2019 YEAR IN REVIEW

MD&A

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This management's discussion and analysis of financial condition and results of operations (MD&A) as of February 13, 2020 should be read in conjunction with the Alberta Electric System Operator's (AESO) audited financial statements for the years ended December 31, 2019 and 2018 and accompanying notes. This MD&A is intended to provide an understanding of the AESO's business, financial operations, expectations of the future, and management of risk. The MD&A and financial statements are reviewed and approved by the AESO Board. The financial statements are expressed in Canadian dollars.

The AESO is responsible for the operation of Alberta's fair, efficient and openly competitive energy market for electricity; determining the order of dispatch of electric energy and ancillary services; providing system access service on the transmission system; directing the safe, reliable and economic operation of the interconnected electric system; planning the capability of the transmission system to meet future needs; administering the Renewable Electricity Program (REP); and administering load settlement.

The AESO recovers its costs through four separate revenue sources by way of collections from: market participants; suppliers under the REP; owners of electric distribution systems; and, wires service providers for load settlement. There is no government funding for the operations of the AESO.

Summary Annual Highlights

The AESO, a not-for-profit statutory corporation, recovers its operating, right-of-use asset, intangible asset and property, plant and equipment (PP&E) costs through four separate revenue sources, each of which is designed to recover the costs directly related to the provision of a specific service, as well as a portion of the shared corporate services costs.

($ Millions) Years ended December 31,	2019	2018	Change	% Change
Collections	2,306.5	2,216.6	89.9	4.1
Deferred revenue	166.2	43.3	122.9	283.8
Other revenue	1.8	2.0	(0.2)	(10.0)
Total revenue	**2,474.5**	**2,261.9**	**212.6**	**9.4**
Transmission operating costs	2,298.2	2,099.4	198.8	9.5
Other industry costs	27.7	23.9	3.8	15.8
General and administrative costs	104.4	111.1	(6.7)	(6.0)
Amortization and depreciation	38.8	26.1	12.7	48.8
Interest costs	5.4	1.4	4.0	283.2
Total costs	**2,474.5**	**2,261.9**	**212.6**	**9.4**

Numbers may not add due to rounding

Total Costs

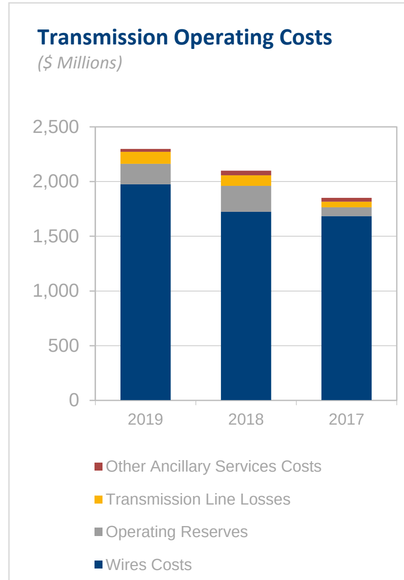
Transmission Operating Costs

Transmission operating costs represent wires costs, operating reserves, transmission line losses and other ancillary services costs. In 2019, transmission operating costs are $2,298.2 million, which is $198.8 million or 9.5 per cent higher than the 2018 costs of $2,099.4 million. This increase is associated with higher overall operating costs in 2019.

($ Millions) Years ended December 31,	2019	2018	Change	% Change
Wires costs	1,976.1	1,724.8	251.3	14.6
Operating reserves	187.1	236.0	(48.9)	(20.7)
Transmission line losses	109.2	96.7	12.5	12.9
Other ancillary services costs	25.8	41.9	(16.1)	(38.4)
Transmission operating costs	**2,298.2**	**2,099.4**	**198.8**	**9.5**

Numbers may not add due to rounding

Wires Costs



Wires costs represent the amounts paid primarily to transmission facility owners (TFOs) in accordance with their Alberta Utilities Commission (AUC)-approved tariffs and are not controllable costs of the AESO. Wires costs in 2019 are $1,976.1 million, which is $251.3 million or 14.6 per cent higher than the 2018 costs of $1,724.8 million due to higher regulated rates charged by the TFOs for the current year ($138.5 million) and adjustments related to prior production years ($112.8 million). The AESO understands that the higher TFO tariffs reflect capital and operating costs associated with projects providing additional transmission system capacity, as well as higher costs to operate and maintain existing transmission facilities.

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. There are three types of operating reserves, with the minimum volumes of operating reserves required based on Alberta Reliability Standards:

- **Regulating reserves** – The generation capacity, energy and maneuverability responsive to the AESO's automatic generation control (AGC) system that is required to automatically balance supply and demand on a minute-to-minute basis in real time.
- **Spinning reserves** – Unloaded generation that is synchronized to the transmission system, automatically responsive to frequency deviation and ready to provide additional energy in response to an AESO System Controller directive. Spinning reserve suppliers must be able to ramp up their generator within 10 minutes of receiving a System Controller directive.
- **Supplemental reserves** – While similar to spinning reserves, supplemental reserves are not required to respond to frequency deviations. They include unloaded generation, off-line generation or system load that is ready to serve additional energy (generator) or reduce energy (load) within 10 minutes of receiving a System Controller directive.

Operating reserves are procured through an online, day-ahead exchange, where offer prices are indexed to the pool price. In exchange for this payment, the AESO obtains the right to utilize the provider's energy and/or capacity as reserves. The procurement of operating reserve volumes is directly correlated to load and generation. While the prices of operating reserves 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. Additionally, during periods of high hourly pool prices, the less expensive operating reserve suppliers may not be available, which results in higher operating reserve costs.

Operating reserve costs in 2019 are $187.1 million, which is $48.9 million or 20.7 per cent lower than the 2018 costs of $236.0 million. The cost of operating reserves is impacted by actual volumes, hourly pool prices and operating reserve prices. The average hourly pool price is $55 per megawatt hour (MWh) in 2019 compared to $50 per MWh in 2018, representing an increase of 10.0 per cent. Operating reserve volumes financially settled in 2019 are 7,874 gigawatt hours (GWh) compared to 8,056 GWh in 2018, representing a 2.3 per cent decrease. The cost variance is mainly attributable to lower volumes and changes in offer behavior. Lower volumes resulted from reduced imports in 2019.

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 in 2019 is $109.2 million, which is $12.5 million or 12.9 per cent higher than the 2018 cost of $96.7 million due to the impact of a 10.0 per cent higher average pool price in 2019. Line loss volumes financially settled in 2019 are 1,874 GWh compared to 1,838 GWh in 2018, representing a 2.0 per cent increase. Line loss volumes did not change materially from 2018 as there were no significant changes in generation dispatches due to stability in the flow of electricity on the transmission system.

Other Ancillary Services

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.

In 2019, other ancillary services costs are $25.8 million, which is $16.1 million or 38.4 per cent lower than the 2018 costs of $41.9 million. The decrease is mainly attributable to lower costs related to load shed service for imports.

($ Millions) Years ended December 31,	**2019**	**2018**	**Change**	**% Change**
Load shed service for imports	16.1	30.9	(14.8)	(47.9)
Transmission must-run				
Contracted	3.0	3.1	(0.1)	(3.2)
Conscripted	0.3	0.4	(0.1)	(25.0)
Reliability services	2.9	2.9	-	-
Poplar Hill	0.9	2.4	(1.5)	(62.5)
Black start	2.3	2.2	0.1	4.5
Transmission constraint rebalancing	0.3	-	0.3	-
Total Other Ancillary Services	**25.8**	**41.9**	**(16.1)**	**(38.4)**

Numbers may not add due to rounding

Load shed service for imports (LSSi) 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). The 2019 costs for LSSi are $16.1 million, which is $14.8 million or 47.9 per cent lower than the 2018 costs of $30.9 million. LSSi costs are impacted by volume availability, contract prices and AIES requirements for arming and tripping. In 2019, lower LSSi arming costs are the result of lower import volumes.

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). Contracted TMR costs in 2019 are $3.0 million, which is $0.1 million or 3.2 per cent lower than the 2018 costs of $3.1 million. Conscripted TMR costs in 2019 are $0.3 million, which is $0.1 million or 25.0 per cent lower than the 2018 costs of $0.4 million.

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. The agreement came into effect on April 1, 2015.

The Poplar Hill generator provides voltage support (VArs) in addition to power (MW), to support transmission system reliability in the province. The contract with Poplar Hill was terminated in July of 2019.

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.

Transmission constraint rebalancing 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 transmission constraint rebalancing under the Independent System Operator (ISO) Rules and would receive a transmission constraint rebalancing payment for energy provided for that purpose. Transmission constraint rebalancing came into effect on November 26, 2015. There was $0.3 million in transmission constraint rebalancing costs in 2019 and no significant events in 2018.

Other Industry Costs

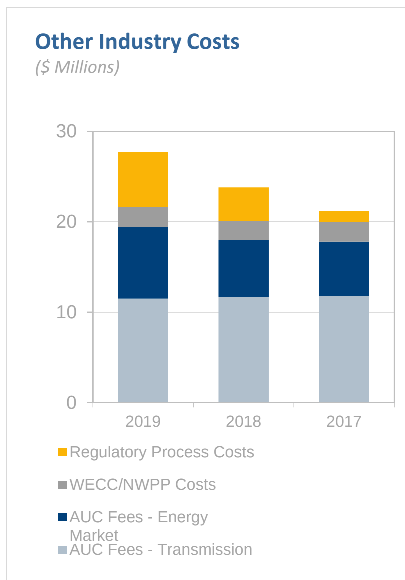
Other industry costs represent fees or costs paid based on regulatory requirements or membership fees for industry organizations, which are not under the direct control of the AESO. These costs relate to the annual administration fee for the AUC, the AESO's share of Western Electricity Coordinating Council (WECC), Northwest Power Pool (NWPP) and North American Electric Reliability Corporation (NERC) membership fees and regulatory process costs. Regulatory process costs are associated with the AESO's involvement in an AUC proceeding to hear objections and complaints to ISO Rules or a regulatory application 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 in 2019 are $27.7 million, which is $3.8 million or 15.9 per cent higher than 2018 costs of $23.9 million. The increase is mainly attributable to increased regulatory process costs in 2019.

($ Millions) Years ended December 31,	2019	2018	Change	% Change
AUC Fees – Transmission	11.5	11.7	(0.2)	(1.7)
AUC Fees – Energy Market	7.9	6.3	1.6	25.4
WECC/NWPP/NERC costs	2.2	2.1	0.1	4.8
Regulatory process costs	6.1	3.8	2.3	60.5
Other industry costs	**27.7**	**23.9**	**3.8**	**15.9**

Numbers may not add due to rounding

Under the provisions of the *Alberta Utilities Commission Act* (AUC Act), AUC operating and capital costs are recovered from natural gas and electricity market participants under its jurisdiction or any person to whom the AUC provides services. Accordingly, the AUC apportions its costs related to its electricity transmission and wholesale electric market activities to the AESO as an AUC administration fee. The AUC levies two separate administration fees to the AESO; a transmission fee that is recovered through the transmission tariff and an energy market fee that is recovered from market participants through the AESO's energy market trading charge on a per-MWh-traded basis. The AESO's share of WECC membership fees in 2019 is $2.0 million, which is consistent with the 2018 fees of $2.0 million. The remainder of costs relate to NWPP and NERC fees.



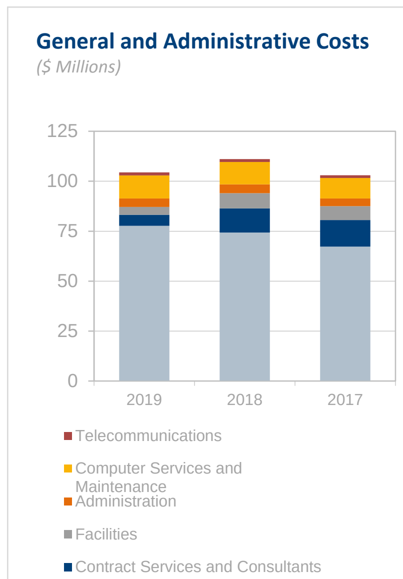
Regulatory process costs in 2018 are $6.1 million, which is $2.3 million or 60.5 per cent higher than 2018 costs of $3.8 million. The notable regulatory proceeding costs during 2019 relate to the AESO's involvement in several significant regulatory proceedings in 2019 including: capacity market – provisional proceeding; 2018 ISO tariff proceeding; and various Needs Identification Document (NID) proceedings.

