OTHER REVENUES – REGULATED HYDROELECTRIC

1.0 PURPOSE

The purpose of this evidence is to present the forecast of revenues for the 2027 test year from sources other than energy production ("Other Revenues") from OPG's regulated hydroelectric generating facilities and to explain the proposed treatment of these revenues.

The forecast of Other Revenues is included as an offset in the calculation of OPG's 2027 revenue requirement for the regulated hydroelectric facilities presented in this Application.

2.0 OVERVIEW

Other Revenues earned by OPG's regulated hydroelectric facilities are revenues associated with ancillary services,[1] segregated mode of operation ("SMO"), water transactions, the Installed Capacity ("ICAP") market, and Clean Energy Credits ("CEC"). Other Revenues also include the Hydroelectric Incentive Mechanism ("HIM") Revenue Requirement Adjustment.

Consistent with the methodology approved in EB-2013-0321, differences between forecast and actual revenues associated with ancillary services, including impacts of future contract negotiations with the IESO, are recorded in the Ancillary Service Net Revenue Variance Account – Hydroelectric Sub Account (Ex. H1-1-1, Section 5.2).

The treatment of potential impacts of the IESO's Market Renewal Program ("Renewed Market") is discussed below as part of the detailed description of each Other Revenues forecast.

Exhibit G1-1-1, Table 1 presents the Other Revenues associated with the regulated hydroelectric assets for the period 2016-2027. Where possible, Other Revenues are tracked and recorded on a facility-specific basis. For the purposes of this exhibit, only those revenues that are directly associated with the regulated generation facilities have been included.

[1] Ancillary Services include black start capability, operating reserve ("OR"), reactive support/voltage control, and Regulation Service (formerly referred to as Automatic Generation Control).

3.0 ANCILLARY SERVICES

Under the IESO Market Rules, ancillary service suppliers receive compensation for costs associated with supplying ancillary services. These include out-of-pocket costs, lost production costs and opportunity costs when providing the service, and any other compensation deemed by the IESO to be fair and reasonable.

Ancillary service revenues are tracked at the station level and only those revenues related to the regulated facilities are included in this exhibit.

Ancillary service revenue forecasts are expected to remain largely unaffected in the Renewed Market. Aside from OR, ancillary service revenues are generally determined by system needs and operating conditions rather than by market price signals or other changes that were introduced in the Renewed Market. Any variances from the forecast of revenues will be recorded and captured in the Ancillary Services Net Revenues Variance Account.

3.1 Black Start Capability

Black start capability, as defined in the Market Rules, refers to the capability of a generation facility to start without an outside electrical supply so as to be used to energize a defined portion of the IESO-controlled grid.

Black start revenues are paid to OPG on a fixed basis annually and are not impacted by the implementation of the Renewed Market.

OPG forecasts revenues for black start capability for the 2027 test year on the same basis as the terms of the IESO-OPG Procurement of Certified Black Start Facilities Agreement effective June 1, 2021-May 31, 2026.

3.2 Reactive Support/Voltage Control Service

Under the IESO Market Rules, Reactive Support and Voltage Control services (“RSVC”) refer to services provided by a market participant to allow the IESO to maintain the reactive power and voltage levels required by the IESO-controlled grid.

RSVC is not scheduled or settled based on market price and as a result is not impacted by the implementation of the Renewed Market.

OPG forecasts revenues for RSVC for the 2027 test year per the terms of the IESO-OPG agreement for RSVC service effective August 1, 2025-July 31, 2028.

3.3 Regulation Service

As defined in the IESO Market Rules, Regulation Service refers to the process that automatically adjusts the output from a generation facility based on automated, electronic signals in order to provide frequency control and to maintain the balance between the demand from load and the supply from generation facilities.

