

# AESO 2018 ISO Tariff Application

## Amended Appendix U – Defined Terms Used in the ISO Tariff



As discussed in section 7.1 of the AESO's 2018 ISO Tariff Application, the AESO is requesting approval of the following definitions for terms used in the proposed tariff. These definitions will not reside in the tariff itself, but will be located in the *Consolidated Authoritative Documents Glossary* as indicated in proposed subsection 1.3(f).

<b>Status</b>	<b>Definition</b>
Unchanged	<b>"Act"</b> means the <i>Electric Utilities Act</i> .
Unchanged	<b>"affiliate"</b> as defined in the <i>Business Corporations Act</i> means an affiliated body corporate within the meaning of section 2(1) of that Act, which section states: <ul style="list-style-type: none"> <li>(a) one body corporate is affiliated with another body corporate if one of them is the subsidiary of the other or both are subsidiaries of the same body corporate or each of them is controlled by the same person, and</li> <li>(b) if 2 bodies corporate are affiliated with the same body corporate at the same time, they are deemed to be affiliated with each other.</li> </ul>
Amended Further Amended	<b>"aggregated generating facility"</b> means, unless otherwise designated by the <b>ISO</b> , an aggregation of 2 or more <b>generating units</b> , including any associated <b>reactive power</b> resources, where: <ul style="list-style-type: none"> <li>(i) each <b>generating unit</b> is rated less than 9 MW;</li> <li>(ii) all <b>generating units</b> are situated in the same proximate location and have a common <b>collector bus</b> or multiple <b>collector busses</b> that can be operated as a common <b>collector bus</b>; and</li> <li>(iii) the <b>aggregated generating facility</b> is connected to the <b>interconnected electric system</b> or the electrical system in the service area of the City of Medicine Hat.</li> </ul>
Unchanged	<b>"ancillary services"</b> as defined in the <b>Act</b> means those services required to ensure that the <b>interconnected electric system</b> is operated in a manner that provides a satisfactory level of service with acceptable levels of voltage and frequency.
Unchanged	<b>"apparent power"</b> means the total power, in MVA, in an alternating current power system and is calculated as the vector sum of <b>real power</b> and <b>reactive power</b> .
Unchanged	<b>"automatic voltage regulator"</b> means the automatic control equipment that adjusts the excitation level of a <b>generating unit</b> to maintain voltage levels.
Amended	<b>"balancing authority area"</b> means the collection of generation, transmission and loads within the metered boundaries of the <b>balancing authority</b> and for which the <b>balancing authority</b> maintains load-resource balance.

<i>Status</i>	<i>Definition</i>
Unchanged	<p><b>"billing capacity"</b> means, at a <b>point of delivery</b>, the highest of:</p> <ul style="list-style-type: none"> <li>(i) the highest 15-minute <b>metered demand</b> in the <b>settlement period</b>;</li> <li>(ii) 90% of the highest <b>metered demand</b> in the 24-month period including and ending with the <b>settlement period</b>, but excluding any months during which <b>commissioning</b> occurs; or</li> <li>(iii) 90% of the <b>contract capacity</b> or, when the <b>settlement period</b> contains a transaction under Rate DOS, 100% of the <b>contract capacity</b>.</li> </ul>
Amended Further Amended	<p><b>"business day"</b> as defined in the <b>Act</b> means a <b>day</b> other than a Saturday or a holiday as defined in the <i>Interpretation Act</i>.</p>
Unchanged	<p><b>"calibration factor"</b> means an adjustment to the loss charges ensuring that the actual cost of losses is reasonably recovered through charges and credits under the <b>ISO tariff</b> on an annual basis.</p>
Unchanged	<p><b>"commercial operation"</b> means the date upon which a load, <b>generating unit</b> or <b>aggregated generating facility</b> begins to operate on the <b>transmission system</b> in a manner which is acceptable to the <b>ISO</b> and which is expected to be normal for it to so operate, after energization and <b>commissioning</b>.</p>
Unchanged	<p><b>"Commission"</b> as defined in the <b>Act</b> means the Alberta Utilities Commission established by the <i>Alberta Utilities Commission Act</i>.</p>
Amended	<p><b>"commissioning"</b> means:</p> <ul style="list-style-type: none"> <li>(i) in the case of a new <b>generating unit</b> or a new <b>aggregated generating facility</b>, the process of carrying out, after connection to the <b>interconnected electric system</b> but before <b>commercial operation</b>, activities designed to test equipment, the facility or a process to confirm that the facility can satisfactorily enter <b>commercial operation</b> and, where applicable, meets the <b>ISO's</b> requirements and other relevant standards;</li> <li>(ii) in the case of an existing <b>generating unit</b> or an existing <b>aggregated generating facility</b> that is being modified, the process of carrying out activities designed to test equipment, the facility or a process to confirm that the facility can satisfactorily continue in <b>commercial operation</b> and, where applicable, continue to meet the <b>ISO's</b> requirements and other relevant standards;</li> <li>(iii) in the case of a new <b>transmission facility</b> or a new load facility, the process of carrying out, after <b>energization</b> but before normal operation, activities designed to test equipment, the facility or a process to confirm that the facility can satisfactorily enter normal operation and, where applicable, meets the <b>ISO's</b> requirements and other relevant standards; and</li> <li>(iv) in the case of an existing <b>transmission facility</b> or an existing load facility that is being upgraded in the form of a requested increase in capacity or revised functionality, the process of carrying out activities designed to test equipment, a facility or a process to confirm that the facility can satisfactorily continue in normal operation and, where applicable, continue to meet the <b>ISO's</b> requirements and other relevant standards.</li> </ul>