General and Administrative Costs

($ Millions) Years ended December 31,	2019	2018	Change	% Change
Staff costs	77.7	74.3	3.4	4.6
Contract services and consultants	5.5	12.1	(6.6)	(54.5)
Facilities	3.9	7.6	(3.7)	(48.7)
Administration	4.3	4.4	(0.1)	(2.3)
Computer services and maintenance	11.5	11.2	0.3	2.7
Telecommunications	1.5	1.5	-	-
General and administrative costs	**104.4**	**111.1**	**(6.7)**	**(6.0)**

Numbers may not add due to rounding

General and administrative costs in 2019 are $104.4 million, which is $6.7 million or 6.0 per cent lower than the 2018 costs of $111.1 million. This decrease is mainly associated with a decrease in consulting costs, offset by an increase in staff costs. The decrease in facilities costs is due to new accounting requirements for leases as required by International Financial Reporting Standards (IFRS).



Staff Costs

The AESO is committed to the successful delivery of its corporate objectives and to achieve this, it is supported by knowledgeable and dedicated staff. To retain this strong resource base, a competitive compensation package is offered and a rewarding work environment has been cultivated.

In 2019, staff costs are $77.7 million, which is $3.4 million or 4.6 per cent higher than the 2018 costs of $74.3 million. The increase is associated with the conversion of consultants to staff positions through an initiative to retain knowledge and specialized talent within the AESO and to reduce overall costs as staff compensation is lower than the consulting-related costs.

Contract Services and Consultants

The AESO uses contract services and consultants to supplement staff resources for two general purposes: to provide knowledgeable experts to address specific work assignments and to provide resource support to address workload peaks to maintain seamless operations.

In 2019, contract services and consultants costs are $5.5 million, which is $6.6 million or 54.5 per cent lower than the 2018 costs of $12.1 million. For 2019 the decrease relates to the conversion of consultants to staff positions, as well as the cessation of REP procurement and capacity market initiatives.

Facilities

In 2019, facilities costs are $3.9 million, which is $3.7 million or 48.7 per cent lower than the 2018 costs of $7.6 million. The decrease in facilities costs is due to new accounting requirements for leases as required by IFRS, which classifies leases as right-of-use assets and liabilities, with associated costs charged to depreciation and interest.

Administration

Administration costs include training, travel, insurance, corporate subscriptions, AESO Board fees and office costs. In 2019, administration costs are $4.3 million, which is $0.1 million or 2.3 per cent lower than the 2018 costs of $4.4 million.

Computer Services and Maintenance

The AESO's investment in information technology infrastructure to support the organization's business operations requires ongoing costs to purchase annual software operating licenses and maintenance agreements.

In 2019, computer services and maintenance costs are $11.5 million, which is $0.3 million or 2.7 per cent higher than the 2018 costs of $11.2 million. The increase is a result of continued growth of required licenses, subscriptions and maintenance costs for new applications, and as a result of higher vendor costs from inflation adjustments for licenses and contracted costs. These factors are actively managed and offset through contract negotiations and vendor selection.

Telecommunications

The AESO incurs costs for network systems and telecommunications to support general business operations and, to a much larger extent, to support real-time operations. The strategy for developing and maintaining the telecommunication infrastructure is based on the requirement for high service availability, which necessitates redundancies of services and equipment.

In 2019, telecommunication costs are $1.5 million, which is consistent with 2018 costs.

Amortization and Depreciation and Interest

($ Millions) Years ended December 31,	2019	2018	Change	% Change
Amortization of right of use assets, intangible assets and depreciation of PP&E	38.8	26.1	12.7	48.8
Interest costs	5.4	1.4	4.0	283.2

Amortization of Intangible Assets and Depreciation of Right-of-use Assets and Property, Plant and Equipment

Intangible assets are amortized and right-of-use assets and PP&E is depreciated over their estimated useful lives. Right-of-use assets consist of office space and land leases. Intangible assets include the AESO's computer software purchases and development costs.

In 2019, amortization of intangible assets and depreciation of right-of-use assets and PP&E collectively total $38.8 million, which is $12.7 million or 48.8 per cent higher than the 2018 amortization of $26.1 million. The increase is primarily due to the write-off of $10.7 million in capacity market assets that no longer hold future value for the AESO following the July 24, 2019 announcement by the Government of Alberta that the province will not transition to a capacity market and will continue with an energy-only market, as well as the effect of IFRS 16 – *Leases.*

Interest

Interest costs are associated with borrowing costs for debt financing, portions of which are capitalized when directly incurred during the development or construction of an asset, financing costs associated with adjustments to the recognized decommissioning liability, and accretion of right-of-use lease liability.

Debt financing occurs to fund intangible asset and PP&E purchases, prepayments of future expenses and working capital deficiencies due to timing differences in the collection of revenues and payment of costs. Intangible assets and PP&E are financed through the AESO's credit facilities and recovered as amortization and depreciation over the useful lives of the assets. Capitalized borrowing costs in 2019 were $0.4 million (2018 - $0.1 million).

Interest costs in 2019 are $5.4 million, which is $4.0 million or 283.2 per cent higher than the 2018 costs of $1.4 million. The average borrowing requirements increased throughout the year in relation to changes in deferred revenue. Deferral account balances increased from a cumulative cash shortfall (receivable) of $38.4 million at December 31, 2018 to a cash shortfall (receivable) of $50.5 million at December 31, 2019. In addition, receivables of $154.1 million related to the deferral account reconciliation application for the 2017 and 2018 years were outstanding at December 31, 2019. The AESO had filed an application with the AUC requesting interim settlement of this balance on September 27, 2019. Following responses from impacted parties to the notice of application issued by the AUC, the AUC ruled against the AESO's request for immediate interim settlement and approved settlement of this balance effective January 1, 2020.

Right-of-use Assets

The AESO adopted IFRS 16 *Leases* using the modified retrospective method of application, with the date of initial application as of January 1, 2019. Under this method, the standard is applied retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application. The AESO recognized right-of-use assets and lease liabilities for those leases previously classified as operating leases, except for short-term leases and leases of low-value assets. The right-of-use assets were recognized based on the amount equal to the lease liabilities, adjusted for any related prepaid and accrued lease payments previously recognized. Lease liabilities were recognized based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application.

The impact of IFRS 16 was to record right-of-use assets with a value of $28.2 million and right-of-use liabilities of $24.7 million as at January 1, 2019. No new leases were recognized during 2019. Depreciation on the right-of-use assets was $3.5 million and the accretion of interest related to the right-of-use liabilities was $0.7 million for the year ended December 31, 2019.

Intangible Assets and Property, Plant and Equipment

Intangible asset and PP&E purchases total $40.4 million in 2019 compared to $25.1 million in 2018. The AESO's development and acquisition of intangible assets and PP&E, most significantly the investment in information technology infrastructure and business systems, is a key component of business operations. As with all information technology-intensive organizations, the AESO's challenge is to find the appropriate balance between implementing technology advancements, determining the level of information technology development that can be supported by business operations, and validating the overall financial requirement. To address these challenges, a vetting and prioritization process occurs to ensure intangible asset and PP&E purchases achieve the most beneficial and cost-effective results, while continuing to meet operating requirements.

In 2019, over 36.0 per cent of the intangible asset and PP&E purchases relate to the construction of an office building (Operations Support Centre) adjacent to the existing System Coordination Centre (SCC), which was ready for occupancy in September 2019.

The remainder of the intangible asset and PP&E purchases in both 2019 and 2018 are associated with base system hardware and software application replacements, additions, and continued development and upgrades to operational systems.

The AESO's net book value for intangible assets and PP&E total $96.1 million in 2019 compared to $90.9 million in 2018. As of December 31, 2019, approximately 63.5 per cent (2018 – 72.3 per cent) of the net book value relates to computer infrastructure and business systems with the remaining value associated with the AESO's SCC and Backup Coordination Centre, furniture and office equipment. The net book value of intangible assets includes an adjustment of $10.7 million for capacity market assets that were written-off during 2019 following the July 24, 2019 announcement by the Government of Alberta that the province will not transition to a capacity market and will continue with an energy-only market.

Service Area Cost Detail

Allocation of Costs for Revenue Requirements

The AESO recovers its operating, right-of-use assets, intangible assets and PP&E costs through four separate revenue sources. Each revenue source is designed to recover the costs directly related to a specific service as well as a portion of the shared corporate services costs. The majority of the revenues the AESO collects relate to the recovery of transmission operating costs (wires, ancillary services and transmission line losses costs). The remaining costs (general and administrative, other industry, amortization and depreciation and interest costs) are recovered through a methodology intended to relate the costs to the specific services that they support (transmission, energy market, REP or load settlement).

The allocation of costs to one of the AESO's four services is based on the direct or indirect relationship the costs have to one of the services. If an operating cost is directly associated with a service, the cost will be assigned directly to that service (e.g., a consultant cost in the transmission group would be assigned 100 per cent to transmission and recovered through the transmission tariff). Alternatively, if an operating cost is not directly associated with any one service (typical for corporate service areas), the cost will be allocated to the services based on the value of the directly assigned costs. This methodology assumes that the service with the higher direct costs would contribute to a higher demand for general costs (such as corporate services) and therefore be assigned a higher percentage allocation.

Exceptions to this general methodology arise for information technology, office operating costs, interest expense, other industry costs, right-of-use asset, intangible asset and PP&E costs. Information technology costs are allocated based on an activity-based analysis to reflect the nature of the underlying costs. Office operating costs and right-of-use asset depreciation costs (office leases) are allocated based on the staff associated with the four services and specific uses of space. Interest expense is allocated based on the service for which the borrowed funds were required. Other industry costs are allocated based on the nature of the specific cost. Intangible asset and PP&E purchases made to support one service are recovered from that service or alternatively from multiple services based on management judgment, taking into consideration the business or operating activities that will be supported by the assets.

Allocation and Cost Classifications

General Classification	Cost Categories	AESO Services (%) Trans-mission	Energy Market	REP	Load Settlement
Operating	• Wires	100	-	-	-
	• Ancillary services	100	-	-	-
	• Transmission line losses	100	-	-	-
Non-operating	• Other industry • General and administrative • Amortization of intangible assets and depreciation of right-of-use assets and PP&E • Interest	Costs allocated based on established methodology			

Allocation of Non-Operating Costs

Based on the allocation methodology, the AESO recovers the non-operating costs from the four revenue sources.

($ Millions) Years ended December 31,		Trans-mission	Energy Market	Renewables Electricity Program	Load Settlement	Total
Other industry	**2019**	**15.4**	**12.3**	**-**	**-**	**27.7**
	2018	15.5	8.4	-	-	23.9
General and administrative	**2019**	**73.4**	**27.3**	**2.5**	**1.2**	**104.4**
	2018	70.3	34.2	5.2	1.4	111.1
Amortization and depreciation	**2019**	**20.5**	**17.9**	**0.3**	**0.1**	**38.8**
	2018	18.5	7.5	-	0.1	26.1
Interest	**2019**	**3.5**	**1.4**	**0.5**	**-**	**5.4**
	2018	0.5	0.6	0.3	-	1.4
Total	**2019**	**112.8**	**58.9**	**3.3**	**1.3**	**176.3**
	2018	104.8	50.7	5.5	1.5	162.5

Numbers may not add due to rounding

Other Industry

The allocation of other industry costs are based on the nature of the specific costs, with an increase allocated to the energy market in 2019 as a result of capacity market proceedings and cost awards as well as regulatory costs associated with recalculation of loss factors for years 2006 through 2016 (in accordance with AUC Decision 790).

