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Our File # 339583-000238

By electronic filing

October 3, 2016

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

Dear Ms. Walli

**Re: Ontario Power Generation Inc. ("OPG")
2017-2021 Payment Amounts Application**
Board File #: EB-2016-0152

We are writing on behalf of Canadian Manufacturers & Exporters ("CME"). We attach our Interrogatories in this matter.

We wish to thank Board Staff for undertaking a comprehensive analysis of the Application and their preparation of very in-depth Interrogatories. We have made best efforts to not duplicate Board Staff's Interrogatories.

Yours very truly

A handwritten signature in blue ink, appearing to be 'V. DeRose', with a long, sweeping horizontal line extending to the right.

Vincent J. DeRose

enclosure

c. Barbara Reuber and Carlton Mathias(OPG)
Charles Keizer (Torys)
Paul Clipsham and Ian Shaw

OTT01: 7867403: v1

ONTARIO ENERGY BOARD

Ontario Power Generation Inc.

**Application for payment amounts for the period
from January 1, 2017 to December 31, 2021**

**INTERROGATORIES OF
CANADIAN MANUFACTURERS & EXPORTERS ("CME")
TO ONTARIO POWER GENERATION INC. ("OPG")**

CME 1

Ref: Exhibit A1, Tab 3, Schedule 1, page 1 of 2

In reference to the Darlington Refurbishment Project ("RDP"), OPG cites the Conference Board of Canada as stating that construction phase alone is expected to generate \$14.9 billion in economic benefits to Ontario. Furthermore, the Conference Board of Canada is also cited as confirming that, at its peak, refurbishment will create 11,700 jobs per year, with an average of 8,800 annually between 2014 and 2023, and it is also expected to increase household revenues in Ontario by \$8.5 billion.

As OPG may be aware, CME has historically been interested the economic benefits of nuclear refurbishment. In July 2010, CME issued a report entitled "The Economic Benefits of Refurbishing and Operating Ontario's Nuclear Reactors".

CME wishes to better understand OPG's current understanding of those economic benefits. To this end, please provide the following:

- (a) A copy of the report or presentation from the Conference Board of Canada which sets out the economic benefits cited by OPG;
- (b) OPG's estimate of the annual direct employment of the refurbishment program from the years 2017 to 2024;
- (c) All economic impact analysis in the possession of OPG that quantify the aggregate economic activity in Ontario as a result of the refurbishment program;
- (d) To the extent that OPG is in possession of information with respect to the secondary benefits of refurbishment during the period of 2017 to 2024, please provide that information.
- (e) To the greatest extent possible, please set out the annualized direct employment in Ontario as a result of refurbishment, and, if possible, set out the disaggregate amount of employees that would be outside of Ontario;
- (f) An estimate of the labour income associated with that employment;
- (g) An estimate of the annual benefit for Ontario equipment, materials and supplies related to refurbishment; and

- (h) To the extent that OPG is capable of providing the direct impact and secondary impact of Ontario employment, labour income and equipment, materials and supplies, please set that out.

CME 2

Ref: Exhibit A1, Tab 3, Schedule 1, page 5 of 12

OPG proposes a comprehensive IR framework for the company's hydroelectric assets based on a price cap index that is "closely modelled" on the 4th Generation Incentive Rate-setting Method ("4GIRM") in the Renewed Regulatory Framework for Electricity Distributors ("RRFE"). CME would like to better understand all of the differences between OPG's proposed IR framework and the existing 4GIRM. Please identify all elements of the comprehensive IR framework proposed by OPG that are different from the 4GIRM with an explanation as to why OPG has elected to propose different framework elements.

CME 3

Ref: Exhibit A1, Tab 3, Schedule 1, page 6 of 12

OPG proposes to apply the stretch factor to approximately \$1.7 billion, or approximately 75% of OPG's total nuclear OM&A in each year of the application. Please explain why the stretch factor is being applied to only 75% of OPG's total nuclear OM&A, and not to 100% of OPG's total nuclear OM&A in each year of the application.

CME 4

Ref: Exhibit A1, Tab 3, Schedule 2, page 4 of 54

OPG states that following consultation with stakeholders, it made a number of changes to the planned application. CME wishes to better understand the drivers for the changes, as well as to better understand whether any of the changes were the result of input received from stakeholders at the information sessions. In this regard, please provide the following information:

- (a) For each of the six (6) changes set out at Exhibit A1, Tab 3, Schedule 2, pages 4 to 5 of 54, please provide a detailed explanation as to why the changes were made;
- (b) For each of those six (6) changes, please confirm whether the proposed changes were as a result of information or feedback received by stakeholders at the information sessions. If they were, please provide a detailed explanation of the stakeholder feedback which resulted in the changes; and
- (c) Please provide all internal memoranda, PowerPoints, emails or other written documents relating to the six (6) changes to the planned application which were presented either to senior management, or by senior management to OPG's Board of Directors.