<i>Status</i>	<i>Definition</i>
Unchanged	<p><b>"construction contribution"</b> means the financial contribution in aid of construction, in excess of any available maximum local investment, that a <b>market participant</b> must pay for the construction and associated costs of <b>transmission facilities</b> required to provide <b>system access service</b>.</p>
Unchanged	<p><b>"contract capacity"</b> means the peak demand or supply capability, in MW, as set out in an agreement for <b>system access service</b>.</p>
Previously Unchanged Amended	<p><b>"day"</b> means the 24 hour period in Alberta beginning at 00:00:00 and ending at 23:59:59 but which</p> <ul style="list-style-type: none"> <li>(i) in the case of the day on which daylight savings begins, is 23 hours; or</li> <li>(ii) in the case of the day on which daylight savings ends, is 25 hours.</li> </ul>
Unchanged	<p><b>"demand"</b> means:</p> <ul style="list-style-type: none"> <li>(i) the rate at which electric energy is delivered to or by a system or part of a system, generally expressed in MW, at a given instant or averaged over any designated interval of time; or</li> <li>(ii) the rate at which electric energy is being used.</li> </ul>
Amended	<p><b>"directive"</b> means a direction the <b>ISO</b> gives to a <b>market participant</b> instructing the <b>market participant</b> to take any action the <b>ISO</b> deems necessary to maintain the <b>reliability</b> of the <b>interconnected electric system</b>.</p>
Unchanged	<p><b>"electric distribution system"</b> as defined in the <b>Act</b> means the plant, works, equipment, systems and services necessary to distribute electricity in a service area, but does not include a <b>generating unit</b> or a <b>transmission facility</b>.</p>
Unchanged	<p><b>"emergency"</b> means, as declared by the <b>ISO</b>, either:</p> <ul style="list-style-type: none"> <li>(i) any abnormal system condition which requires immediate manual or automatic action to prevent abnormal system frequency deviation, abnormal voltage levels, equipment damage, or tripping of system elements which might result in cascading effects; or</li> <li>(ii) a state in which the <b>interconnected electric system</b> lacks sufficient <b>ancillary services</b>.</li> </ul>
Unchanged	<p><b>"financial obligation"</b> means any debt, payment or similar obligation of a <b>market participant</b> actually incurred or likely to be incurred under the <b>ISO rules</b>, the <b>reliability standards</b>, the <b>ISO tariff</b> or as a counterparty to any contract with the <b>ISO</b>.</p>
Amended	<p><b>"financial security"</b> means sufficient enforceable credit support to secure the <b>financial obligations</b> of a <b>market participant</b> to the <b>ISO</b> or a <b>legal owner</b> of <b>transmission facilities</b>.</p>