General and Administrative

The percentage allocation of general and administrative costs associated with the energy market decreased in 2019 due to the July 24, 2019 announcement by the Government of Alberta that the province will not transition to a capacity market and will continue with an energy-only market.

Amortization and Depreciation

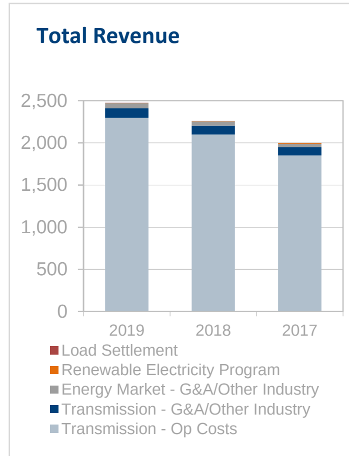
The percentage allocation of amortization and depreciation associated with the energy market increased primarily due to the write-off of $10.7 million in capacity market assets that no longer hold future value for the AESO following the July 24, 2019 announcement by the Government of Alberta that the province will not transition to a capacity market and will continue with an energy-only market.

Interest

The allocation of interest costs is impacted by cash shortfalls and surpluses from various sources including: net book value of intangible assets and PP&E; deferral account balances; deposits such as generating unit owner’s contributions, application fees, security; and, prepayments for future expenses. The cash flow sources are associated with each of the service areas to determine the allocation of interest costs and will vary each year.

Total Revenues

The EUA requires that the AESO operates so that no profit or loss results on an annual basis from its operations. To achieve this, revenue is recognized to the extent of annual operating costs, including the amortization of intangible assets and depreciation of PP&E. When revenue collections differ from the annual operating costs, the difference is recorded as an adjustment to revenue, recognized as other accounts receivable or payable and subsequently collected or refunded. The AESO's four revenue sources are from: market participants for transmission and energy market; REP suppliers and from owners of electric distribution systems; and, wires service providers for load settlement. There is no government funding for AESO operations.



Total Revenue

($ Millions) Years ended December 31,	**2019**	**2018**	**Change**	**% Change**
Revenue collections				
Transmission	2,251.5	2,185.2	66.3	3.0
Energy market	55.4	30.9	24.5	79.3
Renewable electricity program	0.1	1.3	(1.2)	(92.3)
Load settlement	1.3	1.2	0.1	8.3
Total revenue collections	**2,308.3**	**2,218.6**	**89.7**	**4.0**
(Deferred revenue) revenue				
Transmission	159.5	19.0	140.5	739.5
Energy market	3.4	19.8	(16.4)	(82.8)
Renewable electricity program	3.3	4.3	(1.0)	(23.3)
Load settlement	-	0.2	(0.2)	(100.0)
Total (deferred revenue) revenue	166.2	43.3	122.9	283.8
Total revenue	**2,474.5**	**2,261.9**	**212.6**	**9.4**

Numbers may not add due to rounding

Transmission

The AESO is responsible for paying all of the costs incurred in managing the provincial transmission system and recovering the costs through a tariff approved by the AUC. The transmission tariff is designed to allocate the costs to all users of the transmission system based on the metered demand and energy for system access service.

On a monthly basis, the AESO invoices market participants for transmission system access services based on approved tariff rates. The AESO also pays for costs associated with providing system access services. The monthly difference in the revenues collected and the costs incurred is accumulated in the AESO's transmission deferral account and can be attributed to several factors:

- forecast variances (pool price volatility, meter volumes and regulatory decisions);
- timing of revenues and costs (monthly fluctuations); and
- any misalignment of approved rates and the current year revenue requirement (delays in having the current year rates approved).

When transmission revenue collections are greater than transmission costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When transmission revenue collections are less than transmission costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

TRANSMISSION DEFERRAL SUMMARY

($ Millions) Years ended December 31,	**2019**	**2018**
Revenue collections	2,251.5	2,185.2
Costs	2,411.0	2,204.2
Transmission revenue (deferred revenue)	**159.5**	**19.0**
Other accounts receivable (payable), beginning of year	9.8	(35.4)
Disbursement (receivable) of the deferral account reconciliation applications: 2016, 2017 and 2018	(154.1)	26.2
Other accounts receivable, end of year	**15.2**	**9.8**

Numbers may not add due to rounding

As part of the transmission tariff, Deferral Account Adjustment Rider C is intended to bring the transmission deferral account balance for rate categories other than transmission line losses to zero during the following calendar quarter. It is an additional percentage charge or credit that applies to each of the components of Rates Demand Transmission Service (DTS) and Fort Nelson Demand Transmission Service (FTS). Losses Calibration Factor Rider E is intended to bring the transmission line losses deferral account balance to zero during the remainder of the calendar year. Rate Rider E is a percentage adjustment to all location-specific loss factors.

For rate categories other than transmission line losses, the AESO files a retrospective deferral account reconciliation application with the AUC for approval of the final settlement amounts. The final reconciliation process associates all revenue and cost adjustments by rate category to the appropriate production month and allocates the corresponding charges and refunds to market participants. For transmission line losses, Rate Rider E is a prospective adjustment for the reconciliation of deferral account balances.

The transmission settlement deferral account at December 31, 2019 is a $15.2 million receivable compared to a $9.8 million receivable at the end of 2018. The change of $5.4 million during 2019 is mainly attributable to costs in excess of revenue collections.

Energy Market

The AESO recovers the costs of operating the real-time energy market through an energy market trading charge on all MWh traded. The AESO's component of the energy market trading charge recovers regulatory process costs, general and administrative costs, interest, amortization of intangible assets and depreciation of right-of-use assets and PP&E. The energy market trading charge also recovers the AUC administration fee and the operating costs for the Market Surveillance Administrator (MSA), which are organizations that are independent of the AESO's operations.

For 2019, the AESO's component of the energy market trading charge is 37.7 cents per MWh compared to 18.2 cents per MWh in 2018.

Energy market collections are dependent on the energy market trading charge and the volume of energy traded through the power pool.

When energy market revenue collections are greater than energy market costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When energy market revenue collections are less than energy market costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

The energy market deferral account is the accumulated difference between revenues collected and costs paid that is receivable from, or payable to, energy market participants. The 2019 energy market trading charge includes a 3.0 cent per MWh shortfall from 2018. The 2018 deficit is due to the February 2018 amendment of the AESO's budget to accommodate additional costs for capacity market initiatives. The 2018 trading charge was not adjusted for the budget amendment.

ENERGY MARKET DEFERRAL SUMMARY

($ Millions) Years ended December 31,	**2019**	**2018**
Revenue collections	55.4	30.9
Costs	58.8	50.7
Energy market deferred revenue	**3.4**	**19.8**
Other accounts receivable, beginning of year	15.4	(4.4)
Other accounts receivable, end of year	**18.8**	**15.4**

Numbers may not add due to rounding

The energy market deferral account at December 31, 2019 is an $18.8 million receivable compared to a $15.4 million receivable at the end of 2018. The deferral includes a $10.7 million write-off of capacity market assets that no longer hold future value for the AESO, in addition to the shortfall carried over from 2018. The AESO plans to recover the estimated cumulative shortfall at the end of 2019 over the period 2020 through 2022.

Renewable Electricity Program

The AESO is responsible for administering the REP and recovering the costs through fees charged during each competition and in accordance with Renewable Electricity Support Agreements with generators. The REP service area at the AESO started in 2016 with the Government of Alberta's announcement of the Climate Leadership Plan. Revenue collections started in 2017 with the first competition for renewable attributes under the REP. On June 10, 2019 the Government of Alberta advised the AESO that they will not be continuing with the REP and thus do not intend to proceed with additional competition rounds. The government provided direction moving forward that the AESO should continue to administer the projects and contracts awarded under previous REP rounds. AESO costs associated with the REP include general and administrative costs, interest, amortization of intangible assets and depreciation of right-of-use assets and PP&E.

When REP revenue collections are greater than REP costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When REP revenue collections are less than REP costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

The REP deferral account is the accumulated difference between revenues collected and costs that will be settled with the Government of Alberta at the conclusion of the REP.

RENEWABLE ELECTRICITY PROGRAM DEFERRAL SUMMARY

($ Millions) Years ended December 31,	2019	2018
Revenue collections	0.1	1.3
Costs	3.4	5.5
Renewable Electricity Program deferred revenue	**3.3**	**4.2**
Other accounts receivable, beginning of year	13.0	8.8
Other accounts receivable, end of year	**16.3**	**13.0**

Numbers may not add due to rounding

The REP deferral account at December 31, 2019 is a $16.3 million receivable compared to a $13.0 million receivable at the end of 2018. The fee structure for the REP includes separate fees associated with the recovery of development, implementation and administration costs. Implementation and administration costs will be recovered from REP suppliers following their facility energization dates.

Load Settlement

Under the ISO Rules, costs that are incurred to provide services related to administering provincial load settlement are charged to the owners of electric distribution systems and wires service providers conducting load settlement. The costs associated with load settlement include general and administrative costs, interest, amortization of intangible assets and depreciation of right-of-use assets and PP&E.

When load settlement revenue collections are greater than load settlement costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When load settlement revenue collections are less than load settlement costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

The load settlement deferral account is the accumulated difference between revenues collected and costs paid that is receivable from, or payable to, owners of electric distribution systems and wires service providers.

LOAD SETTLEMENT DEFERRAL SUMMARY

($ Millions) Years ended December 31,	**2019**	**2018**
Revenue collections	1.3	1.2
Costs	1.3	1.4
Load settlement deferred revenue	**-**	**0.2**
Other accounts receivable (payable), beginning of year	0.2	(0.1)
Other accounts receivable, end of year	**0.1**	**0.2**

Numbers may not add due to rounding

The load settlement deferral account at December 31, 2019 is a $0.1 million receivable compared to a $0.2 million receivable at the end of 2018. The change of $0.1 million is the result of load collections exceeding costs. The collections are based on a forecast of 2019 costs.

Market Surveillance Administrator Charge

A portion of the energy market trading charge collected by the AESO is remitted to the MSA for its revenue requirement in accordance with the AUC Act. The AESO facilitates the cash collection process for the funding of the MSA through a per-MWh addition to the AESO's energy market trading charge. In 2019, the MSA's portion of the total energy market trading charge is 4.8 cents per MWh compared to 3.2 cents in 2018.

The MSA's revenue and costs are separate and independent of the AESO's financial records. The AESO records the difference between the payments made to the MSA and the collection on behalf of the MSA in a separate deferral account. At the end of 2019, the MSA payments exceeded the MSA collections, resulting in a deferral accounts receivable balance of $0.2 million compared to a payable balance of $0.2 million at the end of 2018.

Financial Position and Liquidity

At December 31, 2019, the cash position is $3.8 million, a decrease of $151.6 million compared to 2018. Notable changes are:

($ Millions) Years ended December 31,	2019	2018
Funds provided by operations	39.8	25.7
Prepayments used for future services	2.7	3.8
Payments for long-term payables	1.3	(4.0)
Cash used in settlements	(335.3)	(22.9)
Cash used for capital expenditures	(41.3)	(22.2)
Proceeds from debt financing	185.6	59.9
Other	(4.4)	1.7
(Decrease) increase in cash	**(151.6)**	**42.0**

Cash Provided By Settlements

At December 31, 2018, the net balance of the accounts receivable, accounts payable and accrued liabilities, other accounts receivable, and other settlement-related accounts payable, was a payable of $105.7 million. The balances in these accounts are associated with cash collections for the transmission, energy market, REP, load settlement and MSA settlements offset by the cash payments made by the AESO.

