

Glossary of Terms Used in Reliability Standards

Preliminary Draft — Version 0 Reliability Standards September 1, 2004

Source References (Noted in draft only — will not be part of final glossary)

Functional Model (FM)

Glossary (GL)

Interconnected Operations Services Reference Document (IOS)

Joint NERC/NAESB Transmission Loading Relief Procedure Draft August 28, 2004 (TLR)

NERC Operating Policy 9 Approved June 15, 2004 (P9)

NERC Terms and Policies October 2003 (TP)

Terms Used in Planning Standards (PL)

Term	Acronym	Source	Definition
Actual Net Interchange		TP	See Net Actual Interchange
Adjacent Balancing Authority		TP	Two Balancing Areas that are interconnected: <ul style="list-style-type: none"> • Directly to each other, or • Via a multi-party agreement or transmission tariff. (Examples include Independent System Operator and Power Pool agreements.)
Analysis (Study)		PL	An examination or simulation of an event, component, process, or activity and its elements and their relationship to determine if objectives, goals, or performance is achieved.
Area			Generic reference to the portion of the interconnected electric system under the responsibility of a Reliability Coordinator, Reliability Authority, Balancing Authority, Transmission Operator, Generator Operator, Load Serving Entity or other function.
Area Control Error	ACE	TP	A Balancing Authority Area's instantaneous difference between net actual and scheduled interchange, taking into account the effects of frequency bias including a correction for meter error.
Area Predetermined		PL	The particular extent, in electrical or geographic terms, decided in advance for the scope of operation or impact.
Assessment		PL	An evaluation that allows a conclusion to be reached or a decision to be made that may or may not involve an analysis or simulation.
At All Demand Levels		PL	The entire range of projected electrical power that a system may be required to deliver.
Automatic Generation Control	AGC	TP	Equipment that automatically adjusts generation in a Balancing Authority Area from a central location to maintain its interchange schedule plus frequency bias.

Term	Acronym	Source	Definition
Available on Request		PL	Can be provided when asked through proper means under the designated format within the agreed upon time frame (negotiated or designated).
Balancing Area			See Definition of Balancing Authority Area
Balancing Authority		FM	The entity with the highest level of responsibility for integrating resource plans ahead of time, maintaining load-interchange-generation balance within a Balancing Authority Area, and supporting Interconnection frequency in real time.
Balancing Authority Area		FM	The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.
Blackstart Capability Plan		PL	A documented procedure for a generating unit or station to go from a shutdown condition to an operating condition delivering electric power without assistance from the electric system. This procedure is only a portion of an overall system restoration plan.
Bulk Electric System		TP	The aggregate of electric generating plants, transmission lines, and related equipment. The term may refer to those facilities within one electric utility, or within a group of utilities in which the transmission lines are interconnected.
Burden		P9	Operation of the Bulk Electric System that violates or is expected to violate a SOL or IROL in the Interconnection or that violates any other NERC, Regional Reliability Organization, or local operating reliability policies or standards.
Cascading		PL	The uncontrolled successive loss of system elements triggered by an incident at any location. Cascading results in widespread electric service interruption, which cannot be restrained from sequentially spreading beyond an area predetermined by appropriate studies.
Compliance Monitor		FM	Function that audits and documents compliance of responsible entities with reliability standards.
Congestion Management Report		TLR	A report generated every time a TLR is issued in the NERC IDC. This report identifies the transactions and native and network load curtailments that must be initiated to achieve the loading relief requested by the initiating Reliability Coordinator.
Constrained Facility		TP	A transmission facility (line, transformer, breaker, etc.) that is approaching, is at, or is beyond its Operating Security Limit.
Constraint		TP	A limitation placed on Interchange Transactions that flow over a Constrained Facility.
Contingency		P9	The unexpected failure or outage of a system component, such as a generator, transmission line, circuit breaker, switch or other electrical element. A Contingency also may include multiple components that are related by situations leading to simultaneous component outages.