<i>Status</i>	<i>Definition</i>
Unchanged	<p><b>"force majeure"</b> means any occurrence, and its effects, which:</p> <ul style="list-style-type: none"> <li>(i) is beyond, the reasonable control of the <b>ISO</b> or a <b>market participant</b>;</li> <li>(ii) could not have been avoided through the use of <b>good electric industry practice</b> or by the exercise of reasonable diligence; and</li> <li>(iii) prevents the <b>ISO</b> or a <b>market participant</b> from performing its obligations under the <b>ISO rules, ISO tariff or reliability standards</b>, as applicable;</li> </ul> <p>but does not include a lack of finances or any occurrence which can be overcome by incurring reasonable additional expenses.</p>
Unchanged	<p><b>"forced outage"</b> means the unavailability of a facility which is not anticipated as part of a <b>legal owner's</b> regular maintenance and occurs as a result of an automatic or accidental action.</p>
Unchanged	<p><b>"generating unit"</b> as defined in the <b>Act</b> means the component of a power plant that produces, from any source, electric energy and <b>ancillary services</b>, and includes a share of the following associated facilities that are necessary for the safe, reliable and economic operation of the <b>generating unit</b>, which may be used in common with other <b>generating units</b>:</p> <ul style="list-style-type: none"> <li>(i) fuel and fuel handling equipment;</li> <li>(ii) cooling water facilities;</li> <li>(iii) switch yards;</li> <li>(iv) other items.</li> </ul>
Unchanged	<p><b>"good electric industry practice"</b> means the standard of practice attained by exercising that degree of knowledge, skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced <b>person</b> engaged in the same type of undertaking in the same or similar circumstances, including determining what is reasonable in the circumstances having regard for safety, reliability and economic considerations but is not intended to be limited to the optimum practice, method or act, to the exclusion of all others, and rather is intended to include practices, methods and acts generally accepted in Alberta.</p>
Unchanged	<p><b>"interchange transaction"</b> means an energy or <b>ancillary services</b> transaction that crosses one or more <b>balancing authority area</b> boundaries.</p>
Unchanged	<p><b>"interconnected electric system"</b> as defined in the <b>Act</b> means all <b>transmission facilities</b> and all <b>electric distribution systems</b> in Alberta that are interconnected, but does not include an <b>electric distribution system</b> or a <b>transmission facility</b> within the service area of the City of Medicine Hat or a subsidiary of the City, unless the City passes a bylaw that is approved by the Lieutenant Governor in Council under section 138 of the <b>Act</b>.</p>
Unchanged	<p><b>"intertie"</b> as defined in the <i>Transmission Regulation</i> means a <b>transmission facility</b>, including its associated components, that links one or more electric systems outside Alberta to one or more points on the <b>interconnected electric system</b>.</p>
Unchanged	<p><b>"ISO"</b> means the Independent System Operator as defined in the <b>Act</b> being the corporation established by section 7 of the <b>Act</b>.</p>

<i>Status</i>	<i>Definition</i>
Unchanged	<b>"ISO rules"</b> as defined in the <b>Act</b> means the rules made by the Independent System Operator under section 19 and 20 of the <b>Act</b> .
Unchanged	<b>"ISO tariff"</b> as defined in the <b>Act</b> means the tariff prepared by the <b>ISO</b> under section 30 of the <b>Act</b> that has been approved by the <b>Commission</b> .
Amended Further Amended	<p><b>"legal owner"</b> means the <b>person</b> who owns electric industry property including any one or more of:</p> <ul style="list-style-type: none"> <li>(i) a <b>generating unit</b>;</li> <li>(ii) an <b>aggregated generating facility</b>;</li> <li>(iii) a <b>transmission facility</b>;</li> <li>(iv) an <b>electric distribution system</b>;</li> <li>(v) an industrial system that has been designated as such by the <b>Commission</b>; and</li> <li>(vi) a load facility with <b>system access service</b> under subsection 101(2) of the <b>Act</b>.</li> </ul>
Amended	<b>"loss factor"</b> means the value, in percent, which reasonably represents the contribution to <b>transmission system</b> losses, based on location, of a generating facility, export service, import service, or other opportunity service, and which the <b>ISO</b> establishes in accordance with section 501.10 of the <b>ISO rules</b> , <i>Transmission Loss Factors</i> .
Previously Unchanged	<b>"market participant"</b> means
Amended	<ul style="list-style-type: none"> <li>(a) an electricity market participant, as defined in the <b>Act</b>, being: <ul style="list-style-type: none"> <li>(i) any <b>person</b> that supplies, generates, transmits, distributes, trades, exchanges, purchases or sells electricity, electric energy, electricity services or <b>ancillary services</b>, or</li> <li>(ii) any broker, brokerage or forward exchange that trades or facilitates the trading of electricity, electric energy, electricity services or <b>ancillary services</b>; and</li> </ul> </li> <li>(b) a <b>person</b> who has applied for <b>system access service</b> from the <b>ISO</b></li> </ul>
Removed	<b>"Market Surveillance Administrator"</b> as defined in the <b>Act</b> means the corporation continued by section 32 of the <i>Alberta Utilities Commission Act</i>
Amended	<b>"material adverse change"</b> means a downgrade in the credit rating of a <b>market participant</b> or its guarantor by any credit rating agency, or an event that may result in the materially weaker creditworthiness of a <b>market participant</b> or its guarantor as reasonably determined by the <b>legal owner</b> of a <b>transmission facility</b> .