During 2019, cash flows for these accounts and the 2019 transactions resulted in a December 31, 2019 net receivable balance of $229.5 million. The $335.3 million change from 2018 to 2019 is associated with cumulative costs in excess of revenue collections for prior production years in the amount of $154.1 million, to be collected from the 2017 and 2018 deferral account reconciliation application filed with the AUC and approved for settlement in January 2020. It is also due to the effect of both the November and December production month cash settlement for 2018 occurring in 2019, whereas 2019 has only one settlement period due in the subsequent year. The shortfall is also due to the recovery of costs deferred to future periods through the energy market trading charge.

Debt Financing and Credit Facilities

As at December 31, 2019, the AESO had the following credit facilities available to fund general operating, intangible asset and PP&E purchasing activities:

($ Millions) Years ended December 31, 2019	Total	Available	Used
Demand revolving facility	340.0	41.4	298.6

The demand facility includes a $10.0 million letter of credit at December 31, 2019 and 2018, which is issued as financial security for the AESO's procurement of operating reserves.

Throughout 2018 and 2019, the AESO's credit rating has been AA-/Stable from Standard and Poor's (S&P) Ratings Services. S&P is a leading global provider of independent credit risk research and benchmarks.

Future Outlook

Over the past few years, significant change has occurred in the provincial economy, the electricity industry and also within the AESO. In early 2017, the AESO began the design and implementation of a new electricity framework that included a revised energy market and a capacity market. The first delivery of capacity was expected to occur in 2021. Design and implementation of the new framework began in early 2017 and culminated in several critical milestones that were reached in 2018. The AESO issued its final Comprehensive Market Design (CMD), outlining the design elements of the new capacity market. Simultaneous with and subsequent to the completion of the CMD, the AESO focused on the drafting and consultation of the ISO Rules related to the new capacity market. In January 2019, the AESO filed the ISO Rules with the AUC. However, on July 24, 2019, the Government of Alberta announced that the province will not transition to a capacity market and will continue with an energy-only market. All activities related to the implementation were ceased.

The AESO was directed by the Government of Alberta to provide advice by July 31, 2020 on whether changes are needed to the energy-only market, including changes to the price floor/ceiling and shortage pricing. In addition, the AESO was directed by the Government of Alberta to provide advice on market power and market power mitigation for the ancillary services and energy-only markets by November 29, 2019. The information was provided to the Minister of Energy in accordance with the required timeline.

The AESO continues the administration of the REP. The program was announced in March 2017 and attracted strong national and international interest in developing renewable generation in Alberta. The competitive process was designed to ensure new projects would not affect the reliability of the electricity grid and power is delivered at the lowest possible cost to consumers. Three rounds of competitions were completed throughout 2017 and 2018, resulting in: four successful projects for REP Round 1 representing approximately 596 MW of renewable wind generation; five successful projects for REP Round 2 representing approximately 363 MW of renewable wind generation; and, three successful projects for REP Round 3 representing approximately 400 MW of renewable wind generation. On June 10, 2019 the Government of Alberta advised the AESO that they will not be continuing with the REP and thus do not intend to proceed with additional competition rounds. The AESO continues to administer the projects and contracts awarded.

On Nov. 29, 2017, the Government of Alberta requested that the AESO review electricity system reliability requirements to assess any potential need for dispatchable renewables and energy storage as significant intermittent generation is added to the grid to meet the 30-by-30 target established in the Climate Leadership Plan (by 2030, 30 per cent of the energy in Alberta will be from renewable resources and coal-generated electricity will be phased out). The AESO executed a thorough assessment, in-depth technical analysis and broad stakeholder engagement culminating in a *Dispatchable Renewables and Energy Storage Report* in May 2018. As next steps, the AESO will continue the development of an Integrated Flexibility Roadmap, including implementation of the dispatch tolerance and ramp rate rule changes to provide a sustainable process to assess future flexibility. Continued technology integration market design work will be completed to align with the Dispatchable Renewables and Energy Storage Roadmap and Distributed Energy Resources Roadmap. This critical work will ensure that as technologies develop, barriers to integration are not created, and that tariff structures appropriately recognize the unique aspects of storage systems.

In 2017, the competitive process for transmission infrastructure reached significant project milestones culminating in the execution of the second and final long-term contract with the AESO. This process began in 2014 when a party was selected through a competitive process to develop, design, construct, finance, own, operate and maintain the Fort McMurray West 500kV Transmission (WFMAC) Project. The term of the two contracts will collectively span a period of approximately 38 years. The AESO entered into a Project Agreement for the WFMAC project with the selected party on September 28, 2017. During 2018 the AUC approved the tariff application which set out the rates to be paid by the AESO for the use of the owner's transmission facility. The rates are based on the terms and conditions and pricing resulting from the competitive process as set out in the Project Agreement. The project achieved commercial operation on March 28, 2019.

In March 2018, the AESO began the construction of an expansion of the AESO's SCC to construct an adjacent office building (42,000 square feet of space), which will accommodate additional operational staff in close proximity to the real-time operations. The facility was ready for occupation in September 2019, coming in $1.1 million under budget at a total cost of $22.0 million.

As the AESO looks to the future it remains dedicated to reliability and ensures continual advancement in Critical Infrastructure Protection (CIP) standards and cyber security requirements, as well as advancement of the AESO's Energy Management System (EMS) sustainment program to support reliability and operation of the evolving, complex market and electric systems.

In accordance with the EUA, the AESO Board approves an annual budget to support ongoing operations and to procure transmission services. To recover the costs that are incurred while adhering to the requirement of the EUA for the AESO to operate with no profit or loss on an annual basis, cost-recovery mechanisms are established and approved by the AESO Board, and for transmission-related wires costs through TFO tariffs approved by the AUC under Section 37 of the EUA.

For transmission operating and other industry costs in 2020, the AESO established a cost estimate of $2,311.9 million, which is $1.6 million or less than 1.0 per cent lower than the 2019 actual costs of $2,313.5 million. The lower 2020 forecast is associated with lower other-industry costs, offset by higher wires costs based on TFO tariffs approved or applied for by the fourth quarter of 2019 when the forecast was prepared and, higher operating reserves and transmission line-losses costs associated with higher forecasted pool prices. The recovery of the AESO's transmission-related costs occurs through approved transmission tariff rates.

For energy market-related activities, the annual costs are forecast to decrease to $30.9 million in 2020 from the 2019 actual costs of $58.9 million, a $28.0 million or 47.5 per cent decrease. This forecast decrease is associated with the July 24, 2019 Government of Alberta decision that the province will not transition to an energy-only market. The AESO's portion of the 2020 energy market trading charge will increase to 37.8 cents per MWh in 2020 compared to 37.7 cents per MWh in 2019, an increase of 0.1 cents per MWh. The 2019 trading charge includes the recovery of a portion of the capacity market deficit carried forward from 2018, as well as an additional deficit from 2019, which incorporates a $10.7 million write-off of capacity market assets that no longer hold future value for the AESO. The 2018 deficit is due to the February 2018 amendment of the AESO's budget to accommodate additional costs for capacity market initiatives. The 2018 trading charge was not adjusted for the budget amendment. It was indicated during the annual budget review process that the trading charge would not be amended and any shortfall would be recovered through future trading charge adjustments. The AESO plans to recover the estimated cumulative shortfall at the end of 2019 over the period 2020 through 2022.

For the REP-related initiatives, the annual costs are forecast to decrease to $2.2 million in 2020 from the 2019 actual costs of $3.4 million, a $1.2 million or 35.3 per cent decrease. This forecast reflects a shift from the competitive process and implementation activities to ongoing program support.

Risk Management

The AESO is exposed to various risks in the normal course of business. Many of these are similar to risks faced by other companies including independent electric system operators and wholesale market operators.

The AESO Board is responsible for understanding and providing oversight for principal risks associated with the AESO's duties and responsibilities. AESO management is responsible for the ongoing operations of the organization including integrating risk management into operations.

The risk management processes that the AESO has developed are designed to proactively identify the risks confronting the AESO, to assess the impact and likelihood of those risks occurring, and to determine mitigation strategies to acceptable levels of residual risk.

Risk management is a key element of organizational governance and is characterized by a philosophy of continuous improvement. The key features of the AESO's governance and internal control environment, which facilitate the AESO's risk management processes, are as follows:

- The AESO is established by the EUA. The AESO's business and affairs are governed by Members of the AESO (Members). Members are individuals who are independent from any person having a material interest in the Alberta electricity industry and are appointed by the Alberta Minister of Energy. The Members function as a board of directors (AESO Board) and act in the public interest. The *Alberta Public Agencies Governance Act* is legislation applicable to the AESO that addresses certain duties of the AESO as a "public agency" under that Act.
- AESO policies are developed and approved by the AESO Board or the President and Chief Executive Officer as delegated by the AESO Board. AESO policies are communicated to employees and, as appropriate, to contractors. AESO policies are reviewed on a regular basis and are accessible by employees at all times.
- The AESO is committed to maintaining a high level of ethics and integrity. The AESO Board and AESO management foster these values throughout the organization and administering an *AESO Complaint Policy*. The AESO maintains a code of conduct applicable to its Members, officers, employees and contractors, which serves as a framework for these individuals when they are faced with difficult situations where laws and regulations may not provide sufficient direction and assistance. The *AESO Code of Conduct* is a policy by which all employees must abide. All employees must acknowledge their agreement with that policy when hired and review it at least annually to confirm compliance/non-compliance. AESO contractors have similar requirements, as appropriate, given the nature of their work for the AESO. Each Member of the AESO Board is bound by the *AESO Code of Conduct* and similarly provides an annual confirmation of their compliance/non-compliance.
- AESO management is responsible for establishing and maintaining adequate internal controls over financial reporting. These controls are designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards. Internal controls over financial

reporting, no matter how well designed, have inherent limitations and provide only reasonable assurance with respect to financial statement preparation. Accordingly, they may not prevent or detect all misstatements or fraud and error.

The AESO conducts an annual assessment of the design and effectiveness of its internal controls over financial reporting based on an accepted industry framework. The framework adopted by the AESO for this assessment is the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, AESO management has concluded that, as of December 31, 2019, the AESO maintains, in all material respects, effective internal controls over financial reporting.

- The Audit Committee provides oversight, in accordance with the Audit Committee Charter, on the system of internal controls, the systems for managing risk, the external audit process and the AESO's process for monitoring compliance with laws and regulations, with a view to adopt best practices, as appropriate.
- The AESO's Controls and Audit Services function provides the AESO with an objective and independent assessment of internal controls, and coordinates and identifies opportunities for improvement. The Controls and Audit Services function reports directly to the Audit Committee and meets regularly with the Audit Committee independent of AESO Management.
- Ongoing communication and reporting related to identified risk events and opportunities and the activities to mitigate or capitalize on them are provided to AESO Management and the AESO Board through various risk reports. Risk reporting is updated on a quarterly basis, and the AESO's overall listing of risk events (Risk Event Register) is refreshed annually; however, it is updated with new and emerging risk events as they arise.
- The AESO, its Members, officers, employees and contractors are extended a degree of statutory liability protection consistent with the AESO's public interest mandate.
- The AESO carries insurance coverage that is reviewed and approved as appropriate by the AESO Board through the Audit Committee. The insurance coverage may not be adequate to cover all possible risks and the proceeds of any insurance claim may not be adequate to cover all potential losses.

Forward-looking Statements

This MD&A contains forward-looking statements that are subject to certain assumptions and risks that create uncertainties. These assumptions and risks could cause actual results to differ materially from results anticipated by the forward-looking statements.

Additional Information

Additional information relating to the AESO can be found on the corporate website at www.aeso.ca

2019 YEAR IN REVIEW

FINANCIAL STATEMENTS AND NOTES

MANAGEMENT’S RESPONSIBILITY FOR FINANCIAL REPORTING

The financial statements of the Alberta Electric System Operator (AESO) are the responsibility of management and have been approved by the AESO Board. These financial statements have been prepared by management in accordance with International Financial Reporting Standards, appropriate in the circumstances, and include the use of estimates and assumptions that have been made using management’s best judgment. Financial information contained in the management’s discussion and analysis of financial condition and results of operations (MD&A) is consistent with that in the financial statements.

