

SEC Interrogatory #4

Interrogatory

Reference: [H1-1-1, Attachment 3, p.3-73]

Question:

OPG has provided a table that shows each hour when OPG did not pump the PGS and where an entry into the SBGVA was made:

- a. For each hour in the table, please provide the following additional information:
- i. Total MWh
 - ii. Approved Payment Amount
 - iii. HOEP
 - iv. Forecast HOEP in next on-peak period
 - v. GRC costs
 - vi. Total forecast revenues in current off-peak period (before GRC costs)
 - vii. Total forecast revenues in the next on-peak period (before GRC costs)
 - viii. Costs associated with Pumping – Load Charges
 - ix. Costs associated with Pumping – Opportunity cost of SAB 1 and 2 forgone productions while the PGS is pumping
 - x. Cost associated with Pumping - Other
 - xi. Total entry into SBGVA

Please provide the response in Excel format.

- b. Part (a) seeks to better understand and verify the conditions in each hour that OPG says would have led to an economic loss if the OPG pumped water into the PGS. If there is further data and information that would explain the decision that is not being requested in part (a), please include it.
- c. If there was no sharing of HIM revenue with customers, what impact would it have on the number of hours where OPG determined there was an economic loss, if it was to pump the PGS?

Response

- a. Refer to Attachment 1 (Confidential) where OPG has provided the requested data.

OPG notes the following:

- Column iv: instead of the HOEP in next on-peak period, OPG has provided the average pre-dispatch market clearing price in the next period as published each hour from the IESO PD-3 schedule. This is the best available representation of HOEP used by operators in real-time. Refer to Ex. L-H-SEC-03 for additional information on forecasted market prices.
 - Column vi: Not available, as OPG does not forecast revenues in off-peak periods.
 - Columns vii through x: Calculated based on one PGS unit either pumping or generating at efficiency for one hour.
 - Column xii: OPG has included the estimated loss if one PGS unit pumped for one hour at efficiency as calculated by the PGS utilization assessment methodology.
 - Column vii: The “NSR” label is applied to all hours when Hydro One’s Network Service Charge is applicable. OPG seeks to avoid operating the PGS in pump mode in consideration to the magnitude of the charge¹ and in alignment with the practice of PGS operating in generation mode in on-peak hours.
 - In the preparation of this response, OPG identified 107 hours between 2018 and 2021 that were incorrectly categorized as “uneconomic” and should not have been included in Ex. H1-1-1, Attachment 3. Those hours have been excluded from Attachment 1 of this interrogatory response, and OPG will file a correction to Ex. H1-1-1, Attachment 3. OPG will also file a correction to the 2021 Hydroelectric Surplus Baseload Generation RRR by June 30, 2024.
- b. In addition to the material provided in response to part (a), the following factors also affect the economics of pumping at the PGS:
- While the losses in column xii in Attachment 1 are calculated using the IESO’s pre-dispatch HOEP forecast, this does not directly reflect the forecasted market prices in the next on-peak period used for decision making. In practice, operators also consider OPG’s proprietary price forecast which is based on OPG’s view on weather, demand, and other

¹ Hydro One’s current rates can be found in the OEB’s EB-2022-0250 Decision and Order. For example, one PGS unit pumping for 1 hour could incur a charge of \$207,200. In response to that prohibitively large cost, OPG seeks to avoid pumping during the hours when the network service charge is applied.

1 market conditions. These forecasts are not archived and as such
2 unavailable to be provided.

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- 4 • The efficiency factors for the Sir Adam Beck 1 and Sir Adam Beck 2
5 stations (SAB) and the PGS in pump and generation mode are required
6 in the analysis of the economics of PGS cycling. OPG cannot provide
7 these specific values due to their commercial sensitivity as they relate to
8 offer information that could impact OPG as a market participant or
9 competition in the IESO administered market.
- 10
- 11 • OPG assesses the downstream impact of water pumped and discharged
12 by the PGS on SAB based on i) whether pumped water could instead be
13 used to generate at SAB, and ii) whether discharged water could be
14 incrementally generated at SAB based on available capacity. These
15 factors have a significant impact on the overall efficiency of PGS cycling
16 as they determine if shifting generation at PGS is further realized as
17 shifted generation at SAB. This information is provided in Attachment 1
18 as columns xiii and xiv on a confidential basis, as the combination of
19 details provided in Attachment 1 can be used to derive commercially
20 sensitive information as they relate to offer information that could impact
21 OPG as a market participant or competition in the IESO administered
22 market.
- 23
- 24 c. HIM revenue sharing is not considered in the economic decision making for
25 PGS operations and therefore would have no impact on the number of hours
26 where OPG determined using the PGS will result in an economic loss.