

GLOSSARY

Referenced sources (in parentheses) include:

- (NYSRC RR) - New York State Reliability Council Reliability Rules – November
- (NYISO) – New York Independent System Operator – Glossary
- (NPCC) - Northeast Power Coordinating Council – Glossary (Document A-07) – 07/17/2007
- (PJM) – PJM Interconnection – Manual
- (New) – New Terms added to Glossary

Adequacy – Adequacy means having sufficient resources to provide customers with a continuous supply of electricity at the proper voltage and frequency, virtually all of the time. “Resources” refers to a combination of electricity generating and transmission facilities, which produce and deliver electricity, and “demand-response” programs, which reduce customer demand for electricity. Maintaining adequacy requires system operators and planners to take into account scheduled and reasonably expected unscheduled outages of equipment, while maintaining a constant balance between supply and demand. NERC (PJM)

Applications of the Reliability Rules – New York transmission owner operating procedures that apply to very specific NYCA system locations or conditions which are applications of the NYS Reliability Rules, and require close coordination between the transmission owners and the NYISO. (NYSRC RR)

Area — An Area (when capitalized) refers to one of the following: New England, New York, Ontario, Quebec or the Maritimes (New Brunswick, Nova Scotia and Prince Edward Island); or, as the situation requires, area (lower case) may mean a part of a system or more than a single system. Within NPCC, Areas (capitalized) operate as control areas as defined by the North American Electric Reliability Council (NERC) (NPCC)

Availability – A measure of time a generating unit, transmission line, or other facility is capable of providing service, whether or not it actually is in service. Typically, this measure is expressed as a percent available for the period under consideration. (NYSRC RR)

Available Generating Capacity - Generating Capacity that is on line to serve Load and/or provide Ancillary Services, or is capable of initiating start-up for the purpose of serving Transmission Customers or providing Ancillary Services, within thirty (30) minutes. (NYISO)

Available Transmission Capability - 'ATC' - A measure of the Transfer Capability remaining in the physical transmission network for further commercial activity over and above already committed uses. ATC is defined as the Total Transfer Capability, less Transmission Reliability Margin, less the sum of existing transmission commitments, (which includes retail customer service) less the Capacity Benefit Margin. The amount reserved to support existing transmission commitments is defined in the Existing Transmission Agreements and Existing Transmission Capacity for Native Load in Attachment L of the Open Access Transmission Tariff (OATT). (NYISO)

Blackstart - The ability of a generating unit or station to go from a shutdown condition to an operating condition and start delivering power without assistance from the electric system. (NYSRC RR)

Blackstart Facility - A generating unit or units at a specific location: (i) that the NYISO or a TO has identified as a candidate to provide blackstart service; (ii) the owner of which has committed to the NYISO to provide such service; and (iii) that meets the requirements contained in the NYCA BCP.

Bulk Power System – see NYS Bulk Power System. (NYSRC RR) The interconnected electrical systems within northeastern North America comprised of system elements on which faults or disturbances can have a significant adverse impact outside of the local area. (NPCC)

Bus - A conductor or group of conductors that serve as a common connection for two or more electric circuits within a station. (NYISO)

Cable — An underground or underwater circuit. (NPCC)

Capability Period - Six (6) month periods which are established as follows: (1) from May 1 through October 31 of each year ("Summer Capability Period"); and (2) from November 1 of each year through April 30 of the following year ("Winter Capability Period"); or such other periods as may be determined by the Operating Committee of the NYISO. A summer capability period followed by a winter capability period shall be referred to as a "Capability Year." Each capability period shall consist of on-peak and off-peak periods. (NYSRC RR)

Capacity – The rated continuous load-carrying ability, expressed in megawatts ("MW") or megavolt-amperes (MVA) of generation, transmission or other electrical equipment. (NYSRC RR)

- **Installed Capacity (ICAP)** - Capacity of a facility accessible to the NYS Bulk Power System, that is capable of supplying and/or reducing the demand for energy in the NYCA for the purpose of ensuring that sufficient energy and capacity is available to meet the reliability rules.
- **Installed Capacity Requirement (ICR)** - The annual statewide requirement established by the NYSRC in order to ensure resource adequacy in the NYCA.
- **External Installed Capacity (External ICAP)** – Installed capacity from resources located in control areas outside the NYCA that must meet certain NYISO requirements and criteria in order to qualify to supply New York LSEs.
- **Net Dependable Capacity** – The capability of electric generation resources that shall be the sustained maximum net output averaged over a period of time defined by the NYISO Installed Capacity Manual, Section 4.2.2, for the determination of net system capacity. The certified ability by equipment used for providing resource capacity shall be verified in accordance with the NYISO Installed Capacity Manual, Section 4.0.