To discharge its responsibility for financial reporting, management maintains a system of internal controls designed to provide reasonable assurance that the AESO’s assets are safeguarded, that transactions are properly authorized and that financial information is relevant, accurate and available on a timely basis. Internal controls are reinforced through the *AESO Code of Conduct*, which sets forth the AESO’s commitment to conduct business with integrity and to comply with the law.

The AESO Board, through the Audit Committee, is responsible for ensuring management fulfils its responsibility for financial reporting and internal controls. The Audit Committee meets regularly with management, internal auditors and external auditors to discuss any significant accounting, internal control and auditing matters to determine that management is carrying out its responsibilities and to review and recommend the approval of the financial statements by the AESO Board.

The financial statements have been examined by Ernst & Young LLP, the AESO’s external independent auditors who are engaged by the AESO Board. The responsibility of these external auditors is to examine the financial statements and express their opinion on the fairness of the financial statements in accordance with International Financial Reporting Standards. The external auditors’ report outlines the scope of their examination and states their opinion. Internal and external auditors have access to the Audit Committee, with and without the presence of management.

Michael Law

Michael Law
President and Chief Executive Officer

Todd Fior

Todd D. Fior, CPA, CA
Vice-President, Finance and Chief Financial Officer

INDEPENDENT AUDITOR'S REPORT

To the Members of the Independent System Operator, operating as Alberta Electric System Operator, Board

Opinion

We have audited the financial statements of the Alberta Electric System Operator ("AESO"), which comprise the statements of financial position as at December 31, 2019 and 2018, and the statements of income and comprehensive income and cash flows for the years then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects the financial position of the AESO as at December 31, 2019 and 2018, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards (IFRS).

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the AESO in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

Management is responsible for the other information. The other information comprises:

- Management's Discussion and Analysis of Financial Condition and Results of Operations

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information, and in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

We obtained Management's Discussion and Analysis of Financial Condition and Results of Operations prior to the date of this auditor's report. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the AESO's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the AESO or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the AESO's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the AESO's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the AESO's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the AESO to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ernst & Young LLP

Chartered Professional Accountants

Calgary, Canada
February 13, 2020

STATEMENTS OF FINANCIAL POSITION

(in millions of Canadian dollars)

As at December 31,	2019	2018
Assets		
Current assets		
Cash and cash equivalents	$ 3.8	$ 155.4
Accounts receivable (*note 3*)	304.4	199.2
Other accounts receivable (*note 4*)	24.3	16.8
Prepaids and deposits	7.2	7.3
	339.7	**378.7**
Non-current assets		
Long-term other accounts receivable (*note 4*)	26.2	21.6
Long-term prepaids (*note 5*)	27.1	33.0
Right of use assets, net (*note 6*)	24.8	-
Intangible assets, net (*note 7*)	47.3	53.9
Property, plant and equipment, net (*note 8*)	48.8	37.0
	$ 513.9	**$ 524.2**
Liabilities		
Current liabilities		
Accounts payable and other liabilities (*note 9*)	$ 152.9	$ 372.4
Current portion of lease liabilities (*note 10*)	3.0	-
Credit facility (*note 11*)	288.6	103.0
	444.5	**475.4**
Non-current liabilities		
Deferred revenue	0.5	-
Long-term portion of lease liabilities (*note 10*)	18.9	-
Generating unit owner's contribution (*note 12*)	49.3	48.5
Asset retirement obligation (*note 13*)	0.7	0.3
Equity (*note 1*)	-	-
	$ 513.9	**$ 524.2**

Commitments and contingencies *(notes 14 and 15)*

See accompanying notes to the financial statements.

STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

For the year ended December 31 (in millions of Canadian dollars)

	2019	2018
Revenue		
Revenue from contracts with market participants		
Transmission tariff	$ 2,409.5	$ 2,202.6
Energy market charge	58.5	50.4
Renewable electricity program charges	3.4	5.5
Load settlement charge	1.3	1.4
	2,472.7	**2,259.9**
Interest and other	1.8	2.0
	2,474.5	**2,261.9**
Operating costs and expenses		
Wires costs	1,976.1	1,724.8
Ancillary services costs	212.9	277.9
Transmission line losses	109.2	96.7
General and administrative (*note 20*)	104.4	111.1
Other industry costs	27.7	23.9
Amortization and depreciation (*notes 6, 7 and 8)*	38.8	26.1
Interest expense (*note 21*)	5.4	1.4
	2,474.5	**2,261.9**
Net income and comprehensive income	**$ -**	**$ -**

See accompanying notes to the financial statements.

STATEMENTS OF CASH FLOWS

For the year ended December 31 (in millions of Canadian dollars)

	2019	2018
Operating activities		
Net income	**$ -**	**$ -**
Items not affecting cash		
Amortization and depreciation	38.8	26.1
Accretion of asset retirement provision	0.1	(0.4)
Accretion of right-of-use lease liability	0.7	
Increase in asset retirement obligation	0.2	-
Change in long-term other accounts receivable	(4.6)	(12.8)
Change in long-term prepaids	2.7	3.8
Change in long-term payables	1.3	(4.0)
Change in non-cash operating working capital balances		
Accounts receivable	(105.2)	15.9
Other accounts receivable	(7.5)	(16.8)
Prepaids and deposits	(0.1)	0.3
Accounts payable and other liabilities	(218.8)	(7.8)
Net cash (used in) provided by operating activities	**(292.4)**	**4.3**
Investing activities		
Additions to intangible assets	(22.4)	(13.8)
Additions to property, plant and equipment	(18.0)	(11.3)
Change in non-cash investing working capital balances		
Accounts payable and accrued liabilities	(0.9)	2.9
Net cash used in investing activities	**(41.3)**	**(22.2)**
Financing activities		
Payment of lease liabilities	(3.5)	-
Change in debt financing	185.6	59.9
Net cash provided by financing activities	**182.1**	**59.9**
(Decrease) increase in cash position	**(151.6)**	**42.0**
Beginning of year	**155.4**	113.4
End of year	**$ 3.8**	**$ 155.4**
Cash interest paid	$ 4.9	$ 1.9

See accompanying notes to the financial statements.

NOTES TO THE FINANCIAL STATEMENTS

(All amounts are in millions of Canadian dollars unless otherwise indicated)

1. Nature of Operations

The Independent System Operator (ISO), operating as the Alberta Electric System Operator (AESO), is a statutory corporation established on June 1, 2003 under the *Electric Utilities Act* (EUA) of the Province of Alberta.

The AESO is responsible for operating Alberta's fair, efficient and openly competitive energy market for electricity; determining the order of dispatch of electric energy and ancillary services; providing system access service on the transmission system; directing the safe, reliable and economic operation of the interconnected electric system; planning the capability of the transmission system to meet future needs; administering the Renewable Electricity Program (REP); and administering load settlement.

The AESO's business is governed by Members of the AESO (Members). Members are individuals who are independent from any person or entity having a material interest in the Alberta electricity industry and are appointed by the Alberta Minister of Energy. The Members function as a board of directors (AESO Board) and act in the public interest. As at December 31, 2019, the AESO Board has four committees: Audit Committee; Human Resources Committee; Governance and Nominations Committee; and Power System Committee.

The EUA requires that charges to industry, including the transmission tariff, energy market charge, REP charges and load settlement charge, be set to recover the costs required to operate the AESO, and that the AESO be operated so no profit or loss results on an annual basis from its operations. The AESO has no equity and accordingly these statements contain no Statement of Changes in Equity.

2. Significant Accounting Policies

2.1 Basis of presentation and statement of compliance

These financial statements have been prepared by management in accordance with IFRS as issued by the International Accounting Standards Board (IASB).

The financial statements have been prepared on the historical cost basis except for financial instruments that are measured at fair value. The financial statements are presented in millions of Canadian dollars, which is the AESO's functional currency.

The AESO Board authorized these financial statements for issue February 13, 2020.

2.2 Summary of significant accounting policies

a) Revenue recognition

The AESO's revenue is derived through four separate charges: the (i) transmission tariff; (ii) energy market charge; (iii) REP charges; and (iv) load settlement charge. Each of these charges is set to recover the costs directly attributable to a specific service as well as a portion of the shared corporate services costs. Consistent with the requirements of the EUA, which requires the AESO to operate with no annual profit or loss, revenue is recognized equivalent to the aggregate of annual operating costs on a service area basis.

Transmission tariff revenue is recognized on a monthly basis consistent with the billing cycle in which the AESO invoices market participants for transmission system access services. Revenues are based on the metered demand and energy for system access service, as specified in the Alberta Utilities Commission-approved tariff rates.

When a market participant reduces or terminates contract capacity for system access service, a lump-sum payment may be required in lieu of notice under the terms of the transmission tariff. A payment received by the AESO in advance of the effective date of a change to a system access service agreement is recognized as deferred revenue and subsequently recognized as transmission tariff revenue on the effective date of the change.

Energy market charge revenue is recognized on a monthly basis consistent with the billing cycle in which the AESO invoices market participants to recover the costs of operating the real-time energy market. Revenues are based on the per-megawatt-hour energy market charge and the volume of energy traded through the power pool.

Renewable electricity program revenue is recognized as the AESO invoices market participants in accordance with renewable electricity support agreements. Revenues are based on the costs directly attributable to REP services.

Load settlement revenue is recognized as the AESO invoices load settlement agents. Revenues are based on the costs directly attributable to the load settlement services.

Payment of transmission tariff, energy market and REP revenue is generally due on the twentieth (20^{th}) business day following the month in which the revenue is recognized. Amounts receivable represent the AESO's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due). Payment terms for all other revenue are typically within 30 days of receipt of an invoice.

The AESO utilizes deferral accounts to record the differences between revenues collected and costs paid with the amounts recognized as other accounts receivable or other accounts payable. On an individual basis for the transmission, energy market, REP and load settlement services, in circumstances where collections are greater than costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. In circumstances where collections are less than costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected. The refunds or collections are settled with market participants for the transmission, energy market, and REP services and with the owners of electric distribution systems and wires service providers for load settlement services.

Interest and other revenue represents revenue received from third parties and includes, but is not limited to, bank interest and interest on past due accounts; cancellation and performance forfeitures by market participants; a government grant; sublease rent and services; market participant fees; and cost recoveries for training courses. Interest and other revenue are recognized on the accrual basis as the revenue is earned.

As directed in the *Alberta Utilities Commission (AUC) Act* (AUC Act) the AESO is required to provide funding for the Market Surveillance Administrator (MSA), a separate statutory corporation. The amounts paid by the AESO are recovered through the energy market charge as directed in the EUA. The energy market charge included in the AESO's statement of income and comprehensive income does not include amounts recovered related to the MSA's funding requirements and the AESO's costs do not include amounts related to the operations of the MSA.

Revenues are measured at the fair value of the consideration received or receivable.

b) Other accounts receivable/payable

As the EUA requires the AESO to be managed with no profit or loss on an annual basis from its operations, differences in revenues collected and costs paid are: recorded as adjustments to revenue; recognized as other accounts receivable or other accounts payable; and subsequently collected or refunded. The collection of deferral account shortfalls and payment of deferral account surpluses is embodied in the legislative rights granted in the EUA and *Renewable Electricity Act* (REA) to the AESO Board or AUC. Settlement of the surplus or shortfall occurs through deferral account adjustment riders as part of the transmission tariff, deferral account applications submitted to the AUC, adjustments to the energy market trading charge, settlement with the owners of electric distribution systems and wires service providers conducting load settlement, or at the conclusion of the REP.

The AESO recognizes amounts as long-term other assets or other liabilities when the collection or refund is expected to occur beyond one year from the date of the statement of financial position.

c) Offsetting financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the statement of financial position if there is a legally enforceable right to offset the recognized amounts, and if the AESO intends either to settle on a net basis or to realize the assets and settle the liabilities simultaneously.

d) Current versus non-current classification

The AESO presents assets and liabilities in the statement of financial position based on current/non-current classification. An asset is current when it is:

- Expected to be realized or intended to be sold or consumed in the normal operating cycle;
- Held primarily for the purpose of trade;
- Expected to be realized within twelve months after the reporting period; or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

All other assets are classified as non-current.

