accrued to consumers, as was explained on page 5. Of the two options, this was the most conservative. This assumption was used in later analyses because it was the more conservative alternative.

As was mentioned on page 5, further discovery was in progress. Since filing this report, HONI provided an update to its interrogatory responses. The October 5, 2012 response to Schedule 11.07 APPRO 7 makes it clear that in the CRA analysis, the change in producer surplus is "virtually identical" to the change in revenues and costs for OPG's non-prescribed hydro assets. Thus, the 95% assumption was unduly conservative and the Consumer Surplus is a better estimated with the data listed as Total Ontario Surplus in the table on page 6, Figure 2.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
 RESPONSES TO INTERROGATORIES FROM
 ONTARIO ENERGY BOARD (BOARD STAFF)**

INTERROGATORY #2

APPrO Evidence (Prepared by Cliff Hamal (Managing Director, Navigant Economics))

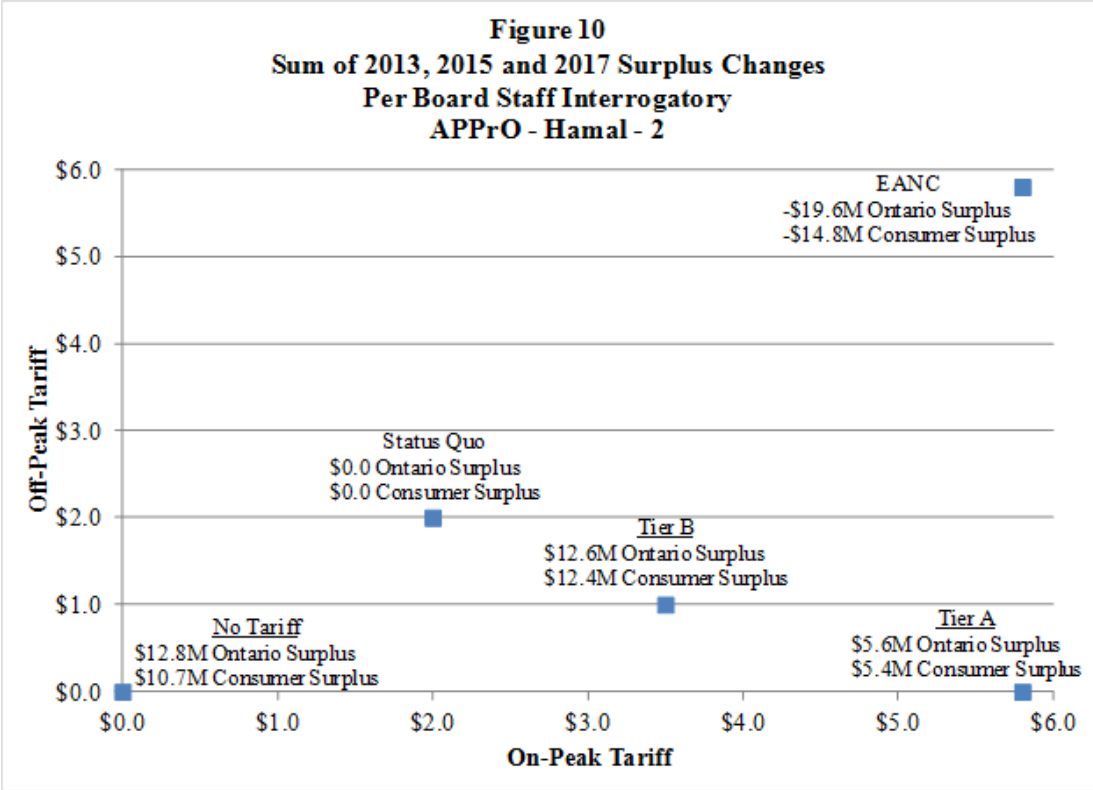
2. Ref: Hamal Evidence, p. 27 (Figure 7)

Please provide a version of Figure 7 which shows a simple sum of the three years 2013, 2015 and 2017.

Please confirm that the Ontario Surplus (summed over the three years) is nearly the same as that of the “No Tariff” scenario.

RESPONSE

2. The requested revised figure is provided below.



Part B asks to confirm that the Ontario Surplus, calculated at \$12.8 million, is nearly the same as that of the status quo, which is zero. A judgment as to whether a difference of \$12.8 million is so small as to be “nearly the same” obviously depends on context. The context here, presumably, relates to a decision as to whether the tariff should be kept at the current rate or reduced to zero. In that context, there are at least two important context issues that one should consider before drawing a conclusion.

