
“*adjacent balancing authority*” means a *balancing authority area* that is interconnected with another *balancing authority area* either directly or via a multi-party agreement or transmission tariff;

“*arranged interchange*” means the state where the *interchange authority* has received the *interchange information* (initial or revised);

“*balancing authority*” or “*BA*” means a responsible entity that integrates resource plans ahead of time, maintains load-interchange generation balance within a *balancing authority area*;

“*balancing authority area*” means the collection of generation, transmission and loads, within the metered boundaries of a *balancing authority area*, and supports *Interconnection* frequency in real-time;

“*bulk electric system*” or “*BES*” as defined by the Regional Reliability Organization, means the electrical generation resources, transmission lines, *interconnections*, with neighbouring systems, and associated equipment, generally operated at voltages of 100kV or higher; radial *transmission facilities* serving only *load* with one transmission source are generally not included in this definition;

“*cascading*” means the uncontrolled successive loss of *system* elements triggered by an incident at any location; *cascading* results in widespread electric services interruption that cannot be restrained from sequentially spreading beyond an area predetermined by studies;

“*compliance monitor*” means the entity(s) appointed by the *Commission* to carry out compliance monitoring of *reliability standards*;

“*confirmed interchange*” means the state where the *interchange authority* has verified the *arranged interchange*;

“*contingency*” means the unexpected failure or *outage* of a *system* component, such as a *generating unit*, transmission line, circuit breaker, switch or electrical element;

“*control performance standard*” or “*CPS*” means the reliability standard that sets the limits of a balancing authority’s area control error over a specified time period;

“*demand*” means:

- the rate at which electric energy is delivered to or by a *system* or part of a *system*, generally expressed in kilowatts or megawatts, at a given instant or averaged over any designated interval of time;
- the rate at which electric energy is being used by the *demand customer*;

“element” means any electrical device, comprised of one or more components, with terminals that may be connected to other electrical devices such as a generating unit, transformer, circuit breaker, bus section, or transmission line;

“facility” means a set of electrical equipment that operates as a single *bulk electric system* element, including without limitation, a transmission line, generating unit, shunt compensator, or transformer;

“facility rating” means the maximum or minimum voltage, current, frequency, or real or reactive power flow through a facility that does not violate the applicable equipment *rating* of any equipment comprising the facility;

“frequency bias” means a value, usually expressed in megawatts per 0.1 Hertz (MW/0.1 Hz), associated with a balancing authority area that approximates the balancing authority area’s response to Interconnection frequency error;

“frequency bias setting” means a value, usually expressed in MW/0.1 Hz, set into a balancing authority ACE algorithm that allows the balancing authority to contribute its frequency response to the Interconnection;

“frequency deviation” means a change in Interconnection frequency;

“frequency error” means the difference between the actual and scheduled frequency. ($F_A - F_s$);

“frequency response” means, for an equipment, the ability of a *system* or elements of the *system* to react or respond to a change in *system* frequency, or for a *system*, the sum of the change in demand, plus the change in generation, divided by the change in frequency, expressed in megawatts per 0.1 Hertz (MW/0.1 Hz);

“high voltage direct current” or “HVDC” means a *high voltage direct current* power transmission facility that uses direct current to transfer power;

“interchange” means energy transfers that cross *balancing authority* boundaries;

“interchange authority” means the responsible entity that authorizes implementation of valid and balanced *interchange schedules* between *balancing authority areas*, and ensures communication of interchange information for *reliability* assessment purposes;

“interconnected transmission operator” means the entity outside of Alberta responsible for the reliability of its “local” transmission system, and that operates or directs the operations of the transmission facilities;

“*interconnection*” means the electrical connection of the AIES with any electric *system* in a jurisdiction bordering Alberta. When capitalized, it means any one of the three major electric *system* networks in North America: Eastern, Western, and ERCOT;

“*interconnection reliability operating limits*” or “*IROL*” means a *system operating limit*, that if violated, could lead to instability, uncontrolled separation or *cascading outages* that adversely impact the *reliability* of the *bulk electric system*;

“*misoperation*” means any one of the following:

- any failure of a *protection system* element to operate within the specified time when a fault or abnormal condition occurs within a zone of protection;
- any operation for a fault not within a zone of protection, except an operation as backup protection for a fault in an adjacent zone that is not cleared within a specified time for the protection for that zone;
- any unintentional *protection system* operation when no fault or other abnormal condition has occurred unrelated to on-site maintenance and testing activity.

“*net actual interchange*” means the algebraic sum of all metered interchange over all interconnections between two physically adjacent balancing authority areas;

“*net energy for load*” means net *balancing authority area* generation, plus energy received from other *balancing authority areas*, less energy delivered to *balancing authority areas* through *interchange*; it includes *balancing authority area* losses but excludes energy required for storage at energy storage facilities;

“*net interchange schedule*” means the algebraic sum of all interchange schedules with each adjacent balancing authority;

“*normal clearing*” means that a *protection system* operates as designed and the fault is cleared in the time normally expected with proper functioning of the installed *protection systems*;

“*owner of industrial system*” means the owner of an industrial system designated as such by the *Commission* in accordance with the Hydro and Electric Energy Act and includes the operator of such system;

“*peak demand*” means:

- the highest hourly integrated *net energy for load* within a *balancing authority area* occurring within a given period;
- the highest instantaneous demand within the *balancing authority area*;

"protection system" means protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry;

"rating" means the operational limits of a transmission system element under a set of specified conditions;

"receiving balancing authority" means the balancing authority importing the interchange;

"schedule" means to set up a plan or arrangement for an interchange transaction;

"scheduling path" means the transmission service arrangements reserved by a market participant for an interchange transaction;

"sending balancing authority" means the balancing authority exporting the interchange;

"stability" means the ability of an electric system to maintain a state of equilibrium during normal and abnormal conditions;

"stability limit" means the maximum power flow possible through some particular point in the system while maintaining stability in the entire system or the part of the system to which the stability limit refers;

"surge" means transient variation of current, voltage, or power flow in an electric circuit or across an electric system;

"system operating limit" means the value (MW, MVar, amperes, frequency or volts) that satisfies the most limiting of prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria; system operating limits are based upon certain operating criteria:

- facility ratings (applicable pre- and post-contingency equipment or facility ratings)
- transient stability ratings (applicable pre- and post-contingency stability limits)
- voltage stability ratings (applicable pre- and post-contingency voltage stability)
- system voltage limits (applicable pre- and post-contingency voltage limits)

"system" means a combination of generation, transmission, and distribution of components;

"tie line" means a circuit connecting two balancing authority areas;

"Transmission Maintenance and Inspection Plan" or "TMIP" means a written plan for the regular and ongoing maintenance of transmission facilities;

"transmission connected end-use customer" means an entity purchasing electricity for their own use that are connected to the AIES at a high voltage level above 25 kV;



Alberta Reliability Standards Glossary of Terms

Effective:

"transmission operator" means the entity responsible for the *reliability* of its "local" transmission system, and that operates or directs the operations of the *transmission facilities*;

"transmission service provider" means the entity that administers the transmission tariff and provides transmission service to *Transmission Customers* under applicable transmission service agreements;

"transmission vegetation management program" or *"TVMP"* means a plan for vegetation management work to ensure the *reliability* of electric transmission systems;

"VRC" means the *Vancouver Reliability Coordinator*.