<i>Status</i>	<i>Definition</i>
Unchanged	<p>“<b>maximum capability</b>” means:</p> <ul style="list-style-type: none"> <li>(i) for a <b>generating unit</b> or <b>aggregated generating facility</b>, the maximum MW that it is physically capable of providing under optimal operating conditions while complying with all applicable <b>ISO rules</b> and terms and conditions of the <b>ISO tariff</b>; or</li> <li>(ii) for a <b>source asset</b> that is an import asset, the <b>available capability</b>.</li> </ul>
Unchanged	<p>“<b>metered demand</b>” means the rate at which electric energy is delivered to a <b>point of delivery</b> or from a <b>point of supply</b>, in MW, measured by the relevant <b>metering equipment</b> and averaged over a 15-minute or other interval as deemed necessary by the <b>ISO</b>.</p>
Unchanged	<p>“<b>metered energy</b>” means the quantity of electric energy transferred to a <b>point of delivery</b> or from a <b>point of supply</b>, in MWh, measured by the relevant <b>metering equipment</b> during a particular period of time.</p>
Unchanged	<p>“<b>metering equipment</b>” as defined in the <i>AESO Measurement System Standard</i> means all measurement transformers, meters, recorders, remote communication equipment and associated wiring required for the measurement and, if applicable, remote storage of the active energy and reactive energy interval data for a single metering point.</p>
New	<p>“<b>meter</b>” means the apparatus which measures active energy, reactive power or both, including any internal recorder, or clock, which is normally tested as part of the apparatus.</p>
Unchanged	<p>“<b>month</b>” means a calendar month.</p>
Unchanged	<p>“<b>needs identification document</b>” means the document referred to in section (34)(1) of the <b>Act</b>.</p>
Amended Further amended	<p>“<b>operating reserve</b>” means the capability above system <b>demand</b> required to provide for <b>regulation</b>, load forecasting errors, equipment forced and scheduled outages and local area protection. It consists of <b>spinning reserve</b> and <b>non-spinning reserve</b>.</p>
Unchanged	<p>“<b>person</b>” as defined in the <b>Act</b> includes an individual, unincorporated entity, partnership, association, corporation, trustee, executor, administrator or legal representative;</p>
Unchanged	<p>“<b>physical capacity</b>” means the maximum amount of electric power that a <b>transmission facility</b> is rated by its <b>legal owner</b> to be able to transmit without suffering damage.</p>
Amended Further amended	<p>“<b>planned outage</b>” means the full or partial unavailability of a facility which is anticipated as part of a <b>legal owner’s</b> regular maintenance, including for the purposes of construction, <b>commissioning</b> or testing, and occurs as a result of a deliberate, manual action.</p>

