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November 25, 2016

## RESS & OVERNIGHT COURIER

Ms. Kirsten Walli  
Board Secretary  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street, 27th Floor  
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: EB-2016-0152 - Ontario Power Generation Inc. ("OPG") Application for Payment Amounts (the "Application"):**  
– Confidential Treatment of L-04.3-7 ED 004; and  
– Withdrawal of a Request for Permanent Redaction re Attachment 1 to JT2.1

In accordance with OPG's letter dated November 14, 2016 (Inadvertent Disclosure), OPG hereby files a non-confidential version of Attachment 1 to L-4.3-7 ED-004. In addition, pursuant to Rule 10 of the Ontario Energy Board's *Rules of Practice and Procedure* and section 5.3 of the OEB's *Practice Direction on Confidential Filings*, OPG hereby requests (afresh) confidential treatment for the redacted portions of the Attachment to that interrogatory response.

With the hard copy of this letter, OPG has included a non-confidential, redacted version of the interrogatory response in **Attachment 'A'** and a confidential unredacted version in **Attachment 'B'**. For the electronic copy of this letter, filed through the RESS, only this letter and the non-confidential attachments are included.

As requested by the OEB in Procedural Order No. 3, OPG has included the specific locations of the proposed redactions and the reasons for each request in a table below.

| Location of Confidential Information   | Reason(s) for Confidentiality Request   |
|--|---|
| <ul style="list-style-type: none"><li>Information redacted in major category "Steam Generators"</li><li>Information redacted in Note 7</li></ul> | This information has been claimed as confidential by Candu Energy Inc. in its submissions to the OEB in this proceeding. In its submission on confidentiality dated November 11, 2016, OPG has stated that in respect of OPG's own commercial sensitivities, OPG is not seeking confidential protection of the subject information. |
| <ul style="list-style-type: none"><li>All other redactions in table.</li><li>Information redacted in Note 8.</li></ul>                           | This information has been claimed as confidential by the SNC/Aecon JV in its submissions to the OEB in this proceeding. In  |

| Location of Confidential Information | Reason(s) for Confidentiality Request   |
|--------------------------------------|---|
|                                      | its submission on confidentiality dated November 11, 2016, OPG has stated that in respect of OPG's own commercial sensitivities, OPG is not seeking confidential protection of the subject information. |

OPG will provide each intervenor that signs or has already signed a Declaration and Undertaking in the prescribed form and files or has filed it with the Board a copy of the confidential materials that are included in Attachment B.

On a final determination, should the OEB grant OPG's request for confidentiality, OPG proposes that the OEB order the confidential information to be disclosed, subject to any conditions the OEB may find appropriate, to only those persons that by then have signed, or that subsequently sign, a Declaration and Undertaking in the prescribed form in this proceeding.

In addition, consistent with section 6.2 of the Practice Direction, OPG requests that during oral proceedings any reference to information, which the Board has determined to be confidential, be conducted *in camera* so as to preserve its confidential nature.

In the event that the confidentiality request is refused, in whole or in part, and OPG in turn requests that some or all of the information that is the subject of this request be withdrawn in accordance with section 5.1.12 of the Practice Direction, all persons in possession of the said information will be required to promptly destroy or return the information to the OEB Secretary for destruction.

#### **Attachment 1 to Undertaking Response JT2.1**

On November 21, 2016, OPG wrote to the OEB and made a request for permanent redactions to a part of Attachment 1 of undertaking response JT2.1, being the Minister of Energy's letter of concurrence with the OPG 2016 – 2018 Business Plan. At the time of the November 21<sup>st</sup> submission, the subject information was not publically disclosed and OPG needed to make provision to protect this information. Subsequently, OPG has publically released this information publically and it no longer needs protection. OPG has included a public copy of this document in Attachment A.