CME 5

Ref: Exhibit A1, Tab 3

On September 6, 2016, the province of Ontario announced that it is implementing a new framework for broader public sector executive compensation, including capping salary and performance related payments. That framework regulation came into force on September 6, 2016, and applies to all designated employers under the Broader Public Sector Executive Compensation Act, 2014. The framework capped salary and performance related payments for designated executives at no more than 50 percentile of appropriate comparators and prohibit signing bonuses, retention bonuses, cash housing allowances and pay in lieu of perquisites. CME further understands that this framework applies to OPG. Please provide the following information with respect to this compensation framework:

- (a) Please confirm that OPG agrees that the framework regulation that came into force on September 6, 2016, applies to OPG;
- (b) Does OPG believe that this new framework for broader public sector executive compensation has any impact on this application? If so, please set out all of the elements of the application which are affected; and
- (c) Did the incentive regulation framework as proposed by OPG contemplate increases in executive compensation at the time that the application was filed? If so, please provide the anticipated increases in executive compensation over the proposed IR term and explain how that is consistent with the new framework.

CME 6

Ref: Exhibit A1, Tab 3, Schedule 2, pages 22 and 23 of 54

OPG has set the proposed hydroelectric stretch factor based on the company's performance on Partial Function Cost. While the Partial Function Cost is effectively at the median for the hydroelectric generation industry, the Total Function Cost is not. In this regard, the median for Total Function Cost is 318 while OPG's regulated hydroelectric Total Function Cost is 527. Please explain why OPG did not propose a hydroelectric stretch factor based on the company's performance on the Total Function Cost rather than the Partial Function Cost.

Furthermore, had OPG set the proposed hydroelectric stretch factor based on the company's performance on Total Function Cost instead of Partial Function Cost, what would the resulting stretch factor have been?

CME 7

Ref: Exhibit A1, Tab 3, Schedule 2, page 24 of 54

OPG states that it has developed a Custom IR framework that is based on the principles set out in the RRFE, the OEB's prior guidance on incentive ratemaking, and on stakeholder feedback. Please provide a list of the "OEB's prior guidance on incentive ratemaking" that has been relied upon by OPG in developing its proposed Custom IR framework.

In this regard, OPG states that the nuclear Custom IR framework has been informed by various sources including the OEB's 2012/2013 consultation on incentive rate-making at OPG, and also "prior OEB decisions". Please provide a list of the "prior OEB decisions" that OPG has relied upon, and any other OEB information generically included in the phrase "OEB's prior guidance on incentive ratemaking".

CME 8

Ref: Exhibit A1, Tab 3, Schedule 2, page 28 of 54

OPG proposes to apply benchmark-based stretch factor to revenue requirement attributable only to the company's nuclear Base OM&A and allocated corporate support services OM&A. Please explain why the proposed stretch factor applies only to these two (2) elements of OPG's OM&A and not all of OPG's OM&A.

CME 9

Ref: Exhibit A1, Tab 3, Schedule 2, page 33 of 54, Chart 10 – Stretch Reduction Amounts

Chart 10 – Stretch Reduction Amounts shows the product of applying the 0.3% stretch factor to Base OM&A and allocated Corporate Support OM&A. Please re-create Chart 10 as follows:

- (a) Replace the stretch factor of 0.3% with a stretch factor of 0.6%; and
- (b) Please apply a stretch factor of 0.3% and 0.6% to OPG's total OM&A instead of just the Base and Corporate Support OM&A.