A liability is current when:

- It is expected to be settled in the normal operating cycle;
- It is held primarily for the purpose of trading;
- It is due to be settled within twelve months after the reporting period; or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period.

e) Cash and cash equivalents

Cash and cash equivalents consist of cash and term deposits issued by credit-worthy financial institutions with maturities within three months from the date of acquisition.

e) Intangible assets

Intangible assets are recorded at cost less accumulated amortization. Cost includes the purchase price, plus any additional costs directly attributable to the development of the asset and preparing the asset for its intended use. Such costs include staff, consulting resources and borrowing costs incurred during the development of qualifying assets.

Maintenance and repair costs which do not enhance or extend the useful life of the asset are expensed as incurred.

Amortization is calculated on a straight-line basis over the estimated useful lives of the assets. No amortization is provided on intangible assets under development. The expected useful lives, amortization method and residual values of the assets are reviewed annually, with any changes accounted for on a prospective basis. Amortization periods for intangible assets are shown in the following table.

Computer software	5 to 7 years; or Over the term of the licence agreement for customization of Software as a Service

Intangible assets are retired when they are fully amortized and derecognized when no future benefits are expected to arise from their use.

f) Property, plant and equipment

Property, plant and equipment are recorded at cost less accumulated depreciation. Cost includes the purchase price, plus any additional costs directly attributable to the construction of the asset and preparing the asset for its intended use. Such costs include materials, staff, consulting resources, borrowing costs incurred during construction for qualifying assets and asset retirement costs.

Maintenance and repair costs which do not enhance or extend the useful life of the asset are expensed as incurred.

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets. No depreciation is provided on assets under construction. The expected useful lives, depreciation method and residual values of the assets are reviewed annually, with any changes accounted for on a prospective basis. Depreciation periods for property, plant and equipment are shown in the following table.

System coordination facility & operations support centre	20 years; or Over the land lease term ending in 2060
Computer hardware	4 years
Backup coordination centre	Over the lease term ending in 2033
Leasehold improvements	Over the applicable lease terms ending in 2024
Furniture and office equipment	10 years

Property, plant and equipment are retired when they are fully depreciated and derecognized when no future benefits are expected to arise from their use.

g) Capitalized borrowing costs

Borrowing costs directly incurred during a development or construction period of substantial duration are added to the cost of the asset. Qualifying assets are those that take a substantial period of time to develop or construct and are developed over periods of time exceeding 12 months. Borrowing costs are considered to be directly attributable if they could have been avoided if the expenditure on the qualifying asset had not been made. Borrowing cost capitalization commences when expenditures and borrowing costs are incurred and ceases when the qualifying asset is substantially complete and ready for its intended use.

h) Impairment of right-of-use assets, intangible assets and property, plant and equipment

Impairment indicators for intangible assets with finite useful lives and property, plant and equipment are reviewed annually or whenever events or changes in circumstance may indicate possible impairment. Impairment is assessed at the cash-generating unit level to which the asset belongs. Impairment charges, when identified, are included in amortization and depreciation on the Statement of Income and Comprehensive Income. Under the legislative requirements associated with the AESO's financial operations, any asset impairment charges that might occur would be fully recoverable.

i) Asset retirement obligations

Decommissioning liabilities are legal and constructive obligations for decommissioning assets. The fair value approximates the cost a third party would charge to perform the tasks necessary to retire the asset and is recognized at the present value of expected future cash flows. Decommissioning liabilities are added to the carrying amount of the associated asset and depreciated over its estimated useful life. The corresponding liability is accreted over time through charges to earnings and is reduced by actual costs of decommissioning. Decommissioning liabilities may change as a result of a new decommissioning cost estimate or the timing of the obligation.

j) Provisions and contingencies

Provisions are recognized when a present obligation (legal or constructive) is a result of a past event, it is probable that an outflow of resources will be required to settle the obligation, and the amount can be reliably estimated. The amount recognized as a provision is the best estimate of the expenditure required to settle the obligation at the end of the reporting period.

If the effect is material, provisions are determined by discounting the expected future cash flows at a risk-adjusted, market-based discount rate. If discounting is used, the increase in the provision due to the passage of time is recognized in interest expense.

A contingent liability is a possible obligation, and a contingent asset is a possible asset, that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the AESO. A contingent liability may also be a present obligation that arises from past events that is not recognized because it is not probable that an outflow of economic resources will be required to settle the obligation or the amount of the obligation cannot be measured reliably.

Neither contingent liabilities nor assets are recognized in the financial statements. However, a contingent liability is disclosed, unless the possibility of an outflow of resources is remote. A contingent asset is only disclosed where an inflow of economic benefits is probable.

k) Employee benefits obligations

A liability is recognized for a present legal or constructive obligation to pay an amount as a result of past service provided by employees, and the obligation can be estimated reliably. The liability recognizes the amount expected to be paid for short-term employee benefits such as the short-term incentive plan; paid annual leave; paid sick leave; post-employment benefits; and termination benefits.

l) Leases

Policy applicable prior to January 1, 2019

When an arrangement is entered into for the use of capital assets, the arrangement is evaluated to determine whether it contains a lease. An asset would qualify as a lease if fulfilment of the arrangement is dependent on the use of the specific asset and the arrangement conveys the right to that asset. When an arrangement is determined to be a lease, the lease is classified as either operating or financing depending on whether substantially all the risks and rewards with respect to the use of the asset have been transferred.

Policy applicable from January 1, 2019

At contract inception the AESO assesses whether a contract is, or contains, a lease by determining whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

AESO as a lessee

The AESO applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The AESO recognizes right-of-use assets representing the right to use the underlying assets and lease liabilities to make lease payments, eliminating the distinction between operating and finance leases. Lessor accounting, however, remains largely unchanged and the distinction between operating and finance lease is retained.

i) Right-of-use assets

The AESO recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are initially measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any re-measurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of a period from the commencement date of the lease term and the estimated useful lives of the assets, as follows:

Office Space	10-40 years
Land	55 years

Right-of-use assets are subject to impairment.

ii) Lease liabilities

At the commencement date of the lease, the AESO recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the AESO and payments of penalties for terminating the lease, if the lease term reflects the AESO exercising the option to terminate. Variable lease payments that do not depend on an index or a rate are recognized as expenses in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the AESO uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is re-measured if there is a modification, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

iii) Short-term leases and leases of low-value assets

The AESO has elected not to recognize right-of-use assets and lease liabilities for short-term leases that have a term of less than 12 months and leases of low-value assets. Lease payments associated with these leases are recognized as expense on a straight-line basis over the lease term.

m) Long-term prepaids

The AESO recognizes advance cash payments associated with information technology licenses and ancillary service agreements with terms longer than one year from the statement of financial position date as long-term assets.

n) Long-term payables

A generating unit connected to the Alberta Interconnected Electric System (AIES) is required to pay the AESO a generating unit owner's contribution which is refundable over a period of not more than 10 years, subject to satisfactory annual performance. The carrying amount of the contribution is measured as the amount required to settle the obligation at the end of the reporting period. The AESO recognizes refundable amounts as long-term liabilities when the refund term is longer than one year from the statement of financial position date.

o) Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

i) Financial assets

Except for those trade receivables that do not contain a significant financing component and are measured at the transaction price in accordance with IFRS 15 *Revenue from Contracts with Customers*, all financial assets are initially measured at fair value and adjusted for transaction costs (where applicable). Financial assets are classified at initial recognition and subsequently measured at amortized cost, fair value through other comprehensive income, or fair value through profit or loss. The classification is determined by both the AESO's model for managing the financial asset and the contractual cash flow characteristics of the financial asset.

ii) Financial liabilities

All financial liabilities are recognized initially at fair value and adjusted for transaction costs (where applicable). Financial liabilities are classified at initial recognition and subsequently measured at amortized cost, except for financial liabilities, which are measured at fair value through profit or loss.

p) Comprehensive income

As the AESO does not have any other comprehensive income, net income equals comprehensive income.

2.3 Changes in accounting policies and disclosures

New and amended standards and interpretations

IFRS 16 Leases

The AESO adopted IFRS 16 *Leases* using the modified retrospective method of adoption, with the date of initial application of January 1, 2019. Under this method, the standard is applied retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application. The AESO elected to use the transition practical expedient to not reassess whether a contract is, or contains, a lease at January 1, 2019. Accordingly, the definition of a lease in accordance with International Accounting Standards (IAS) 17 and International Financial Reporting Interpretations Committee (IFRIC) 4 will continue to apply to leases entered into or modified previous to that date.

IFRS 16 *Leases* supersedes IAS 17 *Leases*, and related interpretations. The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to recognize most leases on the Statement of Financial Position.

On initial application, the AESO has elected to recognize right-of-use assets based on the corresponding lease liability which has been discounted using the weighted average incremental borrowing rate of 3.1%.

The impact of IFRS 16 adoption on the Statement of Financial Position as at January 1, 2019 is as follows:

Impact on the statement of financial position (increase/ (decrease)):

As at January 1, 2019	
Assets	
Right-of-use assets	28.2
Prepaids and deposits	(3.5)
Total Assets	**24.7**
Liabilities	**24.7**

The AESO, as permitted by the standard, elected not to recognize right-of-use assets and lease liabilities that have a term of 12 months or less and leases of low value.

The lease liabilities as at January 1, 2019 can be reconciled to the operating lease commitments as at December 31, 2018, as follows:

Operating lease commitments as at December 31, 2018	**44.5**
Less:	
Operating cost commitments not included in lease liability	17.3
Commitments relating to short-term leases	0.1
Add:	
Lease payments relating to renewal periods not included in operating lease commitments as at December 31, 2018	4.9
Undiscounted lease liabilities	32.0
Weighted average incremental borrowing rate as at January 1, 2019	3.10%
Lease liabilities as at January 1, 2019 (discounted operating lease commitments)	**24.7**

2.4 Standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the AESO's financial statements are disclosed below. The AESO intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

Amendments to IAS 1 and IAS 8: *Definition of Material*

In October 2018, the IASB issued amendments to IAS 1 *Presentation of Financial Statements* and IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* to align the definition of "material" across the standards and to clarify certain aspects of the definition. The new definition states that, "Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity." The amendments to the definition of material are not expected to have a significant impact on the AESO's financial statements.

There are no other IFRS standards or IFRIC interpretations that are issued but not yet effective that would be expected to have a material impact on the AESO.

2.5 Significant accounting judgements and estimates

The preparation of these financial statements requires management to select appropriate accounting policies and to make judgments, estimates, and assumptions that could affect the reported amounts of assets, liabilities, revenues, expenses and disclosures of contingent assets and liabilities during the period. Most often these estimates and judgments concern matters that are inherently complex and uncertain. Judgments and estimates are reviewed on an on-going basis; changes to accounting estimates are recognized prospectively.

The key judgments and sources of estimation uncertainty are described below:

a) Useful lives of right-of-use assets, intangible assets and property, plant and equipment

Useful lives are determined based on past experience and current facts, taking into account future expected usage and potential for technological obsolescence.

b) Asset retirement obligation

Measurement of the AESO's asset retirement obligation requires the use of estimates with respect to the amount and timing of the asset retirement; the extent of site remediation required; and related future cash flows, inflation rates and discount rates. The estimated obligation is present valued using a risk-adjusted, market-based discount rate. A change in estimated cash flows, market interest rates, or timing could have a material impact on the carrying amount of the obligation.

c) Impairment of assets

The AESO conducts impairment tests on long-lived assets and right-of-use assets annually and where impairment indicators exist.

d) Leases

i) Estimating the incremental borrowing rate

The AESO cannot readily determine the interest rate implicit in the lease and therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the AESO would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. As such, the IBR requires estimation when no observable rates are available or when it needs to be adjusted to reflect the terms and conditions of the leases concerned.

ii) Determining the lease term of contracts with renewal and termination options

The AESO determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The AESO applies judgement in evaluating whether it is reasonably certain whether or not to exercise the option to renew or terminate the lease.

e) Comparative Figures

Certain comparative figures have been reclassified to conform to the current period's presentation.