In the Legacy Market (referring to the market prior to the Renewed Market), the Regulation Service contract provided payments related to OR-related opportunity losses. In the Renewed Market these losses are compensated as Real-Time OR Make-Whole Payments and captured within OR revenues as described in Section 3.4. OPG forecasts revenues for Regulation Service for the 2027 test year as per the terms of the IESO-OPG Procurement of Regulation Services Agreement effective February 1, 2023-January 31, 2034.

3.3.1 Niagara Hydrogen Centre

Currently, the provision of Regulation Service at Sir Adam Beck 2 GS requires turbine modulation that can result in a portion of water flows not being utilized by OPG for electricity production ("Unutilized Water").

The Niagara Hydrogen Centre ("NHC"), to be constructed and operated by Atura H2 L.P and expected to enter service in 2026, will make use of this otherwise Unutilized Water. Specifically, the NHC's electrolyzer will produce low-carbon hydrogen using electricity generated behind the meter at the Sir Adam Beck 2 GS facility from water that generally would not be used for electricity production. The Regulation Service agreement incorporates provisions related to the NHC and is consistent with the expectations set out in the Ministry of Energy's letter to the IESO dated December 9, 2022.[2]

3.4 Operating Reserve

OPG's regulated hydroelectric fleet offers OR as an ancillary service to the IESO. Operating Reserve refers to the capacity that can be called upon in short notice by the IESO to replace scheduled energy supply that is unavailable because of an unexpected outage or to augment scheduled energy due to unexpected demand or other contingencies. In the Renewed Market, the IESO procures OR in both day-ahead and real-time for all three categories of OR.[3]

Other changes to OR introduced in the Renewed Market include a single OR schedule in both the Day-Ahead Market and the Real-Time Balancing Market, both of which are settled on Locational Marginal Prices ("LMP"), and the use of an OR Demand Curve during periods of scarcity. As OR CMSCs are eliminated, the Renewed Market uses Day-Ahead and Real-Time OR Make Whole Payments to ensure revenue sufficiency in cases of uneconomic OR scheduling. Chart 1 provides a summary of OR revenues received by OPG's regulated hydroelectric facilities during the first five months in the Renewed Market.

Chart 1 – OR Market Revenues Since Market Renewal Implementation

	DA OR Revenues	**RT OR Revenues**	**DA OR MWP**	**RT OR MWP**	**Total OR Revenues**
Month	$M	$M	$M	$M	$M
May	8.1	(0.8)	0.1	1.8	9.1
June	6.2	(6.1)	0.0	3.2	3.4
July	7.7	(3.5)	0.0	2.3	6.5
August	3.3	(0.3)	0.0	0.5	3.5
September	1.1	(0.3)	0.0	0.5	1.3

[2] Smith, T, *Letter to Ms. Lesley Gallinger regarding the Niagara Hydrogen Centre and Regulation Service Contract*, December 9, 2022 <https://www.ieso.ca/-/media/Files/IESO/Document-Library/corporate/ministerial-directives/Letter-from-the-Minister-of-Energy-20221209.pdf>.

[3] 10-minute synchronized (spinning) reserve, 10-minute non-synchronized (non-spinning) reserve, and 30-minute reserve (non-synchronized).

As described in Ex. E1-2-1, the ability to draw conclusions from data in the Renewed Market is limited due to (i) short duration the renewed market has been in operation; (ii) participants learning how the Renewed Market works and adjusting their strategies; and (iii) experience in only two seasons.[4] As such, OPG does not expect the observed increase in average total OR revenues in the Renewed Market as compared to the Legacy Market to sustain into the future. The higher OR revenues in the first few months of the Renewed Market and subsequent declining trend could be explained by a combination of system conditions as well as a maturation of participant behavior. OPG notes that its total OR revenues in the month of September of $1.3M are in line with its historical monthly average of $1.2M for the 2020-2024 period. As discussed in Ex. E1-2-1, Section 6.1, the IESO will be making targeted changes to Market Rules to address specific circumstances under which unwarranted MWPs are calculated. This change is expected to result in lower MWPs, including OR MWPs. Additionally, in OPG's view the expected addition of approximately 3,000 MW of battery energy storage facilities between 2025-2028 will put downward pressure on OR prices beyond those experienced in the Legacy Market.