CME 10

Ref: Exhibit A1, Tab 3, Schedule 2, page 33 of 54

OPG states that it is not proposing a nuclear industry productivity factor because the nature and scale of capital work planned for the IR period would make past productivity trends an unreasonable indicator of predicted productivity for OPG during the IR period. In order for CME to better understand OPG's anticipated productivity during the IR term, please provide the following information:

- (a) Does OPG believe that it will achieve any productivity gains during the IR period? If yes, please set out the anticipated productivity gains. If no, please explain why OPG believes that it will not achieve any productivity for the period 2018 to 2021;
- (b) If OPG believes that it will not achieve any productivity gains during the proposed IR term, does OPG agree that this is a reason not to adopt incentive regulation concurrent with the capital work planned for the IR period? Specifically, does OPG believe that this is a reason to consider continuing with cost of service ratemaking instead of incentive regulation? If not, please explain;
- (c) Is OPG aware of the Board approving an incentive regulation mechanism for any regulated utility in Ontario that does not include a productivity factor? If yes, please identify the utility and the Board's corresponding decision; and

- (d) Is OPG aware of any regulator in North America approving an incentive regulation mechanism which does not include a productivity factor? If yes, please identify the utility and the regulator, as well as the decision reference.

CME 11

Ref: Exhibit A1, Tab 3, Schedule 3, pages 7 and 8 of 14

At Chart 3, entitled "Smoothing Alternatives – Outcomes", OPG provides a summary of the outcomes from a range of rate Smoothing Alternatives. For each alternative, OPG has provided the approximate peak RSDA account balance, an estimate of the total interest accumulated in the RSDA to the end of the recovery period, projected credit metrics during the deferral period, the rate change both in \$/MWh and percentage terms on transition to the steady state rate following the recovery period (i.e., approximately \$120/MWh), and an estimated average monthly customer bill impact over the full deferral and recovery periods. CME wishes to better understand the proposed Smoothing Alternatives:

- (a) For the Smoothing Alternatives, incorporating 12%, 11% and 10% rate increases between 2017 to 2026, results in rate decreases for the 2027 to 2015 rate period. Does this mean that for these 3 scenarios, OPG will be over-recovering during the period 2017 to 2026? If so, please explain why OPG would implement a smoothing mechanism that over-recovers, rather than no longer implementing a smoothing mechanism once full recovery has been achieved;
- (b) OPG has used \$120/MWh as the steady state rate following the recovery period. Please explain how OPG has determined that the steady state rate should be \$120/MWh.

CME 12

Ref: Exhibit A2, Tab 2, Schedule 1, page 1 of 10

CME wishes to better understand OPG's business planning and budgeting process that unpins this application. To this end:

- (a) Please provide all presentations, PowerPoint slides, briefing notes or other written memoranda prepared by the business units developing their business plans and presented to OPG's senior management;
- (b) Please provide all written questions, comments or directions provided by OPG's senior management to OPG's business units relating to any presentations, PowerPoint slides, briefing notes, other written memoranda or draft business plans;
- (c) Please provide all presentations, PowerPoint slides, briefing notes, or other written memoranda prepared by OPG for OPG's Board of Directors relating to the business planning and budgeting process, including draft corporate level consolidated information, summarized financial plans, operational targets, and key initiatives for OPG's major business units;

- (d) Please provide all written questions, comments or directions provided by OPG's Board of Directors to OPG relating to the information set out in (c) above.

Nuclear Capital Projects and DRP

CME 13

Ref: Exhibit D2, Tab 1, Schedule 1, pages 5-6

In 2012, OPG entered into Extended Services Mater Services Agreements (ESMSA's) with two vendors to provide engineering, procurement and construction services. OPG indicates that using Extended Services Mater Services Agreements to undertake major Facilities and Infrastructure projects highlighted weaknesses in project oversight and to contractor issues related to planning, scope, cost estimating, subcontractor management and risk management. OPG has work categorized as "Balance of Plant" under OPG's ESMSA.

- (a) Please provide a brief summary of any amendments to the ESMSA have been made to address the contractor issues identified in relation to the construction of facilities and infrastructure projects such as the D2O Storage Facility and the Auxiliary Heating System projects?
- (b) Are the vendors who are contracted to undertake the "Balance of Plant" work required in connection with the DRP the same vendors who undertook the D2O Storage Facility and the Auxiliary Heating System projects?
- (c) Did OPG successfully exercise any of its contractual remedies under the ESMSA against its vendors in response to contractor issues arising in connection with the delivery of the D2O Storage Facility or the Auxiliary Heating System projects. If so, please provide details.

CME 14

Ref: Exhibit D2, Tab 2, Schedule 1, pages 2-3

OPG states that it has a high level of confidence in the DRP Cost Estimate of \$12.8 Billion:

- (a) Is the \$12.8 Billion in 2016 dollars? If not, what is the estimated cost of the DRP in 2016 dollars?
- (b) Please confirm that the DRP cost estimates contained in OPG application use a consistent base year for describing cost estimates. If not, please explain where and why the base year differs.