Term	Acronym	Source	Definition
Contingency Reserve		IOS	The provision of capacity deployed by the Balancing Authority to reduce ACE to meet the Disturbance Control Standard (DCS) and other NERC and Regional Reliability Organization contingency requirements. Contingency Reserve is composed of Contingency Reserve — Spinning and Contingency Reserve – Supplemental.
Contract Path		TLR	A specific electrical path for the continuous flow of electrical power between the parties to a power sale. However, the laws of physics dictate the path the power actually will flow.
Control Performance Standard	CPS		Control Performance Standard.
Curtailment Threshold		TLR	The minimum Transfer Distribution Factor which, if exceeded, will subject an Interchange Transaction to curtailment to relieve a transmission facility Constraint.
Database		PL	Information organized for reporting, search, and retrieval. (Note: Unless a NERC or Regional database exists, the format and media of the database are at the discretion of the entity.)
Dispersed Load by Substations		PL	Substation load information configured to represent a system for power flow and/or system dynamics modeling purposes.
Distribution Provider		FM	Provides and operates the “wires” between the transmission system and the end-use customer.
Disturbance Analysis Working Group	DAWG		Disturbance Analysis Working Group
Disturbance Control Standard			Disturbance Control Standard.
Disturbance Recovery Criterion			TBD
Disturbance Recovery Period			TBD
Double-Circuit Line		PL	Two three-phase circuits for electric power transmission constructed on a single structure.
Dynamic Interchange Schedule			Same as Dynamic Schedule.
Dynamic Schedule		TP	A telemetered reading or value that is updated in real time and used as a schedule in the AGC/ACE equation and the integrated value of which is treated as a schedule for interchange accounting purposes. Commonly used for scheduling jointly owned generation to or from another control area.
Dynamic		IOS	The provision of the real-time monitoring, telemetering, computer software, hardware, communications, engineering, energy

Term	Acronym	Source	Definition
Transfer			accounting (including inadvertent interchange), and administration required to electronically move all or a portion of the real energy services associated with a generator or load out of one Balancing Authority Area into another.
Eastern Interconnection			One of the three major electric system networks in North America.
Element		PL	Any electrical device with terminals that may be connected to other electrical devices such as a generator, transformer, circuit breaker, bus section, or transmission line. An element may be comprised of one or more components.
Energy Deficient Entity		TLR TP	A Load Serving Entity or Balancing Authority who foresees or is experiencing an Energy Emergency condition.
Energy Emergency		TP	A condition in which a Load Serving Entity has exhausted all other options and can no longer provide its customers' expected energy requirements.
Entities Responsible for the Reliability of the Interconnected Transmission Systems		PL	Party or parties (e.g., transmission owners, independent system operators (ISOs), regional transmission organizations (RTOs), or other groups) who are responsible for ensuring that the interconnected transmission systems are being planned and operated within applicable NERC Standards.
Firm Transmission Service		TLR	The highest quality service offered to customers under a filed rate schedule that anticipates no planned interruption.
Frequency Bias Setting		TP	A value, in MW/0.1 Hz, set into a Control Area's AGC equipment to represent a Control Area's response to a frequency deviation
Frequency Deviation		GL	A departure from scheduled frequency.
Generation Load Distribution Factor	GLDF	TLR	The algebraic sum of a GSF and an LSF to determine to total impact of an Interchange Transaction on an identified transmission facility or monitored flowgate. (JJD) (not in NAESB glossary)
Generation Operator		FM	Operates generating unit(s) and performs the functions of supplying energy and Interconnected Operations Services.
Generation Owner		FM	Owns and maintains generating units.
Generation Shift Factor	GSF		A factor to be applied to a generator's expected change in output to determine the amount of flow contribution that change in output will impose on an identified transmission facility or monitored flowgate.

Term	Acronym	Source	Definition
Host Balancing Authority		TP	A Balancing Authority that confirms and implements Interchange Transactions for a Purchasing Selling Entity that operates generation or serves customers directly within the Balancing Authority's metered boundaries; or the Balancing Authority within whose metered boundaries a jointly owned unit is physically located.
Inadvertent Interchange		TP	The difference between the Balancing Authority's Net Actual Interchange and Net Scheduled Interchange.
Interchange		TP	Energy transfers that cross Balancing Authority Area boundaries.
Interchange Distribution Calculator	IDC	TLR	The mechanism used by Reliability Coordinators in the Eastern Interconnection to calculate the distribution of Interchange Transactions over specific transmission interfaces, which are known as "Flowgates." It includes a database of all Interchange Transactions and a matrix of the Distribution Factors for the Eastern Interconnection.
Interchange Schedule		TP	The planned interchange between two Adjacent Balancing Authorities resulting from the implementation of one or more Interchange Transaction(s).
Interchange Transaction		TLR	An agreement to transfer energy from a seller to a buyer that crosses one or more Balancing Authority Area boundaries.
Interconnected Operations Service	IOS	IOS	A service (exclusive of basic energy and transmission services) that is required to support the reliable operation of interconnected Bulk Electric Systems.
Interconnection		TP	Any one of the three major electric system networks in North America: Eastern, Western, and ERCOT
Interconnection Frequency Error			TBD
Interconnection Reliability Operating Limit	IROL	P9	The value (such as MW, MVar, Amperes, Frequency or Volts) derived from, or a subset of the System Operating Limits, which if exceeded, could expose a widespread area of the Bulk Electric System to instability, uncontrolled separation(s) or cascading outages.
Intermediate Balancing Authority		TP	A Balancing Area that has connecting facilities in the Scheduling Path between the Sending Balancing Authority Area and Receiving Balancing Authority Area and operating agreements that establish the conditions for the use of such facilities.
Load Serving Entity	LSE	FM PL	Secures energy and transmission service (and related Interconnected Operations Services) to serve the electrical demand and energy requirements of its end-use customers.
Load Shift Factor	LSF	TLR	A factor to be applied to a load's expected change in demand to determine the amount of flow contribution that change in demand