Contingency - An actual or potential 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, which are related by situations leading to simultaneous component outages. (NYSRC RR)

Control Area - An electric system or systems, bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other control areas and contributing to frequency regulation of the interconnection. (NYSRC RR)

Demand – The rate at which energy must be generated or otherwise provided to supply an electric power system. (NYSRC RR)

Demand Resources (DR) or Demand Side Resources (DSR) - Resources that result in the reduction of a Load in a responsive and measurable manner and within time limits established in the ISO Procedures. (NYISO)

Demonstrated Maximum Net Capability (DMNC) - The sustained maximum net output of a Generator, as demonstrated by the performance of a test or through actual operation, averaged over a continuous time period as defined in the ISO Procedures. (NYISO)

Deterministic System - A deterministic system has a single result or set of results for a given set of input parameters. A deterministic algorithm is an algorithm which behaves predictably. Deterministic mathematical functions always produce the same output given a certain input. (Compare to Probabilistic System.) (New)

Diversity - Diversity is the difference of the sum of the individual maximum demands of the various subdivisions of a system, or part of a system, to the total connected load on the system, or part of the system, under consideration. (New)

Dummy Zone – a “virtual” interface tie established to conduct MARS modeling to better simulate transmission interconnections and relationships. *(New)*

Equivalent Demand Forced Outage Rate (EFORd) – the portion of time that a generating unit is in demand, but is unavailable due to a forced outage. *(New)*

Emergency - Any abnormal system condition that requires automatic or immediate, manual action to prevent or limit loss of transmission facilities or generation resources that could adversely affect the reliability of an electric system. *(NYSRC RR)*

Existing Transmission Agreement (ETA) - An agreement between two or more Transmission Owners, or between a Transmission Owner and another entity, that was executed and was in effect on the date that the NYISO commenced operations, including amendments and superseding issues thereof (including service agreements) under individual Transmission Owners open access tariffs (provided that the Points of Injection ("POI") and Points of Withdrawal ("POW") and contract amounts do not change). Existing Transmission Agreements are either Transmission Wheeling Agreements or Transmission Facility Agreements, and are listed in the ISO OATT. *(NYISO)*

Existing Transmission Capacity for Native Load (ETCNL) - Transmission capacity reserved on a Transmission Owner's (TO's) transmission system to serve the Native Load Customers of the current TOs (as of the filing date of the original ISO Tariff - January 31, 1997). This includes transmission capacity required: (1) to deliver the output from operating facilities located out of a TO's Transmission District; (2) to deliver power purchased under power supply contracts; and (3) to deliver power purchased under third party agreements (i.e., Non-Utility Generators). Existing Transmission Capacity for Native Load is listed in Attachment L of the ISO OATT. *(NYISO)*

Exports - Purchases from the LBMP Market where the Energy is delivered to a NYCA interconnection with another Control Area. *(NYISO)*

External - An entity (e.g., Supplier, Transmission Customer) or facility (e.g., Generator, Interface) located outside the Control Area being referenced or between two or more Control Areas. Where a specific Control Area is not referenced, the NYCA is the intended reference. *(NYISO)*

External Transactions - Purchases, sales or exchanges of Energy, Capacity or Ancillary Services for which either the Point of Injection (POI) or Point of Withdrawal (POW) or both are located outside the NYCA (i.e., Exports, Imports or Wheels Through). *(NYISO)*

Fault – An electrical short circuit. *(NYSRC RR)*

Firm Point-To-Point Transmission Service - Transmission Service under this Tariff that is scheduled between specified Points of Receipt and Delivery pursuant to Part II of this Tariff. Firm Point-To-Point Transmission Service is service for which the Transmission Customer has agreed to pay the Congestion associated with its service. A Transmission Customer may fix the price of Congestion associated with its Firm Point-To-Point Transmission Service by acquiring sufficient TCCs with the same Points of Receipt and Delivery as its Transmission Service. *(NYISO)*