Considering the insufficient data from a steady-state, Renewed Market, OPG's OR revenue forecast for the 2027 test year is based primarily on historical volumes and forecasted OR market prices inclusive of the expected price dampening impact of battery energy storage facilities expected in the coming years.

4.0 SEGREGATED MODE OF OPERATION

Segregated Mode of Operation is defined in the Market Rules as an electrical configuration where a portion of the IESO-controlled grid is used to connect one or more registered generating facilities to a neighbouring control area using a radial intertie for the purposes of delivering electricity. R.H. Saunders GS and Chats Falls GS, both in the Eastern Region, are the only prescribed hydroelectric facilities that are capable of entering into SMO. As a result, all SMO revenues are included within this exhibit.

[4] IESO, "Update on Renewed Market Performance and Operations", August 21, 2025 <https://ieso.ca/-/media/Files/IESO/Document-Library/engage/renewed-market/rmo-20250821-presentation-renewed-market-update.pdf>.

Segregated Mode of Operation is conducted by OPG when it identifies economic opportunities in neighbouring markets. These transactions are arranged in advance with counterparties. Forecast market prices in Ontario and surrounding markets are the economic drivers considered when deciding whether to engage in a SMO transaction.

Segregated Mode of Operation net revenues are calculated by subtracting the incremental costs associated with these transactions from the SMO revenues received. The incremental costs incurred in transacting SMO consist of export fees, transmission losses between generator source and point of delivery, production losses during the switching process between control areas, and the costs associated with the non-regulated trading business to carry out these transactions.

The Renewed Market introduces two main changes that affect SMO: IESO transaction approval timelines and market prices. Under the new Day-Ahead Market framework, the IESO's approval process for SMO transactions is more restrictive than it was in the Legacy Market. While this change is expected to reduce the number of SMO transactions OPG can conduct, uncertainty related to prevailing market prices in the Renewed Market will also impact SMO revenue.

Based on the limited experience OPG has had in the Renewed Market, OPG has forecast 2027 SMO revenues on the historical five-year average of SMO revenues and has not made adjustments for market prices. This approach smooths out annual variability in performance and addresses the inherent challenges of producing forward forecasts with limited experience in the Renewed Market.

5.0 WATER TRANSACTIONS

The New York Power Authority ("NYPA") and OPG are responsible for operating hydroelectric facilities on the Niagara and St. Lawrence Rivers. Pursuant to an agreement between the parties, NYPA and OPG coordinate certain operations to maximize energy production from the total volume of water available for generation under the relevant international treaties.

The Water Transfer agreements between OPG and NYPA allow one entity the opportunity to extract the potential energy from the other entity's share of water (i.e., referred to as a "Water Transfer") in order to optimize the use of available water. Water Transfers could be done at the request of the sender, receiver, or the Niagara River Control Centre.

The transferred water is used to generate electricity that is then sold into the respective entity's electricity market (the IESO-administered market if OPG is the receiving entity, or the New York Independent System Operator ("NYISO") administered market if NYPA is the receiving entity). The water transfer agreements specify how the benefits and costs associated with the types of water transfer are shared between entities. Water Transfers only pertain to regulated hydroelectric facilities. As a result, all Water Transaction revenues are included within this Exhibit.

The volume of Water Transactions completed in a year is not impacted by the implementation of the Renewed Market. Water Transaction revenues, however, are impacted by market prices. To the extent the Renewed Market leads to higher or lower average market prices than the Legacy Market, there will be a corresponding impact on Water Transaction revenues.

To calculate net water transfer revenues, accommodation charges and gross revenue charges attributable to these transactions are subtracted from the gross water transfer revenues. Based on the limited experience OPG has had in the Renewed Market, OPG has forecast the 2027 water transfer revenues based on the historical five-year average of net water transfer revenues and has not made adjustments for market prices. This approach smooths out annual variability in the volume of water transactions and addresses the inherent challenges of producing forward forecasts with limited experience in the Renewed Market.