Respectfully submitted,

[Original signed by]

Barbara Reuber

cc: Carlton D. Mathias (OPG) via email  
Charles Keizer (Torys) via email  
Crawford Smith (Torys) via email

**ATTACHMENT 'A'**

**Non-Confidential Documents**

| <b>Exhibit</b>  | <b>Attachment</b> |
|-----------------|-------------------|
| L-04.3-7 ED 004 | Attachment 1      |
| JT2.1           | Attachment 1      |

Attachment to L-04.3-7 ED-004 (includes summary calculations for L-04.3-7 ED-003)  
Cost Overrun Scenarios

2015\$M (except for Interest and Escalation line item)

|                             |   |  | ED-004                 |                 |                      |               |                    | ED-003                             |
|-----------------------------|---|--|------------------------|-----------------|----------------------|---------------|--------------------|------------------------------------|
|                             |   |  | 1.25                   | 25% Cost Growth |                      |               |                    |                                    |
| Major Category              | Category/ Contract Type                             | RQE Base Case  | Base cost + % Increase | Cost Variance   | Impact to Contractor | Impact to OPG | Actual Cost to OPG | Proportion of Increase paid by OPG |
| Retube Feeder Replacement   | OPG Project Management & Oversight Costs            | 167  | 209                    | 42              |                      | 42            | 209                | 67%                                |
|                             | Contractor Costs                                    | Definition Phase Target Price (Incl RWPB)                | 231                    | 46              | 0                    | 46            | 231                |                                    |
|                             |   | Definition Phase Fixed Fee                               | 92                     | 18              | 18                   | 0             | 74                 |                                    |
|                             |   | Definition Phase Fixed Fee Incentive/ Disincentive       |                        |                 | 9                    | (9)           | (9)                |                                    |
|                             |   | Execution Phase Target Price                             | 2,084                  | 417             | 0                    | 417           | 2,084              |                                    |
|                             |   | Execution Phase Fixed Fee                                | 615                    | 123             | 123                  | 0             | 492                |                                    |
|                             |   | Execution Phase Fixed Fee Incentive/ Disincentive        |                        |                 | 68                   | (68)          | (68)               |                                    |
|                             |   | Mock-up Fixed Price                                      | 48                     | 10              | 10                   | 0             | 38                 |                                    |
|                             |   | Non-target Reimbursable Costs                            | 8                      | 2               | 0                    | 2             | 8                  |                                    |
|                             |   | Tooling Fixed Price                                      | 469                    | 94              | 94                   | 0             | 375                |                                    |
|                             |   | OSM with Fee(estimate)                                   | 724                    | 145             | 0                    | 145           | 724                |                                    |
|                             |   | Goods with Fee(estimate)                                 | 60                     | 12              | 0                    | 12            | 60                 |                                    |
| Fuel Handling/ Defueling    | OPG Project Management & Oversight Costs            | 49   | 61                     | 12              |                      | 12            | 61                 | 67%                                |
|                             | Cont. Costs   | Defueling - Eng Services (Fixed/Firm Price)              | 20                     | 4               | 4                    | 0             | 16                 |                                    |
|                             |   | Defueling - Eng Services (Misc Reimbursable)             | 9                      | 2               | 0                    | 2             | 9                  |                                    |
|                             |   | Fuel Handling (ESMSA - see assumptions)                  | 157                    | 31              |                      |               |                    |                                    |
| Steam Generators            | OPG Project Management & Oversight Costs            | 13   | 16                     | 3               |                      | 3             | 16                 |                                    |
|                             | Contractor Costs                                    |  |                        |                 |                      |               |                    |                                    |
| Turbine Generator           | OPG Project Management & Oversight Costs            | 41   | 51                     | 10              |                      | 10            | 51                 |                                    |
|                             | Contractor Costs                                    | ESES - Fixed/ Firm Cost - Equipment Supply               | 321                    | 64              | 64                   | 0             | 257                |                                    |
|                             |   | ESES - Target Cost - Installation & Static Commissioning | 48                     | 10              | 0                    | 10            | 48                 |                                    |
|                             |   | ESES - Target Cost - Incentive/ Disincentive             |                        |                 | 5                    | (5)           | (5)                |                                    |
|                             |   | ESES - Target Cost - Dynamic Commissioning               | 17                     | 3               | 0                    | 3             | 17                 |                                    |