Firm Transmission - Service Transmission service requested by a Transmission Customer willing to pay Congestion Rent. *(NYISO)*

Flowgate - Interface on which the Energy flow is monitored and controlled to insure reliability of the system. *(NYISO)*

Forced Outage - An outage that results from conditions affecting an element requiring that it be removed from service. *(NYISO)*

Forced Outage Rate (FOR) – FOR is a statistical measurement as a percentage of unavailability for generating units and recorded in the GADS. FOR indicates the likelihood a unit is unavailable due to forced outage events over the total time considered. It is important to note that there is no attempt to separate out forced outage events when there is no demand for the unit to operate. *(New)*

Forecast Peak Load – the expected peak demand (Load) representing an hourly integrated total in megawatts, measured over a given time interval (typically a day, month, season, or delivery year).

This expected demand is a median demand value indicating there is a 50 % probability actual demand will be above or below the expected peak. *(New)*

Generation – The process of producing electrical energy from other forms of energy; also, the amount of electric energy produced, usually expressed in kilowatt-hours (kWh) or megawatt-hours (MWh). *(NYSRC RR)*

Grandfathered (GF) - Any agreement or contract signed before the formation of the NY market which remains in affect as a result of an exercised choice. *(NYISO)*

Grandfathered Rights (GFRs) - The transmission rights associated with: (1) Modified Wheeling Agreements; (2) Transmission Facility Agreements with transmission wheeling provisions; (3) Third Party Transmission Wheeling Agreements (TWA) where the party entitled to exercise the transmission rights associated with such Agreements has chosen, as provided in the Tariff, to retain those rights rather than to convert those rights to TCCs; and (4) Existing Transmission Capacity for Native Load, Table 3 of Attachment L to the ISO OATT. Upon the expiration or termination of Grandfathered Rights, the associated transmission capacity is converted to Residual Transmission Capacity. *(NYISO)*

Installed Capacity (ICAP) - A Generator or Load facility that complies with the requirements in the Reliability Rules and is capable of supplying and/or reducing the demand for Energy in the NYCA for the purpose of ensuring that sufficient Energy and Capacity are available to meet the Reliability Rules. The Installed Capacity requirement, established by the NYSRC, includes a margin of reserve in accordance with the Reliability Rules. *(NYISO)* ICAP commonly refers to “iron in the ground” – or rated capacity of a generation unit prior to derating or other performance adjustments. *(New)*

Installed Reserve Margin (IRM) – is the percent of aggregate generating unit capability above the forecasted peak load that is required for adherence to meet a given adequacy level. IRM is expressed in units of installed capacity (ICAP). The NYCA IRM is the level of installed reserves needed to meet the NYSRC criteria for a loss of load expectation (LOLE) of one day, on average, every 10 years. *(New)*

Interconnection — When capitalized, any one of the five major electric system networks in North America: Eastern, Western, ERCOT, Québec, and Alaska. When not capitalized, the facilities that connect two systems or Control Areas. Additionally, an interconnection refers to the facilities that connect a non-utility generator to a Control Area or system. *NERC (NPCC)*

Interface – The specific set of transmission elements between two areas or between two areas comprising one or more electrical systems. *(NYSRC RR)*

Internal - An entity (e.g., Supplier, Transmission Customer) or facility (e.g., Generator, Interface) located within the Control Area being referenced; where a specific Control Area is not referenced, internal means the NYCA. *(NYISO)*

Internal Transactions - Purchases, sales or exchanges of Energy, Capacity or Ancillary Services where the Generator and Load are located within the NYCA. *(NYISO)*

Interruptible Load Resources (ILRs) - load that is obligated under a contract to be interrupted when required by the NYISO. Such a Load must demonstrate that it is capable of quantifiable reduction in consumption in response to the NYISO's instructions. *(NYISO)*

Independent System Operator (ISO) - an entity that is authorized to operate an electric transmission system and is independent of any influence from the owner(s) of that electric transmission system. (See also RTO) *(PJM)*

Independent System Operator of New England (ISO-NE) – is an independent system operator (ISO) and not-for-profit corporation responsible for reliably operating New England's bulk electric power generation, transmission system and wholesale electricity markets. Created in 1997 and with headquarters in Holyoke, MA, the ISO-NE control extends throughout New England including Maine, New Hampshire, Vermont, Rhode Island, Massachusetts and Connecticut. *(New)* <http://www.iso-ne.com>

ISO/NYSRC Agreement - Independent System Operator/New York State Reliability Council Agreement - The agreement between the NYISO and the New York State Reliability Council governing the relationship between the two organizations. (NYISO)

Load – The electric power used by devices connected to an electrical generating system. (NYSRC RR)

- **Firm Load** - The load of a market participant that is not contractually interruptible.
- **Interruptible Load** – The load of a market participant that is contractually interruptible.

