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By electronic filing and by e-mail

September 14, 2010

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street
27th floor
Toronto, ON M4P 1E4

Dear Ms Walli,

Ontario Power Generation Inc. ("OPG")
2011-2012 Payment Amounts Application
Board File No.: EB-2010-0008
Our File No.: 339583-000064

We attach the Interrogatory Responses of Canadian Manufacturers & Exporters ("CME") to Interrogatories of Board Staff, and the Power Workers' Union ("PWU").

Yours very truly,



Peter C.P. Thompson, Q.C.

PCT\slc
enclosures

c. Barbara Reuber (OPG)
Intervenors EB-2010-0008
Paul Clipsham (CME)
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1 CME's evidence refers to the very significant increase in the total electricity bills that electricity
2 consumers have already experienced in 2010. We expect that the evidence at the hearing will
3 establish that, for many, the total bill increases in 2010 fall within the 15% to 20% range.

4 There are many external factors that have a material impact on the total electricity bill
5 consumers will face in 2011, 2012 and years beyond. These external factors include Ministerial
6 Directives related to the objectives of the *Green Energy and Green Economy Act* ("GEA"),
7 covering renewable generation and Conservation and Demand Management ("CDM") initiatives.
8 External factors that are reflected in OPG's five year Business Plans, from which the Payment
9 Amounts Application is derived, include the plans of the Ontario Power Authority ("OPA"), the
10 Independent Electricity System Operator ("IESO"), and the Minister of Energy ("MOE"). All of
11 these external factors are relevant to OPG's Application.

12 Having regard to the Board's obligation under the *Ontario Energy Board Act, 1998* (the "*OEB*
13 *Act*") to protect consumers with respect to electricity prices when carrying out its responsibilities
14 under the *Act*, a consideration by the Board of evidence of the total bill impacts customers are
15 experiencing and facing is both essential and mandatory because the "electricity prices" to
16 which the legislation refers are the total amounts in the bills electricity consumers receive. The
17 phrase "electricity prices" refers to the total of all components in the electricity bill and not just a
18 particular sub-component thereof. Before the Board can determine the extent to which it should
19 protect consumers with respect to electricity prices, it needs to consider the changes in
20 electricity prices that are likely to occur during the period for which it is being asked to set rates.
21 Accordingly, consideration of a total bill impact analysis of the type presented by CME is both
22 essential and mandatory.

23 CME's evidence, using a five year planning horizon to derive an estimate of the annualized total
24 bill increases, is analogous to OPG's use of a five year planning horizon to derive its plans that
25 form the basis for the application for Board approval of payment amounts for hydro-electric and
26 nuclear generation from prescribed assets in 2011 and 2012. The electricity price increases,
27 stemming from CME's adoption of the same five year planning horizon from which OPG's
28 application is derived, are annualized to provide a levelized estimate, including the years 2011
29 and 2012, of the total bill impacts that are likely to be experienced over the same five year
30 planning horizon OPG uses.

31 CME's total bill impact evidence is relevant and admissible, and it would be inappropriate for the
32 Board to exclude this evidence as OPG suggests.

33 **III. Reliance upon CME's Evidence at the Hearing**

34 At the hearing, counsel for CME plans to rely upon the CME evidence in the manner described
35 in the subsections below.

36 **(a) Cross-Examination of OPG's Witnesses**

37 CME's evidence pertaining to customer impacts will be used as a comparator in CME's cross-
38 examination of OPG's witnesses. We will be seeking to determine the precise nature of the
39 customer impact information that was considered by OPG in its five year planning process
40 leading to the plans initially considered for inclusion in the 2011 and 2012 Payment Amounts

1 Application. These initial plans were presented to stakeholders in late March and early April of
2 2010.

3 Using the CME evidence as a comparator, we will be seeking to determine the precise nature of
4 the customer impact information that OPG considered in May 2010 when revising the
5 application initially contemplated.