3. Accounts Receivable

The transmission settlement receivables are subject to offsetting *(Note 19)*.

As at December 31,	2019	2018
Transmission settlement, net	293.5	192.4
Energy market settlement	6.2	6.2
Renewable Electricity Program	0.1	-
Trade	4.6	0.6
	304.4	**199.2**

4. Other Accounts Receivable

As at December 31,	2019	2018
Current		
Transmission receivable	15.2	9.8
Energy market receivable	8.9	6.8
Load settlement receivable	0.1	0.2
MSA receivable	0.1	-
	24.3	**16.8**
Non-current		
Long-term Renewable Electricity Program receivable	16.3	13.0
Long-term energy market receivable	9.9	8.6
	26.2	**21.6**

5. Long-term Prepaids

As at December 31,	2019	2018
Licenses and maintenance	0.7	0.5
Prepaid rent	-	3.3
Prepaid reliability services agreement (*note 14*)	26.4	29.2
	27.1	**33.0**

6. Right-of-Use Assets

The right-of-use assets recognized and the movements during the year are as follows:

	Office Space	Land	Total
As at January 1, 2019	24.8	3.4	28.2
Depreciation Expense	(3.3)	(0.1)	(3.4)
As at December 31, 2019	**21.5**	**3.3**	**24.8**

The AESO is a lessee under various lease contracts for office space with lease terms between 10 and 40 years. The AESO has as a lease contract for land with a term of 55 years, commensurate with the expected life of the building owned by the AESO, and located on the land.

7. Intangible Assets

	Computer Software	Intangible Assets Under Development	Total
Cost:			
January 1, 2018	107.4	4.8	112.2
Additions	9.0	4.8	13.8
Transfers	1.6	(1.6)	-
Write-off	-	(3.3)	(3.3)
Retirements	(18.1)	-	(18.1)
December 31, 2018	**99.9**	**4.7**	**104.6**
Additions	19.0	3.4	22.4
Transfers	2.9	(2.9)	-
Write-off	(9.2)	(1.5)	(10.7)
Retirements	(16.3)	-	(16.3)
December 31, 2019	**96.3**	**3.7**	**100.0**
Accumulated amortization:			
January 1, 2018	51.9	-	51.9
Amortization	16.9	-	16.9
Retirements	(18.1)	-	(18.1)
December 31, 2018	**50.7**	**-**	**50.7**
Amortization	18.3	-	18.3
Retirements	(16.3)	-	(16.3)
December 31, 2019	**52.7**	**-**	**52.7**
Net Book Value:			
December 31, 2018	*49.2*	*4.7*	*53.9*
December 31, 2019	***43.6***	***3.7***	***47.3***

Intangible assets under development relate to intangible assets associated with various computer software development projects that were not commissioned or operational by the end of the year.

The net book value of intangible assets includes an adjustment of $10.7 million for capacity market assets that were written-off during 2019 following the July 24, 2019 announcement by the Government of Alberta that Alberta will not transition to a capacity market and will continue with an energy-only market.

For the 12 months ended December 31, 2019, $4.4 million of payroll costs associated with staff directly involved in preparing intangible assets for their intended use have been capitalized (2018 – $4.2 million).

During 2019 the estimated useful life of specific computer software was amended, the impact of which was to increase amortization and accumulated amortization by $2.4 million.

8. Property, Plant and Equipment

	System Coordination Facility	Computer Hardware	Backup Coordination Centre	Leasehold Improvements	Furniture and Office Equipment	Assets Under Construction	Total
Cost:							
January 1, 2018	24.8	25.1	2.0	1.3	1.1	2.6	56.9
Additions	-	3.0	-	-	-	8.3	11.3
Transfers	-	0.1	-	-	-	(0.1)	-
Retirements	-	(4.0)	-	-	-	-	(4.0)
December 31, 2018	**24.8**	**24.2**	**2.0**	**1.3**	**1.1**	**10.8**	**64.2**
Additions	7.5	4.9	-	-	3.2	2.4	18.0
Transfers	10.5	0.2	-	-	-	(10.7)	-
Retirements	(0.5)	(4.0)	-	-	-	-	(4.5)
December 31, 2019	**42.3**	**25.3**	**2.0**	**1.3**	**4.3**	**2.5**	**77.7**
Accumulated depreciation:							
January 1, 2018	12.6	11.3	0.4	0.6	0.5	-	25.4
Depreciation	0.3	5.1	-	0.3	0.1	-	5.8
Retirements	-	(4.0)	-	-	-	-	(4.0)
December 31, 2018	**12.9**	**12.4**	**0.4**	**0.9**	**0.6**	**-**	**27.2**
Depreciation	0.4	5.5	0.1	0.1	0.1	-	6.2
Retirements	(0.5)	(4.0)	-	-	-	-	(4.5)
December 31, 2019	**12.8**	**13.9**	**0.5**	**1.0**	**0.7**	**-**	**28.9**
Net Book Value:							
December 31, 2018	*11.9*	*11.8*	*1.6*	*0.4*	*0.5*	*10.8*	*37.0*
December 31, 2019	***29.5***	***11.4***	***1.5***	***0.3***	***3.6***	***(2.5)***	***48.8***

Assets under construction relate to property, plant and equipment in development that was not commissioned or operational by the end of the year.

For the 12 months ended December 31, 2019, $1.6 million of payroll costs associated with staff directly involved in preparing property, plant and equipment for their intended use have been capitalized (2018 – $0.5 million).

The additions of property, plant and equipment include $0.3 million (2018 – $0.1 million) of capitalized borrowing costs at an average rate of 2.8 per cent (2018 – 2.7 per cent).

9. Accounts Payable and Other Liabilities

The transmission settlement payables are subject to offsetting *(note 19)*.

As at December 31,	2019	2018
Transmission settlement, net	120.1	273.1
Energy market settlement	0.5	69.4
Trade payables	2.4	5.0
Generating unit owner's contribution (*note 12*)	8.8	8.6
Accrued liabilities	17.5	13.8
MSA payable	-	0.2
Security deposits (*note 16*)	3.6	2.3
	152.9	**372.4**

10. Lease Liabilities

The carrying amounts of lease liabilities and the movements during the period are as follows:

As at January 1, 2019	**24.7**
Accretion of interest	0.7
Payments	(3.5)
As at December 31, 2019	**21.9**
Current	3.0
Non-current	18.9

The estimated future lease payments associated with these leases are as follows:

As at December 31,	2019
No later than 1 year	6.0
Later than 1 year and no later than 5 years	24.0
Later than 5 years	7.7
	37.7

The following are the amounts recognized in profit or loss:

	2019
Depreciation expense of right-of-use assets	3.5
Interest expense on lease liabilities *(note 21)*	0.7
Expense related to short-term leases *(included in general and administrative expense)*	0.1
Total amount recognized in net income	**4.3**

During the year ended December 31, 2019, $6.0 million (2018 - $6.2 million) was recognized as an expense in respect of these operating leases. The AESO had total cash outflows for leases of $3.5 million in 2019.

The undiscounted potential future rental payments relating to periods following the exercise date of extension options that are not included in the lease term are as follows:

	Within five years	More than five years	Total
Extension options expected not to be exercised	0.3	17.4	17.7

11. Credit Facility

In 2018 the AESO entered into a credit agreement, which increased the existing unsecured demand revolving loan credit facility from $160 million to $300 million. In 2019 the terms of the credit agreement were changed to an unsecured committed facility of $300 million and further amended to provide for a temporary increase in available funding in the amount of $40.0 million through to March 2020. The facility provides that the borrowings may be made by way of fixed rate advances, Canadian Dollar Offered Rate (CDOR) advances or bankers' acceptances, which bear interest at the banks' prime rates, or at bankers' acceptance or CDOR rates plus a stamping fee. There is an option to request letters of credit under the credit facility.

At December 31, 2019, $288.6 million (2018 – $103.0) was drawn on the available credit facility and a $10.0 million letter of credit was issued as security for operating reserve procurement.

The amount of interest paid during 2019 was $4.9 million (2018 – $1.9 million) at an average interest rate of 2.8 per cent (2018 – 2.7 per cent).

12. Generating Unit Owner's Contribution

Under the terms of the transmission tariff, a market participant is required to pay a generating unit owner's contribution. The contribution amount is determined based on variable terms in accordance with the transmission tariff. A market participant is entitled to a refund of the generating unit owner's contribution in annual amounts during the refund period which is not more than 10 years. The eligibility for the annual refund amount is dependent on the generation facility meeting specified performance criteria.

	Total
January 1, 2018	52.5
Contributions received	5.2
Contributions forfeited	(0.6)
Contributions reclassified to current (*note 9*)	(8.6)
December 31, 2018	**48.5**
Contributions received	10.2
Contributions forfeited	(0.6)
Contributions reclassified to current (*note 9*)	(8.8)
December 31, 2019	**49.3**

13. Asset Retirement Obligation

The land on which the AESO's System Coordination Centre (SCC) and Operations Support Centre (OSC) reside must be returned to its original state at the conclusion of the land lease in 2060 on request by the landlord, the Government of Alberta. The asset retirement obligation recognizes the approximate third-party costs for the decommissioning based on the timing of expected cash flows.

The AESO has estimated the net present value of the decommissioning liability related to dismantling the SCC and OSC and restoring the land based on an independent third-party valuation of estimated cost. The AESO completed an expansion to the facility (i.e., the OSC) during 2019 and has increased the liability based on an assessment of similar costs.

The present value of the decommissioning liability is \$0.7 million (2018 - \$0.3 million). The total undiscounted future liability is estimated to be \$5.1 million (2018 – \$3.4 million). The AESO has calculated the present value of the obligation using a discount rate of 5.1 per cent (2018 – 5.6 per cent) to reflect the market assessment of the time value of money and an inflation rate of 2.0 per cent (2018 – 2.0 per cent).

14. Commitments

a) To fulfil the duties of the AESO in accordance with the EUA, the AESO manages the procurement of ancillary services through contracts with third-party suppliers. These ancillary services include operating reserves, reliability services, load shed, system restoration and transmission must-run. The contracts are for future generation capacity and load reduction capabilities with expiry dates ranging from 2020 to 2030, in addition to short-term contracts for operating reserves. The amount to be paid under each contract is dependent on fixed and variable terms. Variable terms include items such as commodity prices, dispatch volumes and frequency of events and are determined when the services are provided. The fixed payments associated with the service contracts are as follows:

As at December 31,	**2019**
No later than 1 year	4.8
Later than 1 year and no later than 5 years	3.6
Later than 5 years	-
	8.4

b) In 2015, the AESO entered into a 15-year reliability services agreement with Powerex Corp. for the provision of certain emergency energy services from British Columbia, including grid restoration balancing support in the event of an Alberta blackout and emergency energy in the event of supply shortfall. The total cost of the agreement is $42.9 million and was paid in equal amounts in the three-year period from 2015 to 2017. As the payments were made, they were recognized as long-term prepaids on the statement of financial position and amortized on a straight-line basis over the 15-year term of the agreement.

	Total
January 1, 2018	32.1
Payment reclassified to current	(2.9)
December 31, 2018	**29.2**
Payment reclassified to current	(2.9)
December 31, 2019	**26.3**

c) Under the direction of the EUA, the AESO established and executed an AUC-approved competitive process for transmission infrastructure and in December 2014, selected the party to develop, design, build, finance, own, operate and maintain the Fort McMurray West 500 kV Transmission Project. In February 2017, the AUC granted the permit and license for this transmission project. In January 2018, the AUC approved the transmission facility owner’s tariff rates, which are based upon the monthly amounts in the project agreement between the AESO and the transmission facility owner.