|                             |   | ESES - Target Cost - Incentive/ Disincentive             |                        |                 | 2                    | (2)           | (2)                |                                    |
|                             |   | ESES - Reimbursable (no markup)                          | 35                     | 7               | 0                    | 7             | 35                 |                                    |
|                             |   | EPC - Definition Phase Target Cost                       | 27                     | 5               | 0                    | 5             | 27                 |                                    |
|                             |   | EPC - Definition Phase Fixed Fee                         | 16                     | 3               | 3                    | 0             | 13                 |                                    |
|                             |   | EPC - Definition Phase Fixed Fee Incentive/ Disincentive |                        |                 | 1                    | (1)           | (1)                |                                    |
|                             |   | EPC - Execution Phase Target Cost                        | 202                    | 40              | 0                    | 40            | 202                |                                    |
|                             |   | EPC - Execution Phase Fixed Fee                          | 66                     | 13              | 13                   | 0             | 53                 |                                    |
|                             |   | EPC - Execution Phase Fixed Fee Incentive/ Disincentive  |                        |                 | 7                    | (7)           | (7)                |                                    |
|                             |   | EPC - Dynamic Commissioning Work (Trades)                | 3                      | 1               | 0                    | 1             | 3                  |                                    |
|                             |   | EPC - Goods  | 6                      | 1               | 0                    | 1             | 6                  |                                    |
|                             |   | EPC - Reimbursable Costs with no-markup                  | 14                     | 3               | 0                    | 3             | 14                 |                                    |
| Balance of Plant            | OPG Project Management & Oversight Costs            | 183  | 229                    | 46              |                      | 46            | 229                | 67%                                |
|                             | Contractor Costs (mainly ESMSA)                     | 784  | 980                    | 196             |                      |               |                    |                                    |
| F&IP & SIO Projects         | Facility and Infrastructure Projects (mainly ESMSA) | 640  | 800                    | 160             |                      |               |                    |                                    |
|                             | Safety Improvement Opportunities (mainly ESMSA)     | 205  | 256                    | 51              |                      |               |                    |                                    |
| Functions                   | Project Execution                                   | 322  | 402                    | 80              |                      | 80            | 402                |                                    |
|                             | Contract Management                                 | 52   | 65                     | 13              |                      | 13            | 65                 |                                    |
|                             | Engineering   | 283  | 353                    | 71              |                      | 71            | 353                |                                    |
|                             | Managed Systems Oversight                           | 41   | 51                     | 10              |                      | 10            | 51                 |                                    |
|                             | Planning & Controls                                 | 136  | 170                    | 34              |                      | 34            | 170                |                                    |
|                             | Nuclear Safety                                      | 83   | 104                    | 21              |                      | 21            | 104                |                                    |
|                             | Program Fees & Other Support                        | 341  | 426                    | 85              |                      | 85            | 426                |                                    |
|                             | Supply Chain  | 86   | 107                    | 21              |                      | 21            | 107                |                                    |
|                             | Work Control  | 80   | 99                     | 20              |                      | 20            | 99                 |                                    |
|                             | Operations and Maintenance                          | 805  | 1,006                  | 201             |                      | 201           | 1,006              |                                    |
|                             | Early Release 3                                     | 102  | 127                    | 25              |                      | 25            | 127                |                                    |
|                             | Early Release 4                                     | 7  | 9                      | 2               |                      | 2             | 9                  |                                    |
| Contingency                 |   | 1,706  | 1,706                  | 0               |                      | 0             | 1,706              | N/A                                |
| Sub Total                   |   | 10,429   | 12,611                 | 2,181           | 465                  | 1,716         | 12,138             |                                    |
| Interest & Escalation (\$M) |   | 2,371  | 2,866                  | 496             |                      | 496           | 2,866              | 100%                               |
| Total                       |   | 12,800   | 15,477                 | 2,677           | 465                  | 2,212         | 15,004             | 82%                                |