6.0 CAPACITY EXPORT TRANSACTIONS

Installed Capacity market transactions are permitted under the IESO Market Rules when a market participant has Ontario-based generating capacity that the IESO has determined to be surplus to Ontario's reliability and planned resource adequacy requirements. The IESO currently has a capacity export agreement in place with the NYISO along with a process in place to enable market participants to participate in the NYISO capacity market. OPG currently has three aggregates at the Sir Adam Beck 2 GS[5] registered to participate in the NYISO capacity market and has been participating in this market since 2016.

The amount of capacity that can be sold by OPG to NYISO (and therefore revenues earned) depends on a number of factors that are not within OPG's control and are difficult to forecast. These factors include, but are not limited to, the amount of capacity the IESO approves to be released from the Ontario market, the external capacity rights NYISO allocates to Ontario, and capacity market clearing prices in the NYISO market.

The ICAP net revenues are calculated by subtracting the incremental costs associated with these transactions from the gross ICAP revenues received. The incremental costs incurred in ICAP transactions include auction participation costs and the cost of meeting NYISO ICAP compliance obligations. The ICAP revenues only pertain to regulated hydroelectric facilities. As a result, all ICAP revenues are included within this Exhibit.

The ICAP revenues are not influenced by Ontario market prices and as a result are not impacted by the Renewed Market. These revenues are determined by two external factors: the capacity market clearing prices established in New York's capacity auctions, and the amount of Ontario capacity that the IESO releases to participate in that market. The IESO's decision on how much capacity to release is based on Ontario's resource adequacy requirements, ensuring that domestic reliability needs are met before any export is permitted. As a result, ICAP revenues reflect New York capacity market outcomes and IESO capacity release decisions, rather than Ontario market price dynamics.

OPG forecasts ICAP net revenues for the 2027 test year based on the historical five-year average of ICAP net revenues. This approach smooths out annual variability in performance and addresses the inherent challenges of producing accurate forward forecasts.

[5] There are three aggregated generation units at the facility registered with the IESO for export capacity to NYISO, each comprising a pair of generators: Generators 11 and 12, Generators 13 and 14, and Generators 17 and 18.

7.0 HIM REVENUE REQUIREMENT ADJUSTMENT

OPG forecasts HIM net revenues by applying market and operational information to the OEB-approved HIM formulas. Key inputs include Ontario supply and demand forecasts, LMP projections, water flow forecasts, and operational information for OPG's regulated hydroelectric fleet. OPG's proprietary model also incorporates external sources and market forecasts, to form the basis of OPG's HIM projections.

Within its model, hydroelectric resources are scheduled according to expected water flows and operating limits, following Ontario's demand profile net of baseload nuclear, wind, and solar generation. When electricity prices are anticipated to fall below the Gross Revenue Charge, certain hydro units are considered uneconomic, leading to forecast Surplus Baseload Generation spill. These conditions inform both the expected incentives for time-shifting water and the calculation of unintended benefits under the HIM.

OPG's HIM forecasting has been updated to incorporate features of the redesigned HIM in the Renewed Market as described in Ex. E1-2-1. These include the shift from monthly to daily averaging, the replacement of the Hourly Ontario Energy Price with LMP, and the introduction of a Day-Ahead HIM. While OPG's models reflect the design of the Renewed Market, forecasting HIM net revenues is subject to uncertainties.[6] The expected integration of battery energy storage facilities between 2025 and 2028 is expected to put downward pressure on LMP price spreads, reducing OPG's opportunities to earn HIM net revenues. The outcomes of the first few months of the Renewed Market are not sufficient to serve as a dependable model input on account of high month-to-month variability. Overall, OPG expects its forecast 2027 HIM net revenue, which is an increase from OPG's HIM net revenues in the Legacy Market, to adequately capture OPG's revenues in a mature Renewed Market.

