

This quarterly report provides stakeholders with an update on the Alberta Electric System Operator's (AESO) budget as identified in its [2024 Business Plan and Budget \(Business Plan\)](#). Reference the Business Plan published on the AESO's [website](#) for additional information to fully understand the various updates provided.

## Financial Update – As of March 31, 2024

### Transmission Operating Costs (\$ million)

	2024 Actual	2024 Forecast	2023 Actual
Wires costs	487.6	484.3	480.0
Operating reserves	68.7	111.3	88.1
Transmission line losses	61.0	61.8	80.0
Other ancillary service costs	7.6	13.9	5.3
<b>Total Transmission Operating Costs</b>	<b>625.0</b>	<b>671.3</b>	<b>653.4</b>

*Numbers may not add due to rounding*

**Wires costs** – Wires costs represent regulated rates charged by the transmission facility owners (TFOs) in accordance with their Alberta Utilities Commission (AUC) approved tariffs and are not controllable costs of the AESO.

Wires costs year-to-date are 0.7 per cent higher than forecast primarily due to AUC decisions on tariff applications.

**Operating reserves** – Operating reserves are generating capacity or load that is held in reserve and made available to the System Controller to manage the transmission system supply-demand balance in real time. Operating reserves are procured through an online, day-ahead exchange, where offer prices are indexed to the pool price. While the prices of operating reserves procured through the online exchange are indexed to the pool price, changes to the average pool price do not result in proportional changes to the operating reserve costs; the pool price for each hour has a significant impact on the operating reserve costs for that hour.

The cost of operating reserves is impacted by actual volumes, hourly pool prices and operating reserve prices. Operating reserve costs year-to-date are 38.3 per cent lower than forecast primarily due to the impact of a lower average pool price than forecast, more than offsetting the impact of higher volumes than forecast. The average hourly pool price of \$99 per megawatt hour (MWh) year-to-date is 12.4 per cent lower than the forecast of \$113 per MWh. Operating reserve volumes financially settled year-to-date are 1,637 gigawatt hours (GWh) compared to the forecast of 1,601 GWh, representing a 2.2 per cent increase.

**Transmission line losses** – Transmission line losses represent the volume of energy that is lost as a result of electrical resistance on the transmission system. Volumes associated with line losses are determined through the energy market settlement process as the difference between generation and import volumes, less consumption and export volumes.

The hourly volumes of line losses vary based on load and export levels, generation (baseload, peaking units and imports) available to serve load, weather conditions, and changes in the transmission topology. System maintenance schedules, unexpected failures, dispatch decisions on the Alberta Interconnected Electric System (AIES), and short-term system measures (such as demand response) may also affect the volume of losses. The value of line losses is calculated based on the hourly pool price.

The cost of transmission line losses year-to-date is 1.3 per cent lower than the forecast due to the impact of a 12.4 per cent lower average pool price, more than offsetting the increase of 20.4 per cent in actual line loss volumes year-to-date of 648 GWh compared to the forecast of 538 GWh.

**Other ancillary services costs** – The AESO procures other ancillary services for the secure and reliable operation of the AIES. These services are procured through a competitive procurement process where possible, or in instances where such procurement processes may not be feasible, through bilateral negotiations.

Other Ancillary Services Costs (\$ million)			
	2024 Actual	2024 Forecast	2023 Actual
Load shed service, Fast frequency response, Transferred frequency response and Voluntary load curtailment program	5.2	10.5	3.1
Transmission must-run – Contracted and Conscripted	0.7	0.9	0.3
Reliability services	0.7	0.7	0.7
Black start	0.7	0.7	0.7
Transmission constraint rebalancing	0.4	1.0	0.5
<b>Total Other Ancillary Services</b>	<b>7.6</b>	<b>13.9</b>	<b>5.3</b>

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Load Shed Service (LSS) is interruptible load that can be armed to trip, either automatically or manually, on the loss of the Alberta–British Columbia intertie to allow for increased import available transfer capability (ATC). LSS is also utilized to restore the Most Severe Single Contingency (MSSC) limit while the AIES is weakly connected or islanded from the rest of the Western Interconnection. LSS costs are impacted by volume availability, contract prices and AIES requirements for arming and tripping. LSS costs year-to-date are 55.4 per cent lower than forecast largely due to lower arming requirements than forecasted.

Fast frequency response (FFR) service is based on LSS, but has been adapted for new technologies, such as energy storage. FFR costs year-to-date are 57.1 per cent lower than forecast largely due to lower arming requirements.

Transferred frequency response (TFR) is a product which helps to satisfy the AESO’s frequency obligation within the Western Electricity Coordination Council (WECC). TFR costs year-to-date are consistent with forecast.

The voluntary load curtailment program (VLCP) supports system reliability by providing voluntary curtailable load during periods of energy emergency alerts.

Transmission must-run (TMR) occurs when generation is required to mitigate the overloading of transmission lines associated with line outages, system conditions in real time or the loss of generation in an area. In circumstances when this service is required for an unforeseeable event and there is no

contracted TMR, non-contracted generators may be dispatched to provide this service (referred to as conscripted TMR). TMR costs year-to-date are \$0.2 million or 22.2 per cent lower than forecast, as there were no conscripted TMR events.

