

Additional Terms

CURRENT TERM	ACRONYM	DEFINITION
Backup Relays		Relays that protect the same electrical equipment that the primary relays protect. They operate after a time delay and would generally affect more of the power system.
Bilateral		Affecting two parties, involving two groups, symmetry. Bilateral Interchange is at least two Balancing Authorities that agree to move power generation from one party to another.
Capacitance		The property of an electrical circuit developed when two conductors are separated by a dielectric.
Capacitive Reactance		A measure of how a capacitor affects the flow of AC current. It describes the reaction of a circuit to the fluctuating electric fields of AC voltage. A capacitor that is placed into an AC circuit builds up a charge that opposes changes in the voltage.
Capacitor		A circuit element that stores energy in the form of an electrical charge and introduces capacitance into a circuit. The stored energy creates an electric field.
Control Performance Standard 1	CPS1	A frequency-sensitive evaluation of how well a Balancing Authority's demand requirements were met. A CPS1 score of 200% is perfect (actual measured frequency equals scheduled frequency over any 1-minute period). The minimum passing long-term (12-month rolling average) score for CPS1 is 100%. CPS1 is a 12-month rolling average that recognizes that certain intervals will not have ideal performance and certain seasons may not be as well managed.
Current Transformers		Instrument transformers designed for transforming large current magnitudes to secondary current suitable for relaying and metering. The secondary current flow is proportional to the larger primary current flow.
Cycle		One full sine wave cycle that is divided into 360 degrees. The wave form passes through zero, rises to a maximum, drops back to zero, drops to a minimum, then rises again to zero. Both current and voltage in North America power systems have cycle wave forms that will repeat 60 times a second.
Data link		The means of connecting one location to another for the purpose of transmitting and receiving information.

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Differential Relay Zone		A closed zone of protection. The current flowing into the protection zone must equal the current flowing out of the protection zone.
Direct Current	DC	Current that flows in one direction only and is substantially constant in value.
Dynamic Reactive Reserves		Reactive power reserves that automatically respond to system voltage deviations. These reserve sources include synchronous generators, synchronous condensers, and static VAR compensators.
Energy Management System	EMS	A system of computer-aided tools used by operators to monitor, control, and optimize the performance of the generation and/or transmission system. The monitor and control functions are known as SCADA, the optimization packages are often referred to as advanced applications.
Energy Sharing Agreement		Refers to an agreement among several parties to mutually cover the loss of resources. One example of an energy sharing agreement is the reserve-sharing group.
Epsilon – Sub One	ε ₁	A constant derived from the targeted frequency bound. It is the targeted root mean square of one-minute average frequency error of the Interconnection for one minute. It is the same for every Balancing Authority Area within an Interconnection. It is the limit for determining a BA's compliance with CPS1.
Epsilon – Sub Ten	ε ₁₀	Is a constant derived from the targeted frequency bound. It is the targeted root mean square of ten minute frequency error schedule based on frequency performance over a given year. It is the same for every Balancing Authority Area within an Interconnection. It is used in the calculation of a BA's L ₁₀ (L sub 10) for CPS2 compliance.
Frame Relay		Frame Relay is an extremely efficient data transmission technique used to send digital information such as voice, data, local area network and wide area network traffic quickly to many destinations from one point of origin.
Generator Droop Characteristic		Allows parallel operation of many generators on governor control in response to frequency deviations without competing with each other. It controls the generator response in proportion to its size. The droop characteristic of a generator determines how much its loading will change in response to a frequency deviation.

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Impedance		A measure of the total opposition to current flow in an alternating current circuit. It has two components; resistance and reactance.
Inductance		The property of an electric circuit by which an electromotive force is induced in it as the result of a changing magnetic flux. Inductance opposes current changes.
Inductive Reactance		A measure of how an inductor affects the flow of current. It describes the reaction of a circuit to the fluctuating magnetic fields of AC power. It is measured in ohms.
Inductor		A coiled conductor. A circuit element that stores energy in its magnetic fields and introduces inductance into a circuit.
Inertia		The property of a rotating object that causes it to resist changes in momentum which is dependent upon the mass, diameter, and speed of the object. A generator resists a change to its speed of rotation due to the inertia of its rotor.
Information Assets		For purposes of the NERCNet Security Policy, information assets are processed or unprocessed data using NERCNet, including network documentation.
Instability		A voltage, angle or power flow condition where the transmission system is likely to suffer catastrophic failure should the existing conditions persist. Complete failure of a large area may be caused by voltage collapse, angular separation and/or by suffering a credible contingency.
Interconnection Time Monitor		The Reliability Coordinator, designated by the NERC Operating Committee, that monitors Time Error and initiates and terminates Time Error Corrections. There is only one Interconnection Time Monitor in each Interconnection.
Load-Flow		Term sometimes used interchangeably with power flow usually when referring to analysis of the power system and its ability to transfer power under various conditions. (e.g. Load-flow study).