First, the use of a simple summation of three non-consecutive years to form a judgment about the tariff is improper. An estimate of applicable years on some basis might be appropriate, but there is no basis for concluding that a summation of these three years would be appropriate. In particular, a judgment based on a total value (\$12.8 million) that is taken from only some of the years covering the study period (three of the five years between 2013 and 2017) is clearly improper.

Second, as was discussed in the Hamal evidence on page 6, 2014 is more likely to be like 2013. Thus, simple adding the three years analyzed to evaluate the tariff over five years significantly underemphasizes the weight that should be given to year 2013’s results.

Third, there is nothing in any of the evidence that gives a basis to concluding that the planning horizon should be based on any form of equal weighting of years up to 2017. One would normally expect giving more weight to the earlier years, in part because of general discounting of future events. In this case, there are known reasons why the results for future years are less certain, as was discussed in the Hamal evidence pages 6-7, including Figure 3 on page 7. The uncertainties include the potential for Ontario not participating in the WCI. Other future changes could include US environmental policies not matching the assumptions in the study, which would affect trading opportunities.

Fourth, it must be pointed out that the Board is not locking in the rate for the five years. The decision made at this time has no specific horizon, and if the Board were to conclude that the tariff rate was inappropriate, it could be changed. Alternatively, it could be maintained for a longer period. But there is no basis for assuming it should be evaluated for a study period that gives heavy weight to 2017 and none to later years.

To address some of these issues, Figure 11 is provided below. This starts with the data in Figures 2 and 3 from the Hamal evidence. It provides an arithmetic sum of the three years, per the interrogatory request, but then provides a sum of the 2013-2017 years using the assumption that 2014 is like 2013 and that 2016 is at the midpoint between 2015 and 2017. When this is done, the \$12.8 million total figure becomes \$28.0 million, a figure that is more than twice as high. In the bottom half of the new figure, the results are also provided assuming Ontario does not participate in the WCI in the study years. In this case, when the estimates for all five years are summed, the total is \$50.4 million. These figures are highlighted.

Based on this analysis, in the full context of evaluating tariff options, the \$12.8 million figure is not considered to be nearly the same as the status quo.

Figure 11
Summary of Surplus Changes
(\$2011/MWh)

	2013		2015		2017		Sum				
	No		No		No		2013 + 2015 + 2017		2013 - 2017		
	Tariff	EANC	Tariff	EANC	Tariff	EANC	Tariff	EANC	Tariff	EANC	
Base Case Scenario:											
<u>CRA Analysis</u>											
Consumer Surplus	-\$16.1	\$24.1	-\$32.6	\$60.1	-\$18.9	\$23.5	-\$67.6	\$107.7	-\$109.5	\$173.6	
Intertie Congestion Revenue	\$24.0	-\$17.7	\$10.1	-\$7.9	\$3.9	-\$5.8	\$38.0	-\$31.4	\$69.0	-\$56.0	
Producer Surplus	\$9.6	-\$29.2	\$22.2	-\$47.9	\$10.5	-\$18.6	\$42.3	-\$95.7	\$68.3	-\$158.2	
<u>Total</u>											
Ontario Surplus	\$17.6	-\$22.8	-\$0.3	\$4.2	-\$4.5	-\$1.0	\$12.8	-\$19.6	\$28.0	-\$40.8	
Consumer Surplus	\$17.1	-\$21.3	-\$1.4	\$6.6	-\$5.0	-\$0.1	\$10.7	-\$14.8	\$24.6	-\$32.9	
	2013		2015		2017		Sum				
	No		No		No		2013 + 2015 + 2017		2013 - 2017		
	Tariff	EANC	Tariff	EANC	Tariff	EANC	Tariff	EANC	Tariff	EANC	
No WCI Scenario:											
<u>CRA Analysis</u>											
Consumer Surplus	-\$16.1	\$24.1	-\$31.2	\$57.1	-\$18.5	\$24.9	-\$65.8	\$106.1	-\$106.8	\$171.2	
Intertie Congestion Revenue	\$24.0	-\$17.7	\$18.6	-\$13.0	\$16.5	-\$21.8	\$59.1	-\$52.5	\$100.7	-\$87.6	
Producer Surplus	\$9.6	-\$29.2	\$16.6	-\$44.8	\$8.0	-\$13.6	\$34.2	-\$87.6	\$56.1	-\$146.0	
<u>Total</u>											
Ontario Surplus	\$17.6	-\$22.8	\$4.0	-\$0.6	\$6.1	-\$10.5	\$27.7	-\$33.9	\$50.4	-\$62.3	
Consumer Surplus	\$17.1	-\$21.3	\$3.2	\$1.6	\$5.7	-\$9.8	\$26.0	-\$29.5	\$47.5	-\$55.0	