Reliability services are provided through an agreement with Powerex Corp. for grid restoration balancing support in the event of an Alberta blackout, and emergency energy in the event of supply shortfall.

Black start services are provided by generators that are able to restart their generation facility with no outside source of power. In the event of a system-wide black-out, black start services are used to re-energize the transmission system and provide start-up power to generators who cannot self-start. Black start providers are required in specific areas of the AIES to ensure the entire system has adequate start-up power.

Transmission constraint rebalancing (TCR) costs are incurred when the transmission system is unable to deliver electricity from a generator to a given electricity-consuming area without contravening reliability requirements. When this occurs, a market participant downstream of a constraint may be dispatched for purposes of TCR under the Independent System Operator (ISO) Rules and would receive a TCR payment for energy provided for that purpose. TCR costs year-to-date are \$0.6 million or 60.0 per cent lower than forecast primarily due to a lower magnitude of rebalancing events.

<b>Other Industry Costs (\$ million)</b>			
	<b>2024 Actual</b>	<b>2024 Budget</b>	<b>2023 Actual</b>
AUC fees – Transmission	2.1	2.8	2.1
AUC fees – Energy Market	2.7	2.1	1.5
WECC/NWPP/NERC costs	0.8	0.8	0.7
Regulatory process costs	0.2	0.6	0.5
<b>Total Other Industry Costs</b>	<b>5.8</b>	<b>6.3</b>	<b>4.8</b>

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Other industry costs represent fees or costs paid based on regulatory requirements or membership fees for industry organizations that are not under the direct control of the AESO. These costs relate to the annual administration fee for the Alberta Utilities Commission (AUC), the AESO’s share of Western Electricity Coordinating Council (WECC), Western Power Pool (WPP) and North American Electric Reliability Corporation (NERC) membership fees, regulatory process costs and non-compliance penalties. Regulatory process costs are associated with the AESO’s involvement in AUC proceedings and costs incurred to respond to specific agency-related directions or recommendations that are beyond the routine operations of the AESO; this does not include application preparation costs.

Other industry costs year-to-date are \$0.5 million or 7.9 per cent lower than budget, primarily due to fewer complex regulatory proceedings and litigation matters being heard before the AUC than anticipated.

### General and Administrative Costs (\$ million)

	2024 Actual	2024 Budget	2023 Actual
Staff costs	22.3	24.2	19.5
Contract services and consultants	1.0	2.1	0.6
Administration	1.1	1.3	0.9
Facilities	1.2	1.2	1.2
Computer services and maintenance	2.9	3.0	2.6
Telecommunications	0.3	0.4	0.3
<b>Total General and Administrative Costs</b>	<b>28.7</b>	<b>32.2</b>	<b>25.1</b>

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General and administrative costs year-to-date are \$3.5 million or 10.9 per cent lower than budget, primarily due to the timing of planned hires and unanticipated vacancies (impacting staff costs), the timing of initiatives requiring consulting and legal services (impacting contract services and consultants), and the timing of travel, training, and meals (impacting administration).

### Amortization and Depreciation and Borrowing Costs (\$ million)

	2024 Actual	2024 Budget	2023 Actual
<b>Amortization of right-of-use assets, intangible assets and depreciation of property, plant and equipment</b>	<b>6.2</b>	<b>6.3</b>	<b>5.7</b>
<b>Borrowing costs</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>

Amortization and depreciation costs year-to-date are \$0.1 million or 1.6 per cent lower than budget caused by the impact of timing when assets are placed in service.

Borrowing costs year-to-date are consistent with budget.

<b>Capital Program (\$ million)</b>							
	<b>Total Project Approved</b>	<b>Prior Year(s) Actual</b>	<b>Spent in 2024 to-date</b>	<b>ETC in 2024</b>	<b>ETC Future Yr.(s)</b>	<b>Total Cost Est.</b>	<b>Variance Approved to Total Cost Est.</b>
<b>Strategic-Related Initiatives</b>							
Enabling Transformation	8.8	2.0	1.1	5.2	-	8.2	0.5
Energy Management System (EMS) Sustainment	13.1	9.6	1.3	2.0	-	12.9	0.2
<b>Critical Initiatives</b>							
Business System Modernization	0.7	0.3	0.0	0.4	-	0.7	0.0
Cyber Security and Critical Infrastructure Protection (CIP)	8.4	1.2	2.5	2.6	0.2	6.5	2.0
<b>Other Capital Initiatives &amp; Lifecycle Funding</b>							
	16.0	2.5	1.7	11.1	0.1	15.4	0.6
<b>Special*</b>	23.0	1.3	3.8	17.9	-	23.0	0.0
<b>Total Capital</b>	<b>70.0</b>	<b>16.9</b>	<b>10.4</b>	<b>39.2</b>	<b>0.3</b>	<b>66.8</b>	<b>3.3</b>

Numbers may not add due to rounding

\*AESO Downtown Office Relocation

<b>General Capital Program (\$ million)</b>	
<b>Spent to Date March 31, 2024</b>	<b>10.4</b>
<b>Total Capital Budget for 2024</b>	<b>51.6</b>
Remaining Budget	41.2