



Alberta Reliability Standards Glossary of Terms

Effective: XXX

“*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;

“*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*;

“*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;

“*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;



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"*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;

"*industrial system*" or "*IS*" means "industrial system" as defined in the *Hydro and Electric Energy Act*.

"*interchange*" means energy transfers that cross *balancing authority* boundaries;

"*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*;

"*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;

"*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*;



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"*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;

"*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 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 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*.