OPG proposes to continue to include a revenue offset equal to 50% of forecast annual HIM net revenues. This treatment is consistent with the HIM Revenue Requirement Adjustment established in EB-2010-0008 and EB-2013-0321.

[6] The model is based on average price spreads and does not fully reflect the ability of the PGS to respond to significant short-run differences in hourly prices.

OPG is also proposing to eliminate the sharing of HIM net revenues that exceed the HIM revenue forecast as described in Ex. E1-2-1, Section 5.0.

8.0 CLEAN ENERGY CREDITS

Within the Ontario CEC market, OPG sells environmental attributes associated with its regulated hydroelectric and nuclear generation facilities.

On March 29, 2023, the Province of Ontario announced the launch of the Clean Energy Credit Registry, to be administered by the IESO with the stated objective being to boost Ontario's competitiveness in attracting investment and jobs.[7] As part of the announcement, the Province noted that proceeds from the sale of CECs held by the IESO and OPG would be directed to the government's Future Clean Electricity Fund, which will "help keep costs down for electricity ratepayers by supporting the development of new clean energy projects as the province builds out our grid to meet the demands of a growing population and economy, as well as the electrification of transportation and industry".[8]

As part of the accompanying O. Reg 39/23 *Clean Energy Credits*, under section 4.2, the Province specifies that the proceeds OPG is to remit is equivalent to 80% of its revenues net of costs from the sale of CECs to the Province's Future Clean Electricity Fund. As such, the Province has already legislated the amount to be returned to the benefit of ratepayers through investments of the Future Clean Electricity Fund. OPG proposes to retain the remaining 20% of net revenues from the sale of CECs to provide an appropriate incentive for the organization to continue pursuing CEC sales.

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[7] Province of Ontario, News Release: Ontario launches Clean Energy Credit Registry to Boost Competitiveness and Attract Jobs, March 29, 2023 <https://news.ontario.ca/en/release/1002876/ontario-launches-clean-energy-credit-registry-to-boost-competitiveness-and-attract-jobs>.
[8] *Ibid*.

Table 1
Other Revenues - Regulated Hydroelectric ($M)

Line No.	Revenue Source	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Actual	2024 Actual	2025 Budget	2026 Budget	2027 Plan
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	**Ancillary Services**[1]	70.1	78.7	70.5	71.8	55.5	50.1	71.6	62.3	58.5	56.1	51.5	49.1
2	**Segregated Mode of Operation**[2]	0.4	3.1	2.7	0.0	0.0	0.0	8.0	0.4	1.2	1.9	1.9	1.9
3	**Water Transactions**[3]	1.1	0.9	1.6	0.9	0.2	0.6	0.6	1.6	3.5	1.3	1.3	1.3
4	**Capacity Exports**[4]	0.1	0.6	2.3	0.2	0.0	0.4	0.0	1.5	3.0	1.0	1.0	1.0
5	**Total Ancillary Services**	71.8	83.2	77.1	72.8	55.7	51.1	80.2	65.8	66.4	60.3	55.8	53.3
6	**HIM Revenue**	14.0	12.3	10.9	6.2	5.1	16.8	14.3	14.8	28.4	10.5	20.2	17.8
7	**Total of Other Revenues**	85.8	95.5	88.0	79.0	60.7	67.8	94.5	80.6	94.7	70.9	76.0	62.2

Notes:
1 Ancillary Services related to regulated hydroelectric facilities are discussed in Ex. G1-1-1.
2 Segregated Mode of Operation (SMO) net revenues are gross revenues less HOEP, less export fees, transmission charges in other control areas, transmission losses, production losses during the switching process between control areas, and costs associated with the non-regulated trading business.
3 Water Transactions revenues are gross revenues net of accommodation charges and Gross Revenue Charges (GRC).
4 2027 Total of Other Revenues includes 50% of the HIM Revenue forecast as described in Ex. G1-1-1.