Term	Acronym	Source	Definition
			will impose on an identified transmission facility or monitored flowgate.
Native Load		TLR	The wholesale or retail power customers who by statute, franchise, regulatory requirement, or contract, have an obligation to construct and operate the needed infrastructure to meet the reliable electric needs of such customers.
Native Load Customer			The demand imposed on an electric utility or an entity by the requirements of retail customers located within a franchised service territory that the electric utility or entity has statutory or contractual obligation to serve.
Net Actual Interchange		TP	The algebraic sum of all metered interchange over all interconnections between two physically Adjacent Balancing Authority Areas.
Net Interchange Schedule		TP	The algebraic sum of all Interchange Schedules with each Adjacent Balancing Authority Area.
Network Integration Transmission Service		TLR	Service that allows an electric transmission customer to integrate, plan, economically dispatch and regulate its network reserves in a manner comparable to that in which the transmission owner serves native load customers.
Non-firm Transmission Service		TLR	Transmission service that is reserved and scheduled on an as-available basis and is subject to curtailment or interruption.
North American Electric Reliability Council	NERC		North American Electric Reliability Council.
Off Peak		GL	Those hours or other periods defined by NAESB business practices, contract, agreements, or guides as periods of lower electrical demand.
On Peak		GL	Those hours or other periods defined by NAESB business practices, contract, agreements, or guides as periods of higher electrical demand.
Open Access Same Time Information Service	OASIS	GL	An electronic posting system for transmission access data that allows all Transmission Customers to view the data simultaneously.
Open Access Transmission Tariff	OATT	TLR	Electronic transmission tariff accepted by the U.S. Federal Energy Regulatory Commission requiring the transmission provider to furnish to all shippers with non-discriminating service comparable to that provided by transmission owners to themselves.
Operating Committee	OC		NERC Operating Committee.

Term	Acronym	Source	Definition
Operating Reserve		TP	That capability above firm system demand required to provide for regulation, load forecasting error, equipment forced and scheduled outages and local area protection. It consists of spinning and non-spinning reserve.
Operating Reserve - Spinning		IOS	The portion of Operating Reserve provided from consisting of: <ul style="list-style-type: none"> • Generation synchronized to the system and fully available to serve load within the Disturbance Recovery Period following the contingency event; or • Load fully removable from the system within the Disturbance Recovery Period following the contingency event.
Operating Reserve - Supplemental		IOS	The portion of Operating Reserve provided from consisting of: <ul style="list-style-type: none"> • Generation (synchronized or capable of being synchronized to the system) that is fully available to serve load within the Disturbance Recovery Period following the contingency event; or • Load fully removable from the system within the Disturbance Recovery Period following the contingency event.
Overlap Regulation Service			A method of providing regulation service in which the Balancing Authority providing the regulation service incorporates all of the other Balancing Authority's tie lines, frequency response, and schedules into its own AGC/ACE equation.
Planning Authority			A function that coordinates and integrates transmission facility and service plans, resource plans, and protection systems.
Planning Horizon		PL	A time period for system planning, typically greater than one year.
Point to Point Transmission Service	PTP	TLR	The reservation and transmission of capacity and energy on either a firm or non-firm basis from the point(s) of receipt to the point(s) of delivery.
Pro Forma Tariff		TLR	The standard OATT and/or associated transmission rights mandated by the U.S. Federal Energy Regulatory Commission Order No. 888.
Purchasing Selling Entity	PSE	TLR	The entity that purchases or sells, and takes title to, energy, capacity, and Interconnected Operations Services. Purchasing-Selling Entities may be affiliated or unaffiliated merchants and may or may not own generating facilities.
Radial Customer		PL	A customer served from an electric system in which the electrical service is through a single transmission element.
Reallocation			The total or partial curtailment of Transactions during TLR Level 3a or 5a to allow Transactions using higher priority to be implemented.