Load Relief - Load reduction accomplished by voltage reduction or load shedding or both. Voltage reduction and load shedding as defined in this document, are measures by order of the NYISO. (NYSRC RR)

Load Shedding – The process of disconnecting (either manually or automatically) pre-selected customers' load from a power system in response to an abnormal condition to maintain the integrity of the system and minimize overall customer outages. Load shedding is a measure undertaken by order of the NYISO. If ordered to shed load, transmission owner system dispatchers shall immediately comply with that order. Load shall normally all be shed within 5 minutes of the order. (NYSRC RR)

Load Serving Entity (LSE) - In a wholesale competitive market, Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc. (Con Ed), Long Island Power Authority (LIPA), New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation (NiMo), Orange & Rockland Utilities, Inc. (O&R), and Rochester Gas and Electric Corporation (RGE),

the current forty-six (46) members of the Municipal Electric Utilities Association of New York State, the City of Jamestown, Rural Electric Cooperatives, the New York Power Authority (NYPA), any of their successors, or any entity through regulatory requirement, tariff, or contractual obligation that is responsible for supplying energy, capacity and/or ancillary services to retail customers within New York State. (NYSRC RR)

Load Zone - One (1) of eleven (11) geographical areas located within the NYCA that is bounded by one (1) or more of the fourteen (14) New York State Interfaces. During the implementation of the LBMP Markets, all Loads located within the same Load Zone pay the same Day-Ahead LBMP and the same Real-Time LBMP for Energy purchased in those markets. (NYISO)

Local Reliability Rule (LRR) – Reliability rules of the individual transmission owners which are based on meeting specific reliability concerns in limited areas of the NYS Bulk Power System, including but not limited to special conditions that apply to nuclear plants, such as NRC licensing requirements, and special requirements applicable to the New York City metropolitan area. (NYSRC RR)

Locational Installed Capacity Requirement (Locational ICAP Requirement) – Due to transmission constraints, that portion of the NYCA ICAP requirement that must be electrically located within a zone, in order to ensure that sufficient energy and capacity are available in that zone and that NYSRC Reliability Rules are met. Locational ICAP requirements are currently applicable to two transmission constrained zones, New York City (NYC) and Long Island (LI), and are normally expressed as a percentage of each zone's annual peak load. (NYSRC RR)

Loss of Load Expectation (LOLE) - LOLE - Generation system Adequacy is determined as Loss of Load Expectation (LOLE) and is expressed as days (occurrences) per year. This is a measure of how often, on average, the available capacity is expected to fall short of the restricted demand. LOLE is a statistical measure of the frequency of firm load loss and does not quantify the magnitude or duration of firm load loss. The use of LOLE to assess Generation Adequacy is an internationally accepted practice. (New)

Market Participant(s) - Entity or entities producing, transmitting, selling, and/or purchasing for resale capacity, energy, and ancillary services in the wholesale market, excluding the NYISO. (NYSRC RR)

MARS - the General Electric Multi-Area Reliability Simulation (MARS, or GE-MARS) model is a probabilistic analysis program that uses sequential Monte Carlo simulation to analyze the resource adequacy for multiple areas. MARS is used by ISOs, RTOs, and other organizations to conduct multi-area reliability simulations. (New)

Monte Carlo Simulation Methods – Computational algorithms that rely on repeated random sampling to compute their results. Monte Carlo methods are often used in simulating physical and mathematical systems where it is unfeasible or impossible to compute an exact result with a deterministic algorithm. Monte Carlo simulation methods are especially useful in studying systems with a large number of variables, coupled degrees of freedom and significant uncertainty in inputs, such as risk assessment.