COMPARISON OF OTHER REVENUES
REGULATED HYDROELECTRIC

1.0 PURPOSE

This evidence presents period-over-period comparisons of Other Revenues for OPG's regulated hydroelectric facilities based on actuals for 2016-2024 and forecast for 2025-2027. Corresponding Other Revenues are provided on Ex. G1-1-2, Table 1.

The treatment of potential impacts of the IESO's Market Renewal Program ("Renewed Market") are described within Ex. G1-1-1. The expected impacts of the Market Renewal Program have generally not resulted in any material annual variances in the forecast of Other Revenues.

Consistent with the OEB's letter dated September 17, 2024, issued in EB-2024-0136, OPG has included nine years of historical data for its regulated hydroelectric business below, for the period 2016-2024. As there is no OEB-approved other revenues information for 2015 onwards, OPG has only provided year-over-year variance analysis for the historical (2016-2024), bridge (2025-2026), and test year (2027).

2.0 PERIOD-OVER-PERIOD CHANGES – TEST YEAR

2027 Plan versus 2026 Budget

The 2027 Plan Hydroelectric Incentive Mechanism ("HIM") revenues are expected to be $2.4M lower than 2026 Budget due to lower average price spreads forecasted for most of 2027 when compared to 2026.

3.0 PERIOD-OVER-PERIOD CHANGES – BRIDGE YEARS

2026 Budget versus 2025 Budget

2026 Budget HIM revenues are expected to be $9.7M higher than 2025 Budget due to higher average forecast Locational Marginal Prices in 2026 compared to 2025.

2025 Budget versus 2024 Actual

The 2025 Budget HIM revenues are expected to be $17.8M lower than 2024 Actual due to lower average budgeted price spreads in 2025 compared to actual 2024 price spreads.

The 2025 Budget WT revenue is expected to be $2.2M lower than 2024 Actual. The 2025 Budget is established based on the average of the 2020-2024 actuals.

The 2025 Budget ICAP revenue is expected to be $2.0M lower than 2024 Actual. The 2025 Budget is established based on the average of the 2020-2024 actuals.

4.0 PERIOD-OVER-PERIOD CHANGES – HISTORICAL YEARS

2024 Actual versus 2023 Actual

The 2024 Actual HIM revenue is $13.6M higher than 2023 Actual due to higher average price spreads and lower inflows during freshet which lead to a lower unintended benefit adjustment in 2024 compared to 2023.

The 2024 Actual WT revenue is $1.9M higher than 2023 Actual due to lower unit availability at R.H. Saunders GS, resulting in more water available to transfer to New York Power Authority (“NYPA”).

The 2024 ICAP revenue is $1.5M higher than 2023 Actual mostly due to OPG clearing New York Independent System Operator’s (“NYISO”) capacity auction for more commitment months in 2024 compared to 2023.

2023 Actual versus 2022 Actual

The 2023 Actual Ancillary Services revenue is $9.3M lower than 2022 Actual mostly due to lower Operating Reserve (“OR”) and Regulation Service revenues.

The 2023 Actual SMO revenue is $7.7M lower than 2022 Actual due to lower energy prices in 2023 coupled with decreased volume of SMO transactions.

The 2023 Actual ICAP revenue is $1.5M higher than 2022 Actual mostly due to OPG clearing NYISO's capacity auction for more commitment months in 2023 compared to 2022.

The 2023 Actual WT revenue is $1.0M higher than 2022 Actual due to decreased unit availability at R.H. Saunders GS in 2023, resulting in higher water availability to NYPA.

There are no reportable variances for HIM revenues in 2023 Actual vs. 2022 Actual.

2022 Actual versus 2021 Actual

2022 Actual Ancillary Services revenue is $21.5M higher than 2021 Actual. While Reactive Support and Voltage Control ("RSVC") revenues in 2022 were lower due to lower system utilization of the service, there was a net increase in 2022 ancillary revenues due to OR and Regulation Service revenues. The OR revenues increased as a result of significantly higher OR prices. The Regulation Service revenues increased mainly due to higher production costs associated with providing the service.