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
ONTARIO ENERGY BOARD (BOARD STAFF)**

INTERROGATORY #3

APPRO Evidence (Prepared by Cliff Hamal (Managing Director, Navigant Economics))

3. Ref: Hamal Evidence, p. 9 and pp. 29-30

The evidence concerns possible disadvantages of a time-based tiered rate structure for the Export Transmission Service, including that the higher rate would not be charged during hours of actual high load with the precision assumed in the CRA analysis. The conclusion at p. 30 is that a tiered rate structure is not advisable.

Would the disadvantage of a tiered structure be lessened by a rate structure that would be responsive to transmission system conditions (such as load or available capacity), rather than relying on time boundaries that had been defined far in advance?

Has Mr. Hamal done any analysis of responsive pricing for Export Tariff Service, either prospectively for Ontario or in actual practice in other jurisdictions? If so, please provide a description of such analysis.

RESPONSE

3. The question is broad and open-ended. The question asks specifically about a possible rate structure tied to system conditions. No such structure has been identified. One obvious problem about such an approach in general is that it could increase uncertainty to traders. Traders should be expected to factor in uncertainty as a risk that increases their costs of conducting trades. Currently, significant trades take place on a longer-term basis, and such trades would be discouraged. Other trades may take place in the day-ahead markets in neighboring markets, and it would seem that this new system-condition-based tariff approach would introduce significant uncertainties at that point. Even on a real-time trade, there may be significant risks involved in a variable tariff.

Beyond the issue of risk, there is insufficient evidence to even begin to assess whether a variable tariff provides benefits. For example, while a tariff could conceivably be a function of load, it is not clear how to begin to shape that tariff to provide benefits to Ontario. Alternatively, one might consider a tariff that could be increased to capture some of the price difference during periods of congestion. But, that would directly reduce the intertie congestion rents which will disrupt the value of the transmission rights. The effects of such alternative structures are complicated and have not been studied.

Mr. Hamal has not conducted any analysis of responsive pricing for Export Tariff Service.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
ONTARIO ENERGY BOARD (BOARD STAFF)**

INTERROGATORY #4

APPRO Evidence (Prepared by Marc-Andre Laurin)

Ref: Marc-André Laurin Evidence, pp. 3-4

4. The evidence suggests that traders experience greater uncertainty than usual when the Ontario system is in or may be approaching a situation of surplus baseload generation (SBG). The uncertainty includes the effect of IESO actions to deal with this situation.

Would the uncertainty and risk be increased or reduced if the IESO were to include, as one of its possible actions to deal with SBG, temporarily reducing the rate charged for ETS to a lower amount (such as \$0/MWh)?

RESPONSE:

4. The uncertainty and the lack of transparency associated with the IESO's out of the market manual actions during SBG are the main sources of risk in our evidence. The level of exposure associated with the risk described above is directly linked with the ETS tariff. A higher ETS increases the fixed costs incurred in trading, effectively increasing that risk. Also, a higher ETS reduces the effective price spread between Ontario and neighbouring markets. With a smaller available spread and increased risk, traders will be less inclined to trade.