6 We also expect to be using the CME evidence as a comparator when cross-examining OPG
7 witnesses on the implied assertions in its evidence to the effect that no one engaged in the
8 integrated planning that is essential for achieving the government's policy objectives, including
9 the MOE, the OPA, IESO, OPG, Hydro One, and other large distributors, and/or the OEB, either
10 prepares or considers total bill impact analysis of the type CME presents.

11 (b) Deficiencies in OPG's Planning Processes

12 In argument, we expect to be relying upon the CME evidence to support a submission that
13 OPG's failure to prepare or consider, in its planning process, a total bill impact analysis of the
14 type CME presents is a material deficiency.

15 (c) Unreasonableness of Total 2011 and 2012 Spending and Deferral Account Balances

16 The CME evidence is relevant to the Board's consideration of the reasonableness of OPG's
17 total spending, as well as the reasonableness of particular line items of proposed spending. It
18 also has relevance to the deferral account balances OPG seeks to recover.

19 (i) Total Planned Spending is Unreasonable

20 We expect to be relying upon the CME evidence to support a submission that the revisions
21 made, in May 2010, to the 2011 and 2012 total spending plans were insufficient to bring total
22 spending and consequential revenue requirement and payment amount increases within the
23 bounds of reasonableness. We expect to rely on the CME evidence to submit that some further
24 "belt tightening" needs to be imposed by the Board.

25 (ii) Specific Line Items of Spending are Unreasonable

26 We also expect to be relying upon the total bill increases facing consumers as one of the factors
27 that should prompt the Board to refrain from approving, in full, various line item amounts
28 reflected in the 2011 and 2012 test year revenue requirements. For example, we expect to rely
29 upon the total bill impact evidence to support an argument that it would be inappropriate to
30 approve OPG's Customer Work in Progress ("CWIP") proposal at this time. While CME
31 supports the refurbishment of Ontario's nuclear facilities, it does not accept that OPG should be
32 made the beneficiary of an accelerated cost recovery mechanism in current circumstances.

33 After the oral hearing has concluded, we expect that there will be other line item amounts that
34 we will be suggesting should be scaled back having regard to a consideration of a number of
35 factors, including customer impacts and the spending discretion OPG can exercise.

1 (iii) Deferral Account Balances and Clearances

2 We also expect to rely on customer impacts, including the CME total bill impact analysis
3 evidence, as factors to be considered when determining the amounts of balances recorded in
4 deferral accounts that should be recoverable as riders to the payment amounts OPG asks the
5 Board to approve.

6 (d) The Board's Jurisdiction

7 The Board has a broad jurisdiction to determine whether all of OPG's planned spending is
8 reasonable and whether all or only a portion of amounts recorded in OPG deferral accounts are
9 recoverable as riders to the payment amounts OPG asks the Board to approve. To discharge
10 its statutory obligations under the *OEB Act*, pertaining to protecting consumers with respect to
11 electricity prices, the Board's consideration of customer impact evidence is essential. The
12 Board's jurisdiction to consider customer impact evidence is not constrained in the manner OPG
13 suggests in the Letter.

14 CME's evidence is relevant and admissible. The weight the Board ascribes to the evidence,
15 compared to the evidence OPG presents pertaining to bill impacts, is a matter for the Board to
16 determine at the conclusion of the proceeding and not before.

17 **IV. Summary and Conclusion**

18 Actions being taken by OPG's owner are currently having, and will continue to have, a
19 significant impact on the total bills electricity consumers receive. Estimates of the total bill
20 impacts of these actions are relevant to a consideration of OPG's application. The broad scope
21 of the Board's jurisdiction does not preclude the Board from considering CME's evidence, as
22 OPG contends.