Developed at the time during development of the WWII-based Manhattan Project, Monte Carlo simulations have been successfully applied in space exploration and oil exploration, actual observations of failures, cost overruns and schedule overruns are routinely better predicted by the simulations than by human intuition or alternative "soft" methods. The alternative to Monte-Carlo methods is to solve the problems using the mathematics of probability. This can be performed using numerical methods using established techniques involving cumulative probability arrays. (New)

Native Load - Existing and reasonably-forecasted Energy requirements of Native Load Customers which a Transmission Provider has the obligation to serve by statute, franchise, contract or federal or state policy or regulation. (NYSO)

Native Load Customers - The wholesale and retail power customers of the Transmission Owners on whose behalf the Transmission Owners, by statute, franchise, regulatory requirement, or contract, have undertaken an obligation to construct and operate the Transmission Owners' systems to meet the reliable electric needs of such customers. (NYSO)

NYISO Secured Transmission System – Those specific facilities monitored and secured by the NYISO in the day-ahead unit commitment and real-time dispatch consistent with the reliability rules. (NYSRC RR)

New York Control Area (NYCA) – The control area located within New York State which is under the control of the NYISO. See Control Area. (NYSRC RR)

New York Independent System Operator (NYISO) – The NYISO is a not-for-profit organization formed in 1998 as part of the restructuring of New York State's electric power industry. Its mission is to ensure the reliable, safe and efficient operation of the State's major transmission system and to administer an open, competitive and nondiscriminatory wholesale market for electricity in New York State. (NYSRC RR) <http://www.nyiso.com/>

The NYISO was created from the former New York Power Pool (NYPP) in 1999 and has its headquarters in Albany, NY. (New)

New York Power Pool (NYPP) - An organization established by agreement (the "New York Power Pool Agreement") made as of July 21, 1966, and amended as of July 16, 1991, by and among Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., Long Island Lighting Company, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., Rochester Gas and Electric Corporation, and the Power Authority of the State of New York. LIPA became a Member of the NYPP on May 28, 1998 as a result of the acquisition of the Long Island Lighting Company by the Long Island Power Authority. (NYSO)

New York State Bulk Power System (NYS Bulk Power System) – The portion of the bulk power system within the New York control area, generally comprising generating units 300 MW and larger, and generally comprising transmission facilities 230 kV and above. However, smaller generating units and lower voltage transmission facilities on which faults and disturbances can have a significant adverse impact outside of the local area are also part of the NYS Bulk Power System. (NYSRC RR)

New York State Power System (NYS Power System) – All facilities of the New York State transmission system, and all those generators located within New York State or outside New York State, some of which may be from time-to-time subject to operational control by the NYISO. (NYSRC RR)

New York State Reliability Council, LLC (NYSRC) - An organization established by agreement (the "NYSRC Agreement") by and among Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., LIPA, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange & Rockland Utilities, Inc., Rochester Gas and Electric Corporation, and the New York Power Authority, to promote and maintain the reliability of the Bulk Power System, and which provides for participation by Representatives of Transmission Owners, sellers in the wholesale electric market, large commercial and industrial consumers of electricity in the NYCA, and municipal systems or

cooperatively-owned systems in the NYCA, and by unaffiliated individuals. (NYSRC RR)
<http://www.nysrc.org/>

New York State Research and Development Agency (NYSERDA) – New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation created in 1975 to help New York meet its energy goals: reducing energy consumption, promoting the use of renewable energy sources, and protecting the environment. (New) <http://www.nyserda.org/>

New York State Transmission System (NYS Transmission System) – The entire New York State electric transmission system, which includes (1) the transmission facilities under NYISO operational control; (2) the transmission facilities requiring NYISO notification; and (3) all remaining facilities within the NYCA. (NYSRC RR)

Normal Transfer Limit - The maximum allowable transfer is calculated based on thermal, voltage, and stability testing, considering contingencies, ratings, and limits specified for normal conditions. The normal transfer limit is the lowest limit based on the most restrictive of these three maximum allowable transfers. (NYSRC RR)

North American Electric Reliability Council (NERC) - A voluntary industry organization made up of the ten regional reliability councils in North America and establishes and promotes standards for a reliable bulk electric system in the US and Canada. (NYISO) <http://www.nerc.com/>

Northeast Power Coordinating Council (NPCC) - The regional organization, which includes NY, responsible for establishing reliability criteria and procedures for the region's interconnected system. (NYISO) <http://www.npcc.org/>

Obligation Procurement Period – The period of time for which LSEs shall be required to satisfy their ICAP. Starting with the 2001-2002 winter capability period, obligation procurement periods shall be one calendar month in duration and shall begin on the first day of each calendar month. (NYSRC RR)