With respect to an ETS that was reduced during periods of SBG, it is not clear how this would be accomplished. It would be extremely difficult to devise a rule that lowered the ETS during SBG periods and make that information available to traders within a timeframe that would allow them to respond accordingly. SBG periods are difficult to forecast. This is partly due to the fact that factors influencing demand and supply are volatile and may change quickly. Also, many trades are conducted on a forward basis of days, weeks or longer periods, when SBG periods would clearly not be known. A variable ETS would increase uncertainty for those longer-term trades. In addition to that, out-of-the market actions undertaken by the IESO are creating even more uncertainty. An ETS linked to SBG would create even more uncertainty for traders. All of these factors are likely to increase risks and therefore reduce incentives for traders to export power out of the province in general, and in particular during periods where Ontario especially needs this service.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #1

Ref.: APPrO Evidence (by Cliff Hamal), pages 3-4

1. a) **Please indicate who (i.e., Ontario consumers, Ontario producers, or traders) currently holds transmission rights and receives payments. Please also indicate the extent to which these parties can be considered as being in Ontario.**
- b) **The Evidence states that “over the long run it is expected that the ICR will be passed on to consumers”. Is this expected to occur within the timeframe of the CRA Study (i.e., 2017) and, if so, how will this occur?**

RESPONSE

1. a) This has not been studied as part of the Hamal evidence.
- b) No specific timeframe has been determined for when this will occur. It is expected that there will be a lag between the year when the ICR is generated and when it is paid to consumers. When this does occur, it is assumed to be done under the oversight of the Board.

The question references the timeframe of the CRA Study. The study focuses on three specific years, 2013, 2015 and 2017. Whether the timeframe of the study encompasses those three years, the five years spanning those three or some other period is ambiguous. It is not unreasonable that surpluses from 2013 would be passed on to consumers by 2017. On the other hand, it is not expected that surpluses from 2017 would be returned to consumers in that year.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #2

Ref.: APPRO Evidence (by Cliff Hamal), page 4

2. a) The Evidence suggests that monies accruing to OPG will affect Ontario's fiscal balance to the benefit of Ontario taxpayers/consumers. Why are taxpayers assumed to be equivalent to consumers? Don't Ontario producers also pay taxes?

RESPONSE

2. Monies accruing to OPG will benefit the province. If the money is used to reduce payments for stranded debt in some manner, the tie to electricity consumers will be more direct. If it is used to reduce taxes or provide additional services, the connection to electricity consumers is less direct, but still applicable because virtually all taxpayers purchase electricity. It is true that some electricity producers pay taxes, but this is a very small portion of the total taxes paid in Ontario.

For example, on an income tax basis, corporate income taxes are less than 20% of the total collected by the province. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/govt56b-eng.htm>. On a GDP basis, utilities in Ontario are less than 3% than the total for all service producing industries. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/govt56b-eng.htm>. That utility figure includes all utilities, not just electric, and includes the non-generation portion of the electricity industry. There are additional issues related to profitability and undoubtedly other factors necessary to calculate the exact portion of a tax reduction that would accrue to electricity producers, but the share of a benefit accruing to electricity producers is very small.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #3

Ref: APPrO Evidence (by Cliff Hamal), page 8

3. a) **Please explain more fully why the model adjustments with respect to inter-tie capacity result in an understatement of benefits likely to be obtained from a tariff reduction.**

RESPONSE

3. a) The question is ambiguous. The question asks for a further explanation of a conclusion that was not made in the evidence.

On page 8, second full paragraph discusses how the benefits are understated, but that statement is tied directly to a reduction in the number of out-of-market actions taken to address SBG. The adjustment to reduce the intertie capacity is addressed in this section of the evidence at the bottom of page 7. That discussion speaks to the integrity of the analysis itself, not to whether it results in an overstatement or understatement of benefits.

The specific issue of how an artificial reduction of intertie capacity might affect benefits calculated in the CRA Report on a stand-alone basis was not evaluated.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #4

APPRO Evidence (Prepared by Marc-Andre Laurin (Brookfield Energy Marketing LP))

Ref.: APPRO Evidence (by Marc-André Laurin), page 1

4. a) **Does BEMLP participate in the IESO transmission rights (TR) market and does it currently hold TR? If yes, what payments has BMLP received from the IESO over the last 12 months (per the Evidence of Cliff Hamal, pages 3-4)?**

RESPONSE:

4. a) BEMLP participates in the IESO transmission rights (TR) market. BEMLP currently holds TRs.

With respect to payments received from the IESO, we would refer you to the following web link to access publicly available information regarding FTR auction results: <http://www.ieso.ca/imoweb/marketdata/marketData.asp>. BEMLP-specific payment information is not publicly available (TR participant-specific reports are only made available to TR participants who purchase TRs in the auction round via the IESO's secure web portal). Given the competitive nature of energy markets, this is highly sensitive commercial information. Traders use TRs to hedge against zonal price differences when trading across interties. The disclosure of such information could reasonably be expected to prejudice the competitive positions and financial interests of BEMLP, enabling competitors and other market participants to scrutinize its trading decisions. The OEB's Practice Direction on Confidential Filings recognizes that these are among the factors that the Board will take into consideration when addressing the confidentiality of filings.