23 If OPG regards the total annualized and levelized bill increase impacts that Mr. Sharp has
24 estimated for 2011 and 2012 to be inappropriately excessive, then it should submit pre-filed
25 reply evidence and then cross-examine Mr. Sharp on the analysis he prepared. At the moment,
26 the only "on the record" estimates of total bill impacts is contained in the analysis prepared by
27 Mr. Sharp.

1 **CME RESPONSE TO POWER WORKERS' UNION ("PWU") INTERROGATORY # 1**

2 **Question**

3 **Reference: Issue 1.3: Is the overall increase in 2011 and 2012 revenue requirement**
4 **reasonable given the overall bill impact on consumers?**

5 Ref (a): Evidence of Bruce Sharp from Aegent Energy Advisors Inc. ("Aegent") Page 5,
6 Paragraph 4 states:

7 **"Reference Spot Market Prices**

8 Based on the monthly behavior of HOEP and the GA over the last six to twelve months, we
9 estimate the current, total commodity price to be approximately \$ 65/MWh, comprised of
10 HOEP at \$ 38/MWh and the GA at \$ 27/MWh. For most of the new generation sources with
11 fixed-price contracts, we assume they will be paid \$ 38/MWh from the spot market and then
12 be "made whole" through payments funded through the GA. Solar and NUG projects are
13 the exception - as they produce energy during higher-priced daylight and on-peak hours.
14 We assume they will be paid \$ 48/MWh from the spot market, with the remainder funded
15 through the GA."

16 **Questions**

17 1. Please provide sensitivity analysis assuming that commencing in 2012 the HOEP rises
18 to:

19 a. \$45/MWh, assuming a reference spot price of

20 (i) \$45/MWh; and

21 (ii) \$55/MWh

22 b. \$50/MWh, assuming a reference spot price of

23 (i) \$50/MWh; and

24 (ii) \$60/MWh

25 **Response**

26 On page 5 of our report, we discussed commodity price assumptions, including the interaction
27 between HOEP and the Global Adjustment:

28 *"There is a clear interaction between the spot price of electricity and the GA.*
29 *When spot prices fall, the GA rises and vice versa. This occurs because the*
30 *government and its agencies have entered into electricity supply arrangements*
31 *that cover off a very large majority of Ontario electricity supply requirements.*
32 *The majority of these contracts included fixed prices (some with escalators).*
33 *With the huge amount of contracted generation coming in to service over the*

1 *next five years, virtually no new supply will be un-contracted and so this*
2 *interaction will become even stronger.*

3 *The dynamic is more complex than that but for the purposes of this analysis we*
4 *assume that the combination of HOEP and the GA are generally fixed. This*
5 *means that a lower spot price is offset by a correspondingly higher GA and vice*
6 *versa."*

7 This assumption renders moot any HOEP-related speculation. This means that relative to the
8 total commodity price starting point of \$ 65/MWh, the sum of the total commodity price starting
9 point plus the unit cost increase will be the same, regardless of the reference HOEP value used.
10 Put another way, the result or final price paid in 2015 will be the same.

1 **CME RESPONSE TO PWU INTERROGATORY # 2**

2 **Question**

3 **Issue 1.3: Is the overall increase in 2011 and 2012 revenue requirement reasonable**
4 **given the overall bill impact on consumers?**

5 Ref (a): Evidence of Bruce Sharp from Aegent, Page 5, Paragraph 6 states:

6 "One major assumption of note is the amount of FIT generation that will come into
7 service during the forecast period. For our analysis, we assume a total of 10,500
8 MW of FIT generation will come online by July 2015. This is comprised of 8,000
9 MW of FIT applications received by the OPA as of April 2010 and 2,500 MW of
10 Samsung wind and solar projects."