CME 15

Ref: Exhibit D2, Tab 2, Schedule 1, Attachment 5

In Chart A-1, OPG outlines the actual costs related to the environmental studies, monitoring and adaptive management projects required by the Darlington Refurbishment Program EA and follow-up program:

- (a) Please expand the chart to include the projected cost of each of the EA Follow-up Studies and Environmental Monitoring Studies;
- (b) Where in the application are the total EA costs for the DRP provided (excluding costs associated with adaptive management programs which we understand are currently not known)? If they are not provided, please provide them.
- (c) Is OPG able to provide any estimates as to the potential costs of adaptive monitoring which may be required in connection with the DRP.

CME 16

Ref: Exhibit D2, Tab 2, Schedule 3

OPG states that it has developed the DRP in accordance with recommendations from the Project Management Institute. Did OPG refer to specific guidelines or reports prepared by PMI? If so, please provide copies of these guidelines or reports

CME 17

Ref: Exhibit D2, Tab 2, Schedule 8

OPG provides a detailed cost break down of release quality estimate (RQE) components of the DRP. The RQE total cost attributed to "Balance of Plant" is \$967 Million. The presentation materials at pg. 12 list a contract value of \$783 Million for "Balance of Plant."

- (a) Please explain the discrepancy.
- (b) Is OPG undertaking \$184 Million of work associated with "Balance of Plant" outside of the ESMSA? If so, who is undertaking the work?

CME 18

Ref: Exhibit D2, Tab 2, Schedule 8, Attachment 1

At page 15 of the power point presentation which OPG provided in advance of the untranscribed Technical Conference which took place in these proceedings on September 23, 2016, OPG notes that it conducted a vetting process to establish the cost of work estimate for the DRP which included "comparisons to benchmarks" and benchmarking "information from other refurbishments." The Appendix C to the Darlington Refurbishment Business Case Summary refers at page 28 to "benchmarking ... against publicly available costs of other CANDU refurbishment projects at Pt. Lepreau and the Bruce 1 & 2 Units.":

- (a) Are Pt. Lepreau and Bruce 1 & 2 the only nuclear refurbishments that OPG benchmarked its cost estimates against? If not, what other refurbishments were considered for this purpose?
- (b) Please provide the information that was used to conduct the benchmarking exercise?
- (c) Please describe any adjustments which were made to the information in order to effect the costs comparison;
- (d) Please provide the results of the benchmarking exercise?
- (e) Did the benchmarking exercise cause OPG to increase or decrease any of its costs estimates? If so, please provide particulars. If not, why not?

CME 19

Ref: Exhibit D2, Tab 2, Schedule 2 at Attachment 1

In September of 2013, Concentric Energy Advisors produced a report titled "Assessment of Commercial Strategies Developed for the Overall Darlington Refurbishment Project and the Retube & Feeder Replacement Work Program. This report was filed in OPG's 2014 -2015 rates application. Has Concentric provided any update to its report?

CME 20

Ref: Exhibit D2, Tab 2, Schedule 2 at Attachment 1, page 8 of 16

According to Concentric, one the significant advantages of the "multi-prime" contracting strategy that OPG has adopted for key aspects of the DRP, including the Retube and Feeder Replacement Project, is that it will provide OPG with the ability to transfer work between major vendors if such a transfer promotes efficiency and value for money.

- (a) Do the contracts that OPG has entered into with the SNC/AECON Joint Venture preserve an ability to transfer components of the work to other vendors?
- (b) To the extent that the contracts with SNC/AECON preserve the ability to transfer work to another vendor, who would that work be transferred to?
- (c) Please provide an example of a scenario where OPG might transfer work.

CME 21

Ref: Exhibit D2, Tab 2, Schedule 7

This exhibit describes the total DRP contingency of \$1.7B and confirms that contingency amounts are expected to be expended because there are risk items and uncertainties that will occur and cannot be entirely mitigated or avoided. A contingency amount of \$694.1M is attributed to Unit 2 which is expected to come into service during the test period. OPG proposes that the variance between actual costs and firm commitments and those forecast costs and firm

financial commitment underpinning the 2017-2021 annual nuclear revenue requirement be recorded in the Capacity Refurbishment Variance Account (CRVA):

- (a) Please confirm that to the extent that the whole of the \$694.1M contingency for Unit 2 is spent, this entire amount will be recorded in the CRVA;
- (b) Will detailed explanations for the expenditure of contingency be included in the annual reporting that OPG proposes to provide with respect to the DRP?