|                        |               |                      | ED-004        |                   |                                    |  |  | ED-003 |
|------------------------|---------------|----------------------|---------------|-------------------|------------------------------------|--|--|--------|
|                        |               |                      | 2             | 100% Cost Growth  |                                    |  |  |        |
| Base cost + % Increase | Cost Variance | Impact to Contractor | Impact to OPG | Actual Cos to OPG | Proportion of Increase paid by OPG |  |  |        |
| 334                    | 167           |                      | 167           | 334               | 68%                                |  |  |        |
| 370                    | 185           | 0                    | 185           | 370               |                                    |  |  |        |
| 147                    | 74            | 74                   | 0             | 74                |                                    |  |  |        |
|                        |               | 35                   | (35)          | (35)              |                                    |  |  |        |
| 3,334                  | 1,667         | 0                    | 1,667         | 3,334             |                                    |  |  |        |
| 984                    | 492           | 492                  | 0             | 492               |                                    |  |  |        |
|                        |               | 236                  | (236)         | (236)             |                                    |  |  |        |
| 76                     | 38            | 38                   | 0             | 38                |                                    |  |  |        |
| 12                     | 6             | 0                    | 6             | 12                |                                    |  |  |        |
| 750                    | 375           | 375                  | 0             | 375               |                                    |  |  |        |
| 1,158                  | 579           | 0                    | 579           | 1,158             |                                    |  |  |        |
| 96                     | 48            | 0                    | 48            | 96                |                                    |  |  |        |
| 98                     | 49            |                      | 49            | 98                |                                    |  |  |        |
| 32                     | 16            | 16                   | 0             | 16                |                                    |  |  |        |
| 14                     | 7             | 0                    | 7             | 14                |                                    |  |  |        |
| 252                    | 126           |                      |               |                   |                                    |  |  |        |
| 26                     | 13            |                      | 13            | 26                |                                    |  |  |        |
|                        |               |                      |               |                   | 68%                                |  |  |        |
| 82                     | 41            |                      | 41            | 82                |                                    |  |  |        |
| 513                    | 257           | 257                  | 0             | 257               |                                    |  |  |        |
| 77                     | 38            | 0                    | 38            | 77                |                                    |  |  |        |
|                        |               | 19                   | (19)          | (19)              |                                    |  |  |        |
| 28                     | 14            | 0                    | 14            | 28                |                                    |  |  |        |
|                        |               | 7                    | (7)           | (7)               |                                    |  |  |        |
| 56                     | 28            | 0                    | 28            | 56                |                                    |  |  |        |
| 43                     | 21            | 0                    | 21            | 43                |                                    |  |  |        |
| 26                     | 13            | 13                   | 0             | 13                |                                    |  |  |        |
|                        |               | 4                    | (4)           | (4)               |                                    |  |  |        |
| 323                    | 161           | 0                    | 161           | 323               |                                    |  |  |        |
| 106                    | 53            | 53                   | 0             | 53                |                                    |  |  |        |
|                        |               | 25                   | (25)          | (25)              |                                    |  |  |        |
| 5                      | 2             | 0                    | 2             | 5                 |                                    |  |  |        |
| 10                     | 5             | 0                    | 5             | 10                |                                    |  |  |        |
| 23                     | 11            | 0                    | 11            | 23                |                                    |  |  |        |
| 366                    | 183           |                      | 183           | 366               |                                    |  |  |        |
| 1,567                  | 784           |                      |               |                   |                                    |  |  |        |
| 1,280                  | 640           |                      |               |                   |                                    |  |  |        |
| 410                    | 205           |                      |               |                   |                                    |  |  |        |
| 643                    | 322           |                      | 322           | 643               | 100%                               |  |  |        |
| 104                    | 52            |                      | 52            | 104               |                                    |  |  |        |
| 565                    | 283           |                      | 283           | 565               |                                    |  |  |        |
| 82                     | 41            |                      | 41            | 82                |                                    |  |  |        |
| 272                    | 136           |                      | 136           | 272               |                                    |  |  |        |
| 166                    | 83            |                      | 83            | 166               |                                    |  |  |        |
| 682                    | 341           |                      | 341           | 682               |                                    |  |  |        |
| 171                    | 86            |                      | 86            | 171               |                                    |  |  |        |
| 159                    | 80            |                      | 80            | 159               |                                    |  |  |        |
| 1,610                  | 805           |                      | 805           | 1,610             |                                    |  |  |        |
| 203                    | 102           |                      | 102           | 203               |                                    |  |  |        |
| 15                     | 7             |                      | 7             | 15                |                                    |  |  |        |
| 1,706                  | 0             |                      | 0             | 1,706             |                                    |  |  |        |
| 19,154                 | 8,724         | 1,820                | 6,904         | 17,320            |                                    |  |  |        |
| 4,354                  | 1,983         |                      | 1,983         | 4,354             | 100%                               |  |  |        |
| 23,507                 | 10,707        | 1,820                | 8,887         | 21,674            | 83%                                |  |  |        |