Off-Peak - The hours between 11 p.m. and 7 a.m., prevailing Eastern Time, Monday through Friday, and all day Saturday and Sunday, and NERC-defined holidays, or as otherwise decided by NYISO. (NYISO)

On-Peak - The hours between 7 a.m. and 11 p.m. inclusive, prevailing Eastern Time, Monday through Friday, except for NERC-defined holidays, or as otherwise decided by the NYISO. (NYISO)

Operating Limit –The maximum value of the most critical system operation parameter(s) which meet(s): (a) pre-contingency criteria as determined by equipment loading capability and acceptable voltage conditions; (b) stability criteria; (c) post-contingency loading and voltage criteria. (NYSRC RR)

Operating Procedures – A set of policies, practices, or system adjustments that may be automatically or manually implemented by the system operator within a specified time frame to maintain the operational integrity of the interconnected electric systems. (NYSRC RR)

Operating Reserves - General Capacity that is available to supply Energy, or Interruptible Load Resources that are available to Curtail Energy usage, in the event of contingency conditions which meet the requirements of the NYISO. Operating Reserves include spinning reserve, ten-minute non-synchronized reserves, and thirty-minute reserves. (NYISO)

Operational Control - Directing the operation of the Transmission Facilities Under ISO Operational Control to maintain these facilities in a reliable state, as defined by the Reliability Rules. The NYISO shall approve operational decisions concerning these facilities, made by each Transmission Owner before the Transmission Owner implements those decisions. In accordance with ISO Procedures, the NYISO shall direct each Transmission Owner to take certain actions to restore the system to the Normal State. Operational Control includes security monitoring, adjustment of generation and transmission resources, coordination and approval of changes in transmission status for maintenance, determination of changes in transmission status for reliability, coordination with other Control Areas, voltage reductions and Load Shedding, except that each Transmission Owner continues to physically operate and maintain its facilities. (NYISO)

Outage - A device is in outage state if it is not connected to the electrical system and not fulfilling its design function. (NYISO)

- **Forced Outage** — The removal from service of a generating unit, transmission line, or other facility for emergency reasons or a condition in which the equipment is unavailable due to unanticipated failure.
- **Forced Outage Rate** — The hours a generating unit, transmission line, or other facility is forced out of service, divided by the sum of the hours it is removed from service, plus the total number of hours the facility was connected to the electricity system expressed as a percent.
- **Maintenance Outage** — The removal of equipment from service availability to perform work on specific elements that can be deferred, but requires the equipment be removed from service before the next planned outage. Typically, a Maintenance Outage may occur anytime during the year, have a flexible start date, and may or may not have a predetermined duration.
- **Planned Outage** — Removing the equipment from service availability for inspection and/or general overhaul of one or more major equipment groups. This outage usually is scheduled well in advance.

NERC (NPCC)

Out-of-Merit Generation (OOM) - Generators producing at a different level of output than they would produce in a dispatch to meet Load which was not security constrained. Out-of-Merit Generation occurs to maintain system reliability or to provide Ancillary Services. (NYISO)

Peak Load - The Peak Load is the maximum hourly load over a given time interval, typically a day, month, season, or delivery year. (Refer to Forecast Peak Load.) (New)

PJM Interconnection Inc. – PJM is a regional transmission organization (RTO) which is responsible for reliably operating the bulk electric power generation and transmission system, ensuring fair administration of wholesale energy markets, and managing comprehensive regional electric power planning throughout all or parts of 13 states: Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. (New) <http://www.pjm.com/>

Planning Horizon – the future time period over which system transmission expansion plans are developed based on forecasted conditions. (PJM)

Power Factor (PF) - The ratio of real power to apparent power (the product of volts and amperes, expressed in megavolt-amperes, MVA). (NYISO)

Power Factor Criteria - Criteria to be established by the NYISO to monitor a Load's use of Reactive Power. (NYISO)

Power Flow - A simulation which determines the Energy flows on the NYS Transmission System and adjacent transmission systems. (NYISO)