The SMO transactions resumed in 2022 following the COVID-19 pandemic. The SMO revenues in 2022 reached $8.0M which is higher than achieved in trailing historical years. In 2022 demand was higher than typical due to colder than normal winter weather, coupled with higher energy prices in Québec and Ontario. These higher energy prices are due to strong natural gas demand in 2022 driven from the conflict in Ukraine.

The 2022 Actual HIM revenue is $2.5M lower than 2021 Actual due to higher average off-peak HOEP in 2022 compared to 2021.

2021 Actual versus 2020 Actual

The 2021 Actual HIM revenue is $11.7M higher than 2020 Actual due to higher average price spreads in 2021 compared to 2020.

The 2021 Actual Ancillary Services revenue is $5.4M lower than 2020 Actual predominantly due to lower OR and Regulation Service revenues partially offset by higher RSVC revenues.

There are no reportable variances for SMO, WT, and ICAP revenues in 2021 Actual vs. 2020 Actual. SMO revenues for both years were $0M primarily due to lack of commercial opportunity resulting from the COVID-19 pandemic.

5.0 PERIOD-OVER-PERIOD CHANGES – EXTENDED HISTORICAL YEARS

Pursuant to the OEB's letter dated September 17, 2024, issued in EB-2024-0136, OPG has included four additional years of historical data.

2020 Actual versus 2019 Actual

The 2020 Actual Ancillary Services revenue is $16.3M lower than 2019 Actual primarily due to lower Regulation Service revenues, as a result of new contract terms with the IESO.

2020 Actual HIM revenue is $1.1M lower than 2019 Actual due to lower average price spreads in 2020 compared to 2019.

2019 Actual versus 2018 Actual

The 2019 Actual HIM revenue is $4.7M lower than the 2018 Actual due to lower average price spreads in 2019 compared to 2018.

The 2019 Actual SMO revenue is $2.7M lower than 2018 Actual. There were no net revenues for 2019 due to lack of commercial opportunity resulting from the COVID-19 pandemic.

The 2019 Actual Capacity Exports revenue is $2.2M lower than 2018 Actual due to a decrease in the amount of capacity clearing the NYISO capacity auction in 2019.

2018 Actual versus 2017 Actual

The 2018 Actual Ancillary Services revenue is $8.1M lower than 2017 Actual mostly due to lower OR and RSVC revenues.

The 2018 Actual ICAP revenue is $1.7M higher than 2017 Actual due to more capacity commitments being made to NYISO.

The 2018 Actual HIM revenue is $1.4M lower than 2017 Actual due to lower average price spreads in 2018 compared to 2017.

2017 Actual versus 2016 Actual

The 2017 Actual Ancillary Services revenue is $8.5M higher than 2016 Actual due to higher Regulation Service, OR, and RSVC revenues.

The 2017 Actual SMO revenue is $2.7M higher than 2016 Actual due to higher energy prices in 2017 compared to 2016.

The 2017 Actual HIM Revenue is $1.7M lower than 2016 Actual due to higher inflows throughout the freshet and summer months of 2017, which lead to a higher unintended benefit adjustment when compared to 2016.

Numbers may not add due to rounding.

Table 1
Comparison of Other Revenues - Regulated Hydroelectric ($M)