<i>Status</i>	<i>Definition</i>
Unchanged	<p><b>"point of delivery"</b> means the point at which electricity is transferred from <b>transmission facilities</b> to facilities owned by a <b>market participant</b> receiving <b>system access service</b> under the <b>ISO tariff</b>, including an <b>electric distribution system</b>.</p>
Unchanged	<p><b>"point of interconnection"</b> means the point at which electricity is transferred between the <b>interconnected electric system</b> and a neighbouring jurisdiction and where the electricity so transferred is measured.</p>
Unchanged	<p><b>"point of supply"</b> means the point at which electricity is transferred to <b>transmission facilities</b> from facilities owned by a <b>market participant</b> receiving <b>system access service</b> under the <b>ISO tariff</b>, including a <b>generating unit</b>, an <b>aggregated generating facility</b> or an <b>electric distribution system</b>.</p>
Amended Further Amended	<p><b>"pool price"</b> as defined in the <b>Act</b> means the pool price established by the <b>ISO</b> under section 18(4) of the <b>Act</b>.</p>
Amended	<p><b>"power factor"</b> means the ratio of <b>real power</b> to <b>apparent power</b>.</p>
Amended	<p><b>"power pool"</b> as defined in the <b>Act</b> means the scheme operated by the <b>ISO</b> for:</p> <ul style="list-style-type: none"> <li>(i) exchange of electric energy; and</li> <li>(ii) financial settlement for the exchange of electric energy.</li> </ul>
Amended	<p><b>"power purchase arrangement"</b> as defined in the <b>Act</b> means a <b>power purchase arrangement</b> included in Alberta Regulation AR 175/2000, being the <i>Power Purchase Arrangements Determination Regulation</i>, but does not include:</p> <ul style="list-style-type: none"> <li>(i) the <b>power purchase arrangement</b> that applies to the H.R. Milner <b>generating unit</b>;</li> <li>(ii) the <b>power purchase arrangement</b> that applies to the Sturgeon <b>generating units</b>;</li> <li>(iii) a <b>power purchase arrangement</b> that expires in accordance with the unit effective term completion date specified in the <b>power purchase arrangement</b>;</li> <li>(iv) a <b>power purchase arrangement</b> that is terminated under section 15.2 of the <b>power purchase arrangement</b>;</li> <li>(v) a <b>power purchase arrangement</b> that is terminated by the balancing pool.</li> </ul>
New	<p><b>"radial circuit"</b> means an arrangement of contiguous <b>system elements</b> extending from a single <b>system element</b> on the networked <b>transmission system</b> in a linear or branching configuration to the facilities of one or more <b>market participants</b>, which is the only circuit for power to flow between the networked <b>transmission system</b> and the facilities of one or more <b>market participants</b> under normal operating conditions, including when the circuit is connected to another circuit through a switching device that is operated normally open.</p>
Removed	<p><b>"rated capacity"</b> means the maximum amount of electric power that a <b>transmission facility</b> is rated by the manufacturer to be able to transmit.</p>

<i>Status</i>	<i>Definition</i>
New	“ <b>real power</b> ” means the power, in MW, which does useful work and is developed when there are resistive elements in an electric power system
Unchanged	“ <b>reliability</b> ” means the combination of <b>adequacy</b> and <b>system security</b> .

<i>Status</i>	<i>Definition</i>
Amended	<p>"<b>remedial action scheme</b>" means a scheme designed to detect predetermined power system conditions and to automatically take corrective actions that may include, but are not limited to, adjusting or tripping generation (MW and MVar), tripping load, or reconfiguring a power system(s) in order to accomplish objectives such as:</p> <ul style="list-style-type: none"> <li>• maintaining stability of the <b>transmission system</b>;</li> <li>• maintaining acceptable <b>transmission system</b> voltages</li> <li>• maintaining acceptable <b>transmission system</b> power flows; or</li> <li>• limiting the impact of <b>cascading</b> or extreme events.</li> </ul> <p>The following do not individually constitute a <b>remedial action scheme</b>:</p> <p>a) a <b>protection system</b> installed for the purpose of detecting faults on <b>transmission facilities</b> and isolating the faulted facilities;</p> <p>b) a <b>protection system</b> for automatic <b>underfrequency load shedding</b> and automatic <b>undervoltage load shed</b> comprised of only distributed relays;</p> <p>c) out-of-step tripping and power swing blocking schemes;</p> <p>d) an automatic reclosing scheme;</p> <p>e) a scheme applied on a facility for non-fault conditions, including, but not limited to:</p> <ul style="list-style-type: none"> <li>(i) generator loss-of-field;</li> <li>(ii) transformer top-oil temperature;</li> <li>(iii) overvoltage; or</li> <li>(iv) overload</li> </ul> <p>to protect the facility against damage by removing it from service;</p> <p>f) a controller that switches or regulates one or more of the following:</p> <ul style="list-style-type: none"> <li>(i) series or shunt reactive devices,</li> <li>(ii) flexible alternating current transmission system devices,</li> <li>(iii) phase-shifting transformers, variable-frequency transformers, or</li> <li>(iv) tap-changing transformers</li> </ul> <p>and that is located at and monitors quantities solely at the same station as the facility being switched or regulated;</p> <p>g) a flexible alternating current transmission controller that remotely switches static shunt reactive devices located at other stations to regulate the output of a single flexible alternating current transmission device;</p> <p>h) a scheme or controller that remotely switches shunt reactors and shunt capacitors for voltage regulation that would otherwise be manually switched;</p> <p>i) a scheme that automatically de-energizes a line for a non-fault operation when one end of the line is open;</p> <p>j) a scheme that provides anti-islanding protection (e.g. protects load from the effects of being isolated with generation that may not be capable of maintaining acceptable frequency and voltage);</p>