Term	Acronym	Source	Definition
Receiving Balancing Authority		TP	The Balancing Authority importing the interchange.
Region		PL	One of the NERC Regional Electric Reliability Organizations.
Regional Process		PL	A specific method or procedure developed or undertaken by one or more Regional Reliability Organizations to accomplish a specific task or function.
Regional Reliability Organization (Region)			TBD.
Regulating Reserve			TBD.
Reliability Authority		P9 FM	The entity that is the highest level of authority who is responsible for the reliable operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next day analysis and real time operations.
Reliability Authority Area		FM	The collection of generation, transmission, and loads within the boundaries of the Reliability Authority. Its boundary coincides with one or more Balancing Authority Areas
Reliability Authority Information System	RAIS	TP	A generic reference to the communication system in the Eastern Interconnection, the WSCCnet (Western Interconnection), and the ERCOT Communication System as applicable.
Reliability Coordinator			The entity with the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of other transmission systems beyond the Transmission Operator's vision. The highest level of all entities responsible for ensuring the real-time operating reliability of the interconnected bulk electric transmission systems within a Reliability Authority Area.
Remedial Action Scheme	RAS	PL	See Special Protection System.
Reportable Disturbance		Policy 1D 4.1	The definition of a reportable disturbance shall be provided by the respective Regional Reliability Organization. The definition shall include events that cause an ACE change greater than or equal to 80% of a control area's or reserve sharing group's most severe contingency. The definition of a reportable disturbance must be specified in the operating policy adopted by each Regional Reliability Organization. This definition may not be retroactively adjusted in response to observed performance.

Term	Acronym	Source	Definition
Reserve Sharing Group		TP	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy in from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period which the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in quicker (e.g., between zero and ten minutes) then, for the purposes of Disturbance Control Performance, the Areas become a Reserve Sharing Group.
Scheduling Path			The Transmission Service arrangements reserved by the Purchasing Selling Entity for a Transaction.
Security Analysis Path			TBD
Sending Balancing Authority		TP	The Balancing Authority exporting the interchange.
Sink Balancing Authority		TP	The Balancing Authority in which the load (sink) is located for an Interchange Transaction. (This will also be a Receiving Balancing Authority for the resulting Interchange Schedule.)
Source Balancing Authority		TP	The Balancing Authority in which the generation (source) is located for an Interchange Transaction. (This will also be a Sending The Balancing Authority for the resulting Interchange Schedule.)
Special Protection System		TP	A protection system designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components to maintain system reliability. Such action may include changes in demand, generation (MW and Mvar), or system configuration to maintain system stability, acceptable voltage, or power flows. An SPS does not include (a) underfrequency or undervoltage load shedding or (b) fault conditions that must be isolated or (c) out-of-step relaying (not designed as an integral part of an SPS). Also called Remedial Action Scheme.
Studies		PL	See Analysis.
Supplemental Regulation Service		TP	A method of providing regulation service in which the Balancing Authority providing the regulation service receives a signal representing all or a portion of the other Balancing Authority's ACE.
System Operating Limit	SOL	P9	The value (such as MW, MVar, Amperes, Frequency or Volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria. System Operating Limits are based upon certain operating criteria. These include, but are not limited

Term	Acronym	Source	Definition
			to: <ul style="list-style-type: none"> • 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)
TLR Log		TLR	Report required to be filed after every TLR Level 2 or higher in a specified format. The NERC IDC prepares the report for review by the issuing Reliability Coordinator. After approval by the issuing Reliability Coordinator, the report is electronically filed in a public area of the NERC web site.
Transaction		TLR FM	An agreement between two market participants to transfer energy or title to energy from a seller to a buyer. See Interchange Transaction.
Transfer Distribution Factor	TDF	TLR	The portion of an Interchange Transaction, expressed in per unit that flows across a transmission facility (Flowgate).
Transmission Customer		TLR	Any eligible customer (or its designated agent) that can or does execute a transmission service agreement or can or does receive transmission service.
Transmission Operator		TLR FM	The entity responsible for the reliability of its “local” transmission system; and that operates or directs the operations of the transmission facilities. The Transmission Operator may not be aware of the impact of its system on any Interconnection Reliability Operating Limit.
Transmission Operator Area		FM	The collection of generation, transmission, and loads within the boundaries of the Transmission Operator.
Transmission Owner		FM	Owns and maintains transmission facilities.
Transmission Planner			Performs transmission assessments and develops transmission expansion plans.
Transmission Service		TLR TP	Services needed to move energy from a receipt point to a delivery point provided to customers by the transmission provider.
Transmission Service Provider		TLR FM	Any entity that owns, operates or controls facilities used for the transmission of electric energy in interstate commerce. The entity that administers the transmission tariff and provides transmission services to qualified market participants under applicable transmission service agreements.

Term	Acronym	Source	Definition
User of the Interconnected Transmission Systems (Bulk Electric System, Electric System)		PL	An entity owning facilities, or receiving or reserving electrical service on the interconnected transmission systems, or with facilities connecting to, or intending to be connected to, the interconnected transmission systems.
Wide Area		P9	The entire Reliability Coordinator Area as well as the critical flow and status information from adjacent Reliability Coordinator Areas as determined by detailed system studies to allow the calculation of Interconnected Reliability Operating Limits.