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Load-Tap Changer	LTC	A device on transformers to allow the changing of the primary windings to except different primary voltages. It regulates the output voltage to required levels. This is normally achieved by changing the ratios of the transformers on the system by altering the number of turns in one winding of the appropriate transformer(s).
Modified Interchange		Refers to an Interchange that has to be changed from the original Confirmed Interchange due to circumstances – usually directed by a Reliability Coordinator for current or imminent reliability-related reasons. The modification may be a curtailment or reduction in the megawatt profile, or it may be an increase in the profile where a schedule is countering the reliability problem.
MVAR, Reactive Power		The portion of electricity that establishes and sustains the electric and magnetic fields of alternating-current equipment. Reactive power must be supplied to most types of magnetic equipment, such as motors and transformers. It also must supply the reactive losses on transmission facilities.
N-1 Contingency Planning		(The “Normal” [N] state minus the next contingency = N - 1) planning the system to be reliable for the unexpected failure or outage of any single system component.
NERCNet		NERCNet is a Wide Area Network using Frame Relay as its communications medium. It supports the Interregional Security Network, Interchange Distribution Calculator and the Reliability Coordinator Information System.
NERCNet Security Policy		The NERCNet Security Policy is the document that establishes responsibilities and minimum requirements for the protection of information assets, computer systems and facilities of NERC and other users of NERCNet. This policy is contained in Attachment 1 to Standard COM-001.
NERCNet User Organizations		NERCNet User Organizations are those organizations that have received authorization from NERC to access the NERC network and use it for exchanging information. They are responsible for maintaining security and for ensuring proper use of NERCNet at their connection.
Network Resource		Any designated generating resource owned, purchased, or leased by a network customer under the provisions of an Open Access Transmission Tariff.

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Online		A common term used in identifying that a generator is tied or synchronized to the electrical grid.
Operating Entities		Entities responsible for performing the functions necessary to reliably plan and operate the Bulk Electric System (BES), i.e., Balancing Authorities, Reliability Coordinators, and Transmission Operators.
Operating Personnel		Individuals that implement real-time actions to ensure the stable and reliable operation of the Bulk Electric System.
Over Lapping Zone		Where two or more protective relay zones overlap at an electrical circuit or device. This ensures complete protection of the system.
Parallel Flow		Flow of electricity across transmission facilities in the same direction as primary energy flow, but on different transmission lines. Parallel path flow is similar in concept to having two parallel highways each carrying vehicles into or out of the same city. Energy transfer on an interconnected network such as one of the US national grids can be switched at various points to allow high-volume producers to transmit energy down two or more parallel paths to a given high-volume customer as the need arises. Parallel path flow is needed whenever a single transmission path is insufficient to supply a given customer from a given producer. It also insures reliability by providing alternate transmission routes if energy flow on one path is interrupted.
Per-unit		Per-unit is a way of expressing values as a percentage of the nominal value. For example, if a voltage of a bus is expressed as .99 p.u. it identifies the voltage as 99% of nominal.
Phase Angle		The angular separation between the current and voltage cycles.
Pilot Relaying		Used to provide selective and high speed tripping for any fault location on the protected line by establishing communications between relays.

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Potential Transformers		Also known as PT's transform primary voltage to a smaller secondary voltage suitable for metering and relaying. The secondary voltage is usually around 120 volts and is proportional to the higher primary voltage.
Power Angle		The voltage angular difference between two locations in the power system.
Power Flow		The transfer of power, either real (MW) or reactive (MVAR), over a transmission or distribution line. Power flow will have both a magnitude and direction.
Power Line Carrier	PLC	Power Line Carrier is a way of using power lines to carry communications. For example, many companies will impose a communications signal onto a transmission line. A power line carrier can be used to provide communications between protective relays at either end of a transmission line.
Primary Relays		Relays that would normally operate first, should a fault condition develop on the protected equipment.
Private Ringdown Lines		A dedicated phone which only dials one other phone. The receiving phone is automatically dialed when the handset of the sending phone is picked-up.
Reliability Analysis Services		Reliability analysis services receive Confirmed Interchange from Interchange Authorities. The Confirmed Interchange informs the Reliability Analysis Service of the expected flows the Interchange will create and is used by Reliability Coordinators to mitigate constraints should the need arise. The IDC is an example of a reliability analysis service.
Reloading		As applied to interchange scheduling, to increase a schedule that has been curtailed or otherwise modified in response to a curtailment.
Sabotage		The deliberate act of destruction, disruption of normal operations, or damage of equipment or property, as by civilians, enemy agents, terrorists, or dissatisfied employees.

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Surge Impedance Loading	SIL	The real power loading level of a line where the capacitive VARs generated by the line capacitance equal the inductive VARs created by the line loading.
Synchronize		The process of connecting two previously separated alternating current apparatuses or systems after matching frequency, voltage and phase angles.
Systematic Approach to Training	SAT	A Systematic Approach to Training represents an approach for the development of training programs based on a systematic method of determining and implementing training that is directly related to the needs and requirements of the job.
Under-Frequency Load Shedding	UFLS	In the event of insufficient generation or transmission capacity within a power system (i.e., an emergency event), a UFLS action is performed quickly to arrest power system frequency decline by decreasing a power system's load to match available generating capacity.
Under-Load Tap Changer		A tap changer designed to change tap positions while the transformer has load current passing through it.
Under-Voltage Load Shedding	UVLS	When there is a system disturbance and the voltage drops to a pre-selected level for a pre-determined time, then selected loads are shed with the intention that when load is shed for a disturbance, the voltage will recover to acceptable levels thereby avoiding a more widespread system voltage collapse.
Vandalism		The wanton, deliberate, mischievous or malicious destruction, defacement, or damage of property.
Voltage		The force that causes current to flow in a conductor. The separation of charge between two points in a conductor gives rise to a potential difference or a voltage.
Voltage Collapse		A process in which a voltage unstable area experiences an uncontrolled rapid decline in reactive resources leading to voltages going to ZERO in a specific area.

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Voltage Regulator		A device that is designed to automatically maintain a constant voltage level output.
Wave Trap		A filter used to remove the power line carrier signal from the line and route it to the line protective relays.
Zones of Protection		The zones are areas within which a protective relay can sense abnormal conditions.