<i>Status</i>	<i>Definition</i>
Unchanged	" <b>settlement period</b> " means the period starting on the first day of each calendar month at 00:00 hours and ending on the last day of the same calendar month at 24:00 hours.
Unchanged	" <b>substation fraction</b> " means the share of a substation's capacity attributable to a <b>market participant</b> under Rate DTS or Rate STS, calculated by dividing the <b>contract capacity</b> of the individual <b>system access service</b> by the sum of all <b>contract capacities</b> of all <b>system access services</b> provided at the same substation under Rate DTS and Rate STS.
Previously Unchanged Amended	" <b>system access service</b> " means the service obtained by <b>market participants</b> through a connection to the <b>transmission system</b> , and includes access to exchange electric energy and <b>ancillary services</b> .
Unchanged	" <b>transmission constraint rebalancing</b> " means the delivery of energy from a <b>pool asset</b> on the <b>downstream constraint side</b> of a <b>transmission constraint</b> in response to that portion of an energy market <b>dispatch</b> it receives to restore the energy balance on the <b>interconnected electric system</b> due to measures taken to mitigate a transmission constraint.
Previously Unchanged Amended	<p>"<b>transmission facility</b>" as defined in the <b>Act</b> means an arrangement of conductors and transformation equipment that transmits electricity from the high voltage terminal of the generation transformer to the low voltage terminal of the step down transformer operating phase to phase at a nominal high voltage level of more than 25,000 volts to a nominal low voltage level of 25,000 volts or less, and includes:</p> <ul style="list-style-type: none"> <li>(i) transmission lines energized in excess of 25,000 volts;</li> <li>(ii) insulating and supporting structures;</li> <li>(iii) substations, transformers and switchgear;</li> <li>(iv) operational, telecommunication and control devices;</li> <li>(v) all property of any kind used for the purpose of, or in connection with, the operation of the transmission facility, including all equipment in a substation used to transmit electric energy from (A) the low voltage terminal, to (B) <b>electric distribution system</b> lines that exit the substation and are energized at 25,000 volts or less, and</li> <li>(vi) connections with electric systems in jurisdictions bordering Alberta, but does not include a <b>generating unit</b> or an <b>electric distribution system</b>.</li> </ul>
Unchanged	" <b>transmission system</b> " as defined in the <b>Act</b> means all <b>transmission facilities</b> in Alberta that are part of the <b>interconnected electric system</b> .
Previously Unchanged Amended	" <b>underfrequency load shedding</b> " means the automatic or manual actions required to shed system load when the system frequency falls below the normal system operating frequency of 60 Hz in order to allow for the return to a secure state.
Unchanged	" <b>unplanned outage</b> " means the unavailability of a facility which is not anticipated as part of a <b>legal owner</b> 's regular maintenance and occurs as a result of a deliberate, manual action.

<i>Status</i>	<i>Definition</i>
Removed	<p>“<b>western interconnection</b>” means the area comprised of those portions of western Canada, northern Mexico and the western United States in which members of the <b>WECC</b> operate synchronously connected transmission systems.</p>