Line No.	Business Unit	2016 Actual	(c)-(a) Change	2017 Actual	(e)-(c) Change	2018 Actual	(g)-(e) Change	2019 Actual	(i)-(g) Change	2020 Actual	(k)-(i) Change	2021 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	**Ancillary Services[1]**	70.1	8.5	78.7	(8.1)	70.5	1.3	71.8	(16.3)	55.5	(5.4)	50.1
2	**Segregated Mode of Operation[2]**	0.4	2.7	3.1	(0.4)	2.7	(2.7)	0.0	(0.0)	0.0	0.0	0.0
3	**Water Transactions[3]**	1.1	(0.3)	0.9	0.7	1.6	(0.7)	0.9	(0.7)	0.2	0.4	0.6
4	**Capacity Exports[4]**	0.1	0.4	0.6	1.7	2.3	(2.2)	0.2	(0.2)	0.0	0.4	0.4
5	**Total Ancillary Services**	71.8	11.4	83.2	(6.1)	77.1	(4.3)	72.8	(17.2)	55.7	(4.6)	51.1
6	**HIM Revenue**	14.0	(1.7)	12.3	(1.4)	10.9	(4.7)	6.2	(1.1)	5.1	11.7	16.8
7	**Total of Other Revenues**	85.8	9.7	95.5	(7.5)	88.0	(9.0)	79.0	(18.3)	60.7	7.1	67.8

Line No.	Business Unit	2021 Actual	(c)-(a) Change	2022 Actual	(e)-(c) Change	2023 Actual	(g)-(e) Change	2024 Actual	(i)-(g) Change	2025 Budget	(k)-(i) Change	2026 Budget
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
8	**Ancillary Services[1]**	50.1	21.5	71.6	(9.3)	62.3	(3.7)	58.5	(2.4)	56.1	(4.6)	51.5
9	**Segregated Mode of Operation[2]**	0.0	8.0	8.0	(7.7)	0.4	0.9	1.2	0.7	1.9	0.0	1.9
10	**Water Transactions[3]**	0.6	0.0	0.6	1.0	1.6	1.9	3.5	(2.2)	1.3	0.0	1.3
11	**Capacity Exports[4]**	0.4	(0.4)	0.0	1.5	1.5	1.5	3.0	(2.0)	1.0	0.0	1.0
12	**Total Ancillary Services**	51.1	29.1	80.2	(14.4)	65.8	0.5	66.4	(6.0)	60.3	(4.6)	55.8
13	**HIM Revenue**	16.8	(2.5)	14.3	0.5	14.8	13.6	28.4	(17.8)	10.5	9.7	20.2
14	**Total of Other Revenues**	67.8	26.6	94.5	(13.9)	80.6	14.2	94.7	(23.9)	70.9	5.1	76.0

Line No.	Business Unit	2026 Budget	(c)-(a) Change	2027 Plan	(e)-(c) Change	2028 Plan	(g)-(e) Change	2029 Plan	(i)-(g) Change	2030 Plan	(k)-(i) Change	2031 Plan
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
15	**Ancillary Services[1]**	51.5	(2.4)	49.1	0.9	50.0	0.9	50.9	0.7	51.6	(0.0)	51.6
16	**Segregated Mode of Operation[2]**	1.9	0.0	1.9	0.0	1.9	0.0	1.9	0.0	1.9	0.0	1.9
17	**Water Transactions[3]**	1.3	0.0	1.3	0.0	1.3	0.0	1.3	0.0	1.3	0.0	1.3
18	**Capacity Exports**	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
19	**Total Ancillary Services**	55.8	(2.4)	53.3	0.9	54.3	0.9	55.1	0.7	55.8	(0.0)	55.8
20	**HIM Revenue**	20.2	(2.4)	17.8	(9.6)	8.2	1.0	9.2	4.5	13.7	(1.3)	12.4
21	**Total of Other Revenues[4]**	76.0	(4.8)	71.1	(8.7)	62.5	1.9	64.3	5.2	69.5	(1.3)	68.2

Notes:
1 Ancillary Services related to regualted hydroelectric facilities are discussed in Ex. G1-1-1.
2 Segregated Mode of Operation (SMO) net revenues are gross revenues less HOEP, less export fees, transmission charges in other control areas, transmission losses, production losses during the switching process between control areas, and costs associated with the non-regulated trading business.
3 Water Transactions revenues are gross revenues net of accommodation charges and Gross Revenue Charges (GRC).
4 2027 Total of Other Revenues includes 50% of the HIM Revenue forecast as described in Ex. G1-1-1.