11 **Question**

12 With regard Feed-in Tariff applications, the Ontario Power Authority's states the following on
13 Ontario's Feed-in Tariff ("FIT") Program Backgrounder webpage:

14 [http://www.powerauthority.on.ca/Page.asp?PageID=122&ContentID=7136\)](http://www.powerauthority.on.ca/Page.asp?PageID=122&ContentID=7136)

15 "For these FIT projects, the Ontario Power Authority has estimated
16 that there is approximately 2,500 megawatts of available
17 transmission connection capacity. As of December 1, 2009 the
18 Ontario Power Authority received 1,022 FIT applications with
19 about 8,000 MW of potential electricity generation. This translates
20 into about three megawatts of potential generation for every
21 megawatt of connection capacity available."

- 22 1. Given the capacity constraints which could delay progress on FIT and possibly delay the
23 Samsung development, please provide a sensitivity analysis assuming only 5,000 MW of
24 FIT and 1,000 MW of Samsung capacity are in service by 2015. Please use your
25 current timing but prorate the data in your current analysis on the basis of 6/10.5 (the
26 ratio of the [5,000 MW + 1,000 MW] assumed for this PWU interrogatory compared to
27 Aegent's 10,500 MW) for each period included in Aegent's analysis.

28 **Response**

29 With Hydro One and others' planned and possible additional GEA-related wires investment, the
30 level of FIT development could be constrained at some level above 6,000 MW.

31 In answering this question, we modified FIT capacity additions in years 4 and 5, assumed
32 Samsung's 1,000 MW would be split 80% wind and 20% solar and that they would receive 40%
33 (1,000 / 2,500) of the estimated economic development adder. The end result is a modified
34 component cost increase of \$ 2,224 million, compared to the report value of \$ 3,848 million.
35 The modified component unit cost increase would be \$ 15.56/MWh, compared to the report
36 value of \$ 26.93/MWh.

CME RESPONSE TO PWU INTERROGATORY # 3

Question

Issue 1.3: Is the overall increase in 2011 and 2012 revenue requirement reasonable given the overall bill impact on consumers?

Ref (a): Evidence of Bruce Sharp from Aegent, Page 5, Paragraph 7 states:

“Using near-term IESO forecasts and similar escalation rates, we estimate that annual Ontario energy consumption will grow by 6.2 TWh between 2010 and 2015.”

Ref (b): Evidence of Bruce Sharp from Aegent, Page 6, Last Paragraph states:

“The following Ontario total annual energy consumption values were used. The 2011 value is the IESO’s most recent weather-normalized forecast. We used the same energy quantity for 2012 – 2015 as we believe that increased conservation and demand management efforts will offset load growth that would otherwise take place.”

Ref (c): Evidence of Bruce Sharp from Aegent, Page 6, Paragraph 1 states:

“That leaves an incremental surplus of at least 15 TWh.”

Questions

1. From these statements, it appears that you have assumed 6.2 TWh of conservation and demand management (“CDM”). Please confirm that this is the case. If so, please provide evidence to support this level of CDM. If not, how do you rationalize the above referenced statements?
2. Data in the August 2010 IESO 18-month outlook shows that demand in 2010 is expected to increase by 1.5% and in 2011 by 0.3%, including CDM (see IESO chart below).

Year	Normal Weather Annual Energy Usage (TWh)	% Growth in Energy
2006 Energy	152.3	-1.9%
2007 Energy	151.6	-0.5%
2008 Energy	148.9	-1.8%
2009 Energy	140.4	-5.7%
2010 Energy (Forecast)	142.6	1.5%
2011 Energy (Forecast)	142.9	0.3%

1 Please provide a sensitivity analysis assuming the annual electricity usage in the
2 table below, which represents a 1.5% annual growth:

2011	142.90
2012	145.04
2013	147.22
2014	149.43
2015	151.67

- 3 3. Please recalculate the surplus of 15 TWh in Ref (c) using the assumptions in the
4 tables provided in Question (2) above.
- 5 4. Given the IESO's projected increase in total demand, on what basis does
6 Aegent support holding demand constant and assuming growth would be offset
7 by CDM measures?