It should be noted that BEMLP uses the IESO TR market to protect physical delivery on the intertie.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #5

APPRO Evidence (Prepared by Marc-Andre Laurin (Brookfield Energy Marketing LP))

Ref.: APPRO Evidence (by Marc-André Laurin), page 2

- 5. a) Please prepare a similar table for the most recent 12 months using actual market prices.**

RESPONSE:

5. a) This question is unclear. It asks for a table for the most recent 12 months using actual prices, and references the table on Page 2 of the Laurin evidence. The table referenced was an analysis of forward prices, using data as of September 26, 2012 and focusing on 2013, the first year in which the revised export tariff may be used. As such, the data is essentially the most recent data that was available at time of filing. The analysis was also based on actual prices—actual forward prices—which is consistent with the discussion provided in the evidence. The analysis could be repeated using more current data (from two weeks later), but we do not believe that is what was asked and it would be unusual to ask for evidence of this nature to be updated. If it were updated, significant changes are not expected.

If the question intended to request a comparison of actual hourly data over the past twelve months, this would require a very different analysis than was actually conducted. In completing such an analysis, one has to consider whether the hourly transactions in neighbouring markets would be conducted in the day ahead or real time markets, and how actual difficulties in achieving hourly sales in every hour might be addressed. Such analysis has not been completed and would not be consistent with the point addressed in the evidence.

Alternatively, it might have been intended that a similar analysis be conducted for the most recent 12 months, using forward market data. In that case a specific date in the past would have to be identified, because forward prices change routinely. That is, the forward prices for a full calendar year may change daily from when they are first traded up until that year actually starts and all such trades are locked in. It would also be noted that “the most recent 12 months” is ambiguous, as one could, for example, conduct that analysis with forward market data from October 16, 2011 for the full 2012 calendar year. Such analysis has not been completed.

We also note that the data required for either analysis is publicly available at the following link:

http://www.nyiso.com/public/markets_operations/market_data/pricing_data/index.jsp

<http://www.ieso.ca/imoweb/marketdata/marketData.asp>

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #6

APPRO Evidence (Prepared by Marc-Andre Laurin (Brookfield Energy Marketing LP))

Ref.: APPRO Evidence (by Marc-André Laurin), page 4

- 6. Please explain more fully why an increase in the ETS tariff would reduce the incentive to export especially in periods of surplus baseload generation.**

RESPONSE:

6. Please see response to Board Staff Interrogatory #1 on APPRO evidence prepared by Marc-André Laurin.

**ASSOCIATION OF POWER PRODUCERS OF ONTARIO (APPRO)
RESPONSES TO INTERROGATORIES FROM
VULNERABLE ENERGY CONSUMERS COALITION (VECC)**

INTERROGATORY #7

APPRO Evidence (Prepared by Marc-Andre Laurin (Brookfield Energy Marketing LP))

Ref.: APPRO Evidence (by Marc-André Laurin), page 1

7. a) As a Senior Trader (Ontario-Quebec), is Mr. Laurin familiar with the Hydro Québec's transmission tariffs for exports?
- b) If yes, what is the tariff (\$/MWh) for exports from Québec to Ontario and how does this compare with the transmission tariff (equivalent \$/MWh) Hydro Québec Transmission charges Hydro Québec Distribution?

RESPONSE

a) Yes

b) The tariff for exports from Québec to Ontario is currently \$8.16/MWh for hourly non-firm exports. The rate increases to \$11.25/MWh for Daily Firm service. To our knowledge, the transmission charges to Hydro-Québec Distribution are currently \$71.49/KW-year or \$8.16/MWh. Please use the following link to access the point-to-point tariff: http://www.oatioasis.com/HQT/HQTdocs/Tariff_2012-06-06_en.pdf.

It is important to understand that contrary to the ETS service in Ontario, the firm transmission tariff gives exporters the same level of priority for use of the system as Hydro-Quebec Distribution. As a result, it possible to sell export capacity from a generator located in Quebec into neighboring system.

It is also important to understand, that point-to-point tariff in Quebec can be different from the tariff paid by Hydro-Quebec Distribution.