The AESO is obligated to pay monthly amounts for the use of the transmission facilities over the operating period set out in the project agreement, which commenced on the energization date for the transmission facilities (March 2019) and continues until the expiry of the agreement in approximately 35 years. The monthly amounts are applicable for the entire term of the agreement, subject to allowable adjustments (e.g., inflation). The amounts payable will be confirmed in future periods by the occurrence or non-occurrence of certain events (e.g., a termination of the project agreement would affect monthly amounts). The AESO will recover the monthly amounts paid to the transmission facility owner through the ISO tariff in the same manner that AUC-approved amounts paid to other transmission facility owners are recovered.

As at December 31,	**2019**
No later than 1 year	106.5
Later than 1 year and no later than 5 years	532.3
Later than 5 years	3,041.9
	3,680.7

Pursuant to Section 37 of the *Electric Utilities Act*, each owner of an electric transmission facility must submit to the AUC for approval a tariff, setting out the rates to be paid by the AESO to the owner for the use of the owner's transmission facility. The AESO pays seven other transmission facility owners in the province for the use of their facilities in accordance with AUC approvals. Each transmission facility owner operates in an AUC-approved service area and typically applies to the AUC for approval of its costs one to three years in advance, in contrast to the fore mentioned long-term contractual agreement with the AESO. For these transmission facility owners, uncertainties relating to the AUC-approved amounts and timing of future cash flows limit the reliability of quantifying similar financial obligations.

d) In December 2017, the AESO executed the first round of Renewable Electricity Support Agreements (RESA) for 600 megawatts with selected counterparties to promote the development of renewable generation in Alberta at a weighted average price of $37 per megawatt hour. One facility achieved commercial operation in December 2019, with the remaining facilities targeting March 2020. In December 2018, the AESO executed additional RESA's under round two and round three for 363 megawatts, at a weighted average price of $39 per megawatt hour, and 400 megawatts at a weighted average price of $40 per megawatt hour, respectively. Round two and three projects have a target commercial operation date of June 30, 2021. The agreements require the AESO to make variable payments or collections over a period of up to 20 years on the difference between the counterparty-specific contract price and the hourly pool prices for the actual volumes of electricity delivered to the AIES. The 20-year term begins on the commercial operation date.

The *Renewable Electricity Act* stipulates that the funding or settlement for RESA financial obligations, excluding fees for the development, implementation and administration of the REP, is funded by or provided to the Minister of Energy.

15. Contingencies

As a result of events that have occurred, the AESO may become party to a claim or legal action arising in the normal course of business. While the outcome of these matters is uncertain, the AESO does not currently believe that the outcome or any amount that the AESO may be required to pay would have a materially adverse effect on the AESO as a whole.

16. Security Deposits

Security requirements for market participant financial obligations in excess of their unsecured credit limits are met with cash deposits and letters of credit. All market participants who have financial obligations to the AESO must adhere to the ISO Rules and transmission tariff terms and conditions regarding security requirements. Unsecured credit is granted by the AESO to organizations (or guarantors) with an acceptable credit rating from an AESO-recognized bond rating agency; to organizations that do not have a credit rating if they qualify for an AESO-determined proxy credit rating; and to organizations that have an exempt status as determined through government legislation or AUC rulings. The unsecured credit granted by the AESO to an organization is limited based on the AESO's assessment of the organization's credit worthiness.

17. Key Management Compensation

Key management personnel include members of executive management and the AESO Board, a total of 20 individuals (2018 – 20 individuals). The compensation paid or payable to key management for services is as follows:

As at December 31,	**2019**	**2018**
Salaries and other short-term employee benefits	**4.2**	**5.1**

18. Government-Related Entities

The members of the AESO Board are appointed by the Minister of Energy of the Government of Alberta. Based on this relationship, the AESO's transactions and outstanding balances with the Government of Alberta and other entities in a similar related party relationship with the Government of Alberta are reported.

The AESO considers the following entities as government-related:

- **Balancing Pool**: established under the EUA to manage the transition to competition in Alberta's electric industry;
- **AUC**: established under the AUC Act to ensure that the delivery of Alberta's utility service takes place in a manner that is fair, responsible and in the public interest; and
- **MSA**: established under the AUC Act to monitor Alberta's electricity and retail natural gas markets to ensure that they operate in a fair, efficient and openly competitive manner.

Pursuant to the EUA, on an annual basis the Balancing Pool determines an annualized amount to pay distributions from its revenues to eligible consumers or collect shortfalls in its revenues from eligible consumers. The Government of Alberta guarantees the obligations of the Balancing Pool. Through the transmission tariff, the AESO facilitates the allocation of the annualized amount as directed in the EUA. In 2019, the annualized amount was a shortfall of $173.0 million, of which $15.5 million was payable as at December 31, 2019 (2018 – $189.3 million due, of which $32.5 million was payable as at December 31). The shortfall was collected or receivable from eligible consumers and due to the Balancing Pool.

The Balancing Pool is a market participant and was due $889.9 million related to electricity sales in 2019, of which $56.8 million was payable as at December 31, 2019 (2018 – $985.6 million due, of which $150.9 was payable as at December 31).

The Balancing Pool owed the AESO $28.9 million for contracts related to supply transmission services in 2019, of which $2.4 was receivable as at December 31, 2019 (2018 – $36.3 million owed, of which $4.9 million was receivable as at December 31).

As directed in the AUC Act, the AESO is required to pay an administration fee to the AUC. The amounts paid by the AESO are recovered through the transmission tariff and the energy market charge as directed in the EUA. In 2019, $19.5 million was paid to the AUC (2018 – $18.0 million).

As directed in the AUC Act, the AESO is required to provide funding for the MSA. The amounts paid by the AESO are recovered through the energy market charge as directed in the EUA. In 2019, $4.6 million in payments were made to the MSA (2018 – $4.0 million).

The AESO leases 12 acres of land in the Calgary area from the Minister of Infrastructure of the Government of Alberta. The land lease is for a 55-year term ending in 2060 which is comprised of an initial 20-year term which began in 2005 followed by several renewal options at the discretion of the AESO. In 2019, $0.1 million of costs were incurred (2018 – $0.1 million).

19. Financial Instruments

Financial Instrument	Classification	Measurement Basis	Associated Risks	Fair Value at December 31, 2019 and 2018
Cash and cash equivalents	Financial assets at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk	Carrying value approximates fair value due to short-term nature and variable interest rates
Accounts receivable Other accounts receivable	Financial assets at amortized cost	Initially at transaction price and subsequently at amortized cost	Credit risk	Carrying value approximates fair value due to short-term nature
Long-term receivables	Financial assets at amortized cost	Initially at transaction price and subsequently at amortized cost	Credit risk	Carrying value approximates fair value due to short-term nature
Accounts payable and accrued liabilities Other accounts payable Deferred revenue	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk Market risk	Carrying value approximates fair value due to short-term nature
Security deposits	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk	Carrying value approximates fair value due to short-term nature
Credit facility	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk Market risk	Carrying value approximates fair value due to short-term nature and variable interest rates
Long-term payables and lease liabilities	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk	Carrying value approximates fair value due to the nature of the liability

Nature and Extent of Risks Arising From Financial Instruments

The AESO is exposed to the following types of risks in relation to its financial instruments:

a) Credit Risk

Credit risk is the risk that counterparties may default on its financial obligations to the AESO. Due to the EUA requirement that the AESO be operated with no profit or loss from its operations, credit risk is ultimately borne by market participants, though managed by the AESO.

Counterparties are granted certain levels of unsecured credit based on their long-term unsecured debt rating provided by a major reputable corporate rating service satisfactory to the AESO or, in the absence of the availability of such ratings the AESO has satisfactorily reviewed the counterparty for creditworthiness as appropriate. Letters of credit, cash on deposit and legally enforceable right to set-off are used to mitigate risk where appropriate. As at December 31, 2019 and 2018, the amount of financial assets that were past due was not material and there were no material uncollectible receivable balances.

b) Market Risk

Market risk is the risk of a potential negative impact on the statement of financial position and/or statement of income and comprehensive income resulting from adverse changes in the value of financial instruments as a result of changes in certain market variables. This includes interest rate price and foreign exchange risks.

Bank debt is comprised of short-term bankers' acceptances or prime rate advances that bear interest at market rates. Accordingly, the exposure to interest rate price risk in relation to the bank debt at the statement of financial position date is not material.

Investments are comprised of short-term bankers' acceptances or term deposits that bear interest at market rates. Accordingly, the exposure to interest rate price risk in relation to the investments at the statement of financial position date is not material.

The AESO conducts less than one per cent of its business in US dollars and accordingly is subject to currency risk associated with changes in foreign exchange rates in relation to payables. The AESO monitors its exposure to currency risk and reviews whether the use of derivative financial instruments is appropriate to manage potential fluctuations in foreign exchange rates. The AESO has not entered into any derivative instruments with respect to currency risk.

c) Liquidity risk

Liquidity risk is the risk that the AESO will not be able to meet its obligations associated with financial liabilities. The AESO does not consider this to be a significant risk, as the available credit facilities provide financial flexibility to allow the AESO to meet its obligations as they come due. The AESO does not consider there to be a present risk in relation to funds available to the AESO under the existing credit facility.

In managing capital, the AESO reviews its cash flows from operations, including the transmission tariff, energy market charge, REP charges and load settlement charge, to determine whether there are sufficient funds to cover its operating costs and pay for intangible asset and property, plant and equipment purchases. To the extent that the cash flows are not sufficient to cover these expenditures, the AESO utilizes debt financing. The AESO has no equity or externally imposed capitalization requirements except as described in note 1.

Summarized Quantitative Data Associated with the Above Risks

a) Credit risk

At December 31, 2019, the AESO's maximum exposure to receivable credit risk was $354.9 million (December 31, 2018 – $237.6 million), which is the aggregate of accounts receivable.

The AESO's receivables are due from counterparties that have provided security to the AESO or have been granted unsecured credit based on satisfactory credit ratings. As at December 31, 2019, the amount of financial assets that were past due was not material (December 31, 2018 – not material).

b) Market risk

The AESO is exposed to currency risk of $0.3 million (December 31, 2018 – $1.1 million) of US dollar denominated financial liabilities at December 31, 2019.

If the Canadian dollar decreases (increases) against the US dollar by five per cent prior to the payment by the AESO, operating costs would increase (decrease) by less than $0.1 million (December 31, 2018 – less than $0.1 million) and intangible asset costs would increase (decrease) by less than $0.1 million (December 31, 2018 – less than $0.1 million).

c) Liquidity risk

The AESO's bank debt and accounts payable and accrued liabilities generally have contractual maturities of six months or less. The estimated future undiscounted annual refund amounts associated with long-term payables are as follows:

As at December 31,	**2019**
2021	10.7
2022	8.7
2023	6.0
2024	5.4
2025 and thereafter	18.5
	49.3

Offsetting Financial Assets and Liabilities

The following transmission settlement receivables and payables are subject to offsetting as presented in the statement of financial position. *(Notes 3 and 9)*

As at December 31,	**2019**	**2018**
Transmission settlement receivables, gross	352.1	287.2
Transmission settlement, offsets	(58.6)	(94.8)
Transmission settlement receivables, net	**293.5**	**192.4**

As at December 31,	**2019**	**2018**
Transmission settlement payables, gross	178.7	367.9
Transmission settlement, offsets	(58.6)	(94.8)
Transmission settlement payables, net	**120.1**	**273.1**

20. General and Administrative Expenses

General and administrative expenses classified by nature are as follows:

As at December 31,	**2019**	**2018**
Salaries and benefits	77.7	74.3
Other	26.7	36.8
	104.4	**111.1**

21. Interest Expense

As at December 31,	**2019**	**2018**
Interest on bank debt	4.9	1.9
Capitalized interest (*notes 7 and 8*)	(0.3)	(0.1)
Interest on lease liability *(note 10)*	0.7	-
Accretion of asset retirement obligation *(note 13)*	0.1	(0.4)
	5.4	**1.4**