8 **Response**

9 **General**

10 The report statement concerning Ontario energy consumption growth of 6.2 TWh was an error.
11 The error in the report should be corrected by deleting the sentence quoted in Ref (a) of this
12 interrogatory. As stated on page 6 of our report, our view is that total Ontario energy
13 consumption will be "flat" over the analysis period, at 142.9 TWh. All statements and analysis
14 included in the **Incremental Surplus from New Generation** section of the report are consistent
15 with this view of flat load growth.

16 **Response Question 1**

17 See general statement above. We are not making any quantitative forecast of CDM
18 effectiveness.

19 **Response Question 2**

20 See general statement above. Using the total increase dollars of \$ 7,739 million to 2015 (page 6
21 of report) and the 2015 total Ontario energy consumption of 151.67 TWh presented in the
22 interrogatory, the modified HST-exclusive total unit cost increase would be \$ 51.02/MWh,
23 compared to the report value of \$ 54.15/MWh.

24 **Response Question 3**

25 See general statement above. Using the 2015 total Ontario energy consumption of 151.67 TWh
26 presented in the interrogatory, the modified surplus would be 6.23 TWh [15 – (151.67 –
27 142.90)], compared to the report value of 15 TWh (page 6 of report).

1 **Response Question 4**

2 The most recent IESO 18 Month Outlook identified economic recovery, demographic growth
3 and CDM as key factors. The IESO forecast flat demand and a very modest 2010 – 2011 total
4 Ontario energy consumption growth of 0.3 TWh. Our belief that energy consumption will remain
5 flat comes from a view that CDM efforts (and expenditures) will ramp up quickly and that rapidly
6 rising electricity costs will act as an incremental drag on economic recovery and contribute to
7 demand destruction. Also, all of the cost increase elements serving to drive the overall unit cost
8 increase will help to drive incremental CDM.

T4 - element = Bruce Power (existing) / bill area = Electricity (Provincial Benefit) – MODIFIED

comments

added during / to end of previous Aug10 - Jul11 Aug11 - Jul12 Aug12 - Jul13 Aug13 - Jul14 Aug14 - Jul15 76.18 2010 pricing as per OEB RPP Price Report from Apr10; escalated at 2 %

contract price by year, \$/MWh
nuclear

\$ 69.00 \$ 70.38 \$ 71.79 \$ 73.22 \$ 74.69 \$ 76.18
 \$ 38.00 \$ 38.00 \$ 38.00 \$ 38.00 \$ 38.00 \$ 38.00

reference spot market price, \$/MWh
nuclear

\$ 31.00 \$ 32.38 \$ 33.79 \$ 35.22 \$ 36.69 \$ 38.18

quantity, end-year, MW

Bruce A U3 710 710 710 710 710 710 750 less current output
 Bruce A U4 670 670 670 670 670 670
 total 1,380 1,380 1,380 1,380 1,380 1,380

energy quantity, MWh capacity factor

Bruce A U3 5,597,640 5,597,640 5,597,640 5,597,640 5,597,640 5,597,640 90%
 Bruce A U4 5,282,280 5,282,280 5,282,280 5,282,280 5,282,280 5,282,280 90%
 total 10,879,920 10,879,920 10,879,920 10,879,920 10,879,920 10,879,920

premium over spot, \$ million

Bruce A U3 \$ 173.53 \$ 181.25 \$ 189.13 \$ 197.17 \$ 205.37 \$ 213.73
 Bruce A U4 \$ 163.75 \$ 171.04 \$ 178.48 \$ 186.06 \$ 193.80 \$ 201.69
 total \$ 337 \$ 352 \$ 368 \$ 383 \$ 399 \$ 415

increase, \$ million

\$	15	\$	30	\$	46	\$	62	\$	78
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Ontario annual energy, TWh

142.9

increase, \$/MWh

\$ 0.55

1 **CME RESPONSE TO PWU INTERROGATORY # 7**

2 **Question**

3 **Issue 1.3: Is the overall increase in 2011 and 2012 revenue requirement reasonable**
4 **given the overall bill impact on consumers?**

5 Ref (a): Evidence of Bruce Sharp from Aegent, T5 Bruce Power (new).

6 **Question**

7 1. You have used a capacity factor of 85%. Please provide an updated T5 Bruce Power
8 (new) using a 90% capacity factor.