Notes and assumptions:

- Based on OPG's Release Quality Estimate (RQE). All numbers except interest and escalation are in 2015\$.
- These are illustrative examples; assumption is that all contractor incentives/disincentives and performance fee mechanisms are applicable.
- Cost overrun factors are also applied to life-to-date actual costs (costs with no risk of overruns).
- Cost overrun factors are applied to all costs excluding contingency.
- RFR contract costs are as per Ex. D2-2-3, pp. 10 and 11.
- De-fuelling contract is mainly fixed/ firm price. Reimbursable fixed fees are capped for certain costs; however, this was not incorporated into the calculations due to lack of materiality.
- Steam Generator contract includes [REDACTED]
- For work bundles that are mainly under ESMSA contracts (e.g. BOP, FH, FIP, SIO), it was assumed, for simplicity, that the increase is caused by the contractor; therefore, the cost to OPG is [REDACTED] of the cost overrun (performance fee of [REDACTED] withheld).
- For simplicity, for all of the target cost contracts, a 20% cost disincentive was applied above any neutral band specified in the contracts. The actual percentage is calculated using a graded approach.
- For simplicity, interest and escalation were pro-rated.

**Ministry of Energy**

Office of the Minister

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**Ministère de l'Énergie**

Bureau du ministre

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Tél. : 416 327-6758  
Téléc. : 416 327-6754

**RECEIVED**

**NOV 10 2016**

**OFFICE OF THE  
BOARD CHAIR**



**NOV - 7 2016**

MC-2016-2226

Mr. Bernard Lord  
Chair  
Ontario Power Generation  
1900-700 University Avenue  
Toronto ON M5G 1X6

Dear Mr. Lord:

Thank you for your submission of Ontario Power Generation's (OPG) 2016-2018 Business Plan ("the Plan"). I have reviewed the Plan and find it to be consistent with our government's expectations, subject to OPG's alignment with requirements of Treasury Board Secretariat's Executive Compensation Framework Regulation.

I support the operational and financial targets set by OPG in its business plan. I expect OPG to work closely with the Ministry of Energy to continue its commitment to deliver the efficiencies and cost savings as per the 2016-2018 Business Plan in a manner that is consistent with the continued safe and environmentally responsible operation of OPG's facilities. As the Darlington Refurbishment Project is a key priority for the government, I expect that OPG will continue to focus on delivering the project as per the schedule and budget contained in the Release Quality Estimate approved by the OPG Board and by the government. I also expect OPG to continue to minimize project risks consistent with the nuclear refurbishment principles set out in the 2013 Long-Term Energy Plan.

I expect OPG to continue to keep the government informed with regard to the company's key ongoing and emerging initiatives and progress in achieving its financial and operational performance commitments. I recognize the important role that OPG has and will continue to play in delivering value to the Province and electricity ratepayers.

In addition, in order to support the focus on cost containment, the decommissioning of Lambton Generating Station should proceed immediately.

I recognize OPG's achievement to date with overall headcount reductions, and OPG's efforts to align its pensions with those in the Public Service, and we expect OPG to continue negotiation on this issue in future rounds of collective bargaining. OPG's accrual accounting methods for recovery of Pension and Other Post-Employment Benefits costs are fair and reasonable given the long-term nature of these costs.

.../cont'd

-2-

In regard to the OPG's executive compensation, I expect OPG to work within the Treasury Board Secretariat (TBS) Executive Compensation Framework Regulation that came into force on September 6, 2016, which caps salary and performance-related payments for executives at no more than the 50th percentile of appropriate comparators. I understand OPG is revisiting the current proposal as embedded in the 2016-2018 Business Plan and encourage you to continue your work with the Ministry of Energy and the TBS to develop the framework that meets the requirements outlined in the regulation.

This letter constitutes my concurrence with OPG's Board-approved 2016-2018 Business Plan as provided for under the Memorandum of Agreement between OPG and the Shareholder dated July 17, 2015.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Thibeault', with a large, stylized circular flourish at the end.

Glenn Thibeault  
Minister

c: Jeff Lyash, President and Chief Executive Officer, OPG  
Serge Imbrogno, Deputy Minister, Ministry of Energy

**ATTACHMENT 'B'**

**Confidential, Unredacted Documents**

| <b>Exhibit</b>  | <b>Attachment</b> |
|-----------------|-------------------|
| L-04.3-7 ED 004 | Attachment 1      |