Probabilistic System - A probabilistic system will have results that vary, due to observable certainty described by its system distribution parameters. Probabilistic systems (also called stochastic model, process, or system) are often solved with Monte-Carlo methods – where a computer program uses a pseudo random number generator to provide values of the attributes in the system that can vary. The program provides an assessment of the uncertainty of results. Typically, a large number of runs (trials or iterations) are made. Summary statistics may include the value that occur most frequently (mode), the mean value, and low and high range, for instance the 10% and 90% percentile. The standard deviation and histogram of results may also be part of the summary information. There is no single standard presentation as this will depend on the application. (Compare to Deterministic System.) (New)

Protection – The provisions for detecting power system faults or abnormal conditions and taking appropriate automatic corrective action. (NYSRC RR)

Qualified Installed Capacity (QICAP) – (NYISO)

Quick Response Voltage Reduction - A form of "Voltage Reduction" (defined separately) accomplished by supervisory control methods and completed within 10 minutes of receiving the order. (NYISO)

Reactive Power - The product of voltage and the out-of-phase component of alternating current. Reactive Power, usually measured in MVAR, is produced by capacitors (synchronous condensers) and over-excited Generators and absorbed by reactors or under-excited Generators and other inductive devices including the inductive portion of Loads. (NYISO)

Regional Reserve Sharing — Procedure that allows participating Areas to reduce the requirement for reserve within its Area due to the availability and deliverability of reserve from other Areas. (NPCC)

Reliability – The degree of performance of the bulk electric system that results in electricity being delivered to customers within accepted standards and in the amount desired. Reliability may be measured by the frequency, duration, and magnitude of adverse effects on the electric supply. Electric system reliability can be addressed by considering two basic and functional aspects of the electric system – adequacy and security. (NYSRC RR)

- 1) **Adequacy** – The ability of the electric system to supply the aggregate electrical demand and energy requirements of the customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements.
- 2) **Security** – The ability of the electric system to withstand disturbances such as electric short circuits or unanticipated loss of system elements.

Reliability Rules - Those rules, standards, procedures and protocols developed and promulgated by the NYSRC, including Local Reliability Rules, in accordance with NERC, NPCC, FERC, PSC and NRC standards, rules and regulations and other criteria and pursuant to the NYSRC Agreement. (NYISO)

Renewable Portfolio Standard (RPS) – Guidelines or requirements at the state or federal level requiring energy suppliers to provide specified amounts of electric energy from eligible renewable energy resources. (PJM)

Reserve – In normal usage, reserve is the amount of capacity available in excess of the demand. Installed Reserve Margin ("IRM") - That capacity above firm system demand required to provide for equipment forced and scheduled outages and transmission capability limitations. (NYSRC RR)

Reserved Capacity - The maximum amount of Capacity and Energy that the NYISO agrees to transmit for the Transmission Customer over the NYS Transmission System between the Point(s) of Receipt and the Point(s) of Delivery under Part II of the Tariff. Reserved Capacity shall be expressed in terms of whole megawatts on a sixty (60) minute interval (commencing on the clock hour) basis. (NYISO)

Operating Reserve - Resource capacity that is available to supply energy, or curtailable load that is willing to stop using energy, in the event of emergency conditions or increased system load, and can do so within a specified time period. (NYSRC RR)

- **Non-synchronized Ten (10) Minute Operating Reserve** - The portion of ten (10) minute reserve consisting of resource capacity such as hydroelectric, pumped storage hydroelectric, and quick start combustion generation which can be synchronized and loaded to claimed capacity in ten (10) minutes or less, and interruptible load, including load reduction achieved by starting generation to offset demand, which can be achieved in 10 minutes or less. Non-synchronized reserve must not exceed half of the ten (10) minute reserve.
- **Synchronized Operating Reserve** - The portion of ten (10) minute reserve consisting of unused resource capacity which is synchronized and ready to achieve claimed capacity or resource capacity which can be made available by curtailing pumping hydro units or canceling energy sales to other systems.
- **Ten (10) Minute Operating Reserve** - The sum of synchronized and non-synchronized reserve capacity that is fully available in ten (10) minutes.
- **Thirty (30) Minute Operating Reserve** - That portion of the NYISO's operating reserve requirement that includes unused resource capacity which can and will be made fully available

as promptly as possible, but in no more than thirty (30) minutes. It is the sum of synchronized and non-synchronized reserve that can be utilized in thirty (30) minutes, excluding reserve that is counted as ten (10) minute reserve.

Resource - The total contributions provided by supply-side and demand-side facilities and/or actions.

