

1 **UNDERTAKING J16.2**

2
3 **Undertaking**

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5 To advise in what way the estimate for the Niagara Tunnel project was done if differently
6 than for Pickering Unit 1, if at all.

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8 (Provide a response to how estimating was done for NTP as per Day 14, page 4).

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11 **Response**

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13 This response explains OPG's estimating process for the Niagara Tunnel Project
14 ("NTP") in 2004 and 2005. Prior to the formation of OPG, Ontario Hydro had done
15 significant preparatory work for the project including geotechnical investigations, project
16 definition engineering and the environmental assessment (Ex. D1-T2-S1 pages. 6-22.)
17 The process used by OPG in developing the release quality estimate ("RQE") for the
18 NTP included the same elements described in testimony (Tr. Vol. 14 p. 4, lines 18 to 26).
19 The NTP estimate was developed as follows:

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21 1. **Assemble the right project team:** The NTP project team was comprised of
22 OPG staff, Owner's Representative staff and legal representatives (Ex. D1-T2-
23 S1, p. 43 and Ex. D1-T2-S1 Attachment 2, Project Execution Plan R1).
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25 2. **Scope the project:** Based on previously completed investigations, engineering
26 and environmental assessment activities, a detailed work breakdown structure
27 ("WBS") was developed reflecting all project elements (Ex. D1-T2-S1 Attachment
28 2, Project Execution Plan R1) and was used as the basis for developing the
29 project cost estimate.
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31 3. **Select contracts:** The project contracting strategy included the early
32 engagement of the Owner's Representative and other service contractors as
33 required but was dominated by the fixed-price tunnel design build contract that
34 was to be awarded concurrent with the project release.
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36 4. **Execute contracts with vendors that allow for progressive development of**
37 **an estimate:** Contracts with the Owner's Representative and other service
38 providers facilitated the process for engagement of the fixed-price tunnel design
39 build contractor (Ex. D1-T2-S1 p. 22-34) and for refinement of the estimates for
40 all other elements within the project WBS.
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42 5. **Develop and put forward a high confidence estimate at the time of the RQE:**
43 Prior to approval of the Business Case in July 2005 (Ex. D1-T2-S1 Attachment
44 5), estimated costs for all elements of the WBS were finalized incorporating the
45 fixed-price for the tunnel design build contract and some other WBS elements,
46 time and material estimates for all other WBS elements and the Quantitative Risk
47 Assessment (Ex. D1-T2-S1, pages 26-28) that was conducted to establish the
48 cost and schedule contingencies for the tunnel design and construction.

1 The approach was similar for development of the release quality estimate (RQE) for the
2 superseding release (Ex. D1-T2-S1, Attachment 8A). In the case of the superseding
3 release, elements 1 through 3, noted above, were already in place. OPG and the design-
4 build contractor collaborated on development of the target cost estimate for the tunnel
5 construction and OPG completed a quantitative risk assessment to determine
6 appropriate cost and schedule contingencies, and estimates for all other elements of the
7 project WBS were updated to capture refined estimates for completion of the project.
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