9 **Response**

10 Using a capacity factor of 90% for Bruce Power (new) for all years, the end result is a
11 modified component increase of \$ 488 million, compared to a report value of \$ 461
12 million. The new modified component unit costs increase is \$ 3.41/MWh, compared to
13 the report value of \$ 3.22/MWh. For more details, see revised table T5.

T5 - element = Bruce Power (new) / bill area = Electricity (Provincial Benefit) – MODIFIED

comments

added during / to end of	previous	Aug10 - Jul11	Aug11 - Jul12	Aug12 - Jul13	Aug13 - Jul14	Aug14 - Jul15	comments
contract price by year, \$/MWh	69.00 \$	70.38 \$	71.79 \$	73.22 \$	74.69 \$	76.18 \$	2010 pricing as per OEB RPP Price Report from Apr10; escalated at 2.5%

reference spot market price, \$/MWh	nuclear	38.00 \$	38.00 \$	38.00 \$	38.00 \$	38.00 \$	38.00
premium over spot market price, \$/MWh	nuclear	32.38 \$	33.79 \$	35.22 \$	36.69 \$	38.18	38.18

quantity added during year, MW	quantities as per OPA's 2010 Q1 report
Bruce A U1, 2	1,500
Bruce A U3	40
Bruce A U4	80
total	1,500

quantity, end-year, MW	quantities as per OPA's 2010 Q1 report
Bruce A U1, 2	1,500
Bruce A U3	40
Bruce A U4	80
total	1,620

energy quantity, MWh	capacity factor
Bruce A U1, 2	90%
Bruce A U3	90%
Bruce A U4	90%
total	

premium over spot, \$ million	Bruce A U1, 2	399.57 \$	416.55 \$	433.87 \$	451.54
	Bruce A U3	- \$	11.11 \$	11.57 \$	12.04
	Bruce A U4	- \$	- \$	23.14 \$	24.08
	total	400 \$	428 \$	469 \$	488

increase, \$ million	\$	-	\$	400	\$	428	\$	469	\$	488
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Ontario annual energy, TWh 142.9

increase, \$/MWh \$ 3.41

1 **CME RESPONSE TO PWU INTERROGATORY # 8**

2 **Question**

3 **Issue 1.3: Is the overall increase in 2011 and 2012 revenue requirement reasonable**
4 **given the overall bill impact on consumers?**

5 Ref (a): Ontario Energy Board Report, April 15, 2010, Regulated Price Plan Price Report
6 May 1, 2010 to April 30, 2011, Prepared by Navigant ("Navigant Study").

7 **Question**

8 1. The Navigant Study shows a total price of HOEP and Global Adjustment greater than
9 \$65/MWh. Please provide a sensitivity analysis with the total price at:

10 a. \$70/MWh; and,

11 b. \$75/MWh.

12 **Response**

13 We disagree with the statement that the Navigant study shows a total price of HOEP and Global
14 Adjustment greater than \$ 65/MWh.

15 In the Ontario electricity market, HOEP refers to an hourly price or the arithmetic average of a
16 range of hourly prices. In the Navigant study (pages iii, 5 and 16), they forecast HOEP of \$
17 36.66/MWh and a Global Adjustment of \$ 27.72/MWh. This total of \$ 64.38/MWh is slightly
18 below our assumption of \$ 65/MWh. Because of the HOEP-GA interaction discussed on page 5
19 of our report and in the response to PWU Interrogatory #1, changing the HOEP + GA
20 assumption would not affect the final price paid in 2015.