(NYSRC RR)

- o **Supply-side facilities** include utility and non-utility generation and purchases from neighboring systems.
- o **Demand-side facilities** include measures for reducing load, such as conservation, demand management, and interruptible load.
- o **Energy-only Resource** – A resource that has a contractual obligation to provide energy and no obligation to provide ancillary services and capacity.

Scheduled Outage - An outage that results when a device is deliberately taken out-of-service at a pre-selected time. (NYISO)

Short Term Emergency Rating (STE) - The maximum loading of electrical equipment which can be sustained for fifteen minutes based on nominal ambient conditions and recognizing preloading conditions. Usually two values are used during the year: STE-Summer and STE-Winter. (NYISO)

Significant Adverse Impact – With due regard for the maximum operating capability of the affected systems, on or more of the following conditions arising from faults or disturbances, shall be deemed as having significant adverse impact:

- a. system instability;
- b. unacceptable system dynamic response or equipment tripping;
- c. voltage levels in violation of applicable emergency limits;
- d. loadings on transmission facilities in violation of applicable emergency limits;
- e. unacceptable loss of load.

(NYSRC RR)

Spinning Reserve (SR) - Generation available on units synchronized to the bulk system and available within 30 minutes or less. (NYISO)

Stability - The ability of a power system to maintain a state of equilibrium during normal and abnormal system conditions or disturbances. (NYISO)

Sub-Zone - The geographic area within a load zone which is served by the same Transmission Owner so that all loads within that area are billed the same Transmission Service Charge (TSC) Rate. (NYISO)

Thermal Limit - The maximum power flow through a particular transmission element or interface, considering the application of thermal assessment criteria. (NYSRC RR)

Tie Line — A circuit connecting two or more Control Areas or systems of an electric system. NERC (NPCC)

Topology – a geographically based or other diagrammatic representation of the physical features of an electrical system or portion of an electrical system - including transmission lines, transformers, substations, capacitors and other power system elements – that in aggregate constitute a transmission system model for power flow and economic analysis. (PJM)

Total Transfer Capability (TTC) - The amount of electric power that can be transferred over the interconnected transmission network in a reliable manner. (NYISO)

Transfer Capability - The measure of the ability of interconnected electrical systems to reliably move or transfer power from one area to another over all transmission lines (or paths) between those areas under specified system conditions. (NYSRC RR)

Transmission District – The geographic area served by the NYCA investor-owned transmission owners and LIPA, as well as customers directly interconnected with the transmission facilities of NYPA.

(NYSRC RR)

Transmission Owner - Those parties who own, control and operate facilities in New York State used for the transmission of electric energy in interstate commerce. Transmission owners are those who own, individually or jointly, at least 100 circuit miles of 115 kV or above in New York State and have become a signatory to the TO/ISO Agreement. *(NYSRC RR)*

The Transmission owners currently consist of Central Hudson Gas and Electric Corporation (CHGE), Consolidated Edison Company of New York, Inc. (Con Ed), LIPA, New York State Electric & Gas Corporation (NYSEG), National Grid (formerly Niagara Mohawk Power Corporation), Rochester Gas and Electric Corporation (RGE), and the New York Power Authority (NYPA). *(NYSRC RR)*

Transmission System - The facilities operated by the NYISO that are used to provide Transmission Services under the ISO OATT. *(NYISO)*

Uncontrolled Loss of Electric Load - Loss of load resulting from voltage collapse, instability, separation of NYS power system elements, or cascading failure caused by a sudden disturbance to or unanticipated failure of NYS power system transmission elements, and which cannot be prevented by the Transmission Owner's operator. *(NYSRC RR)*

Upstate New York (UPNY) - the NYCA north of the Consolidated Edison transmission district. *(NYISO)*
The NYCA Zones A through I.

Variable Frequency Transformer (VFT) –a

Voltage Limit – The maximum power flow through some particular point in the system considering the application of voltage assessment criteria. *(NYSRC RR)*

Voltage Reduction - A means of achieving load reduction by reducing customer supply voltage, usually by 3, 5, or 8 percent. If ordered by the NYISO to go into voltage reduction, transmission owner system dispatchers shall immediately comply with that order. Quick response voltage reduction shall normally be accomplished within ten (10) minutes of the order. See "Order" definition. *(NYSRC RR)*

Wheeling — The contracted use of electrical facilities of one or more entities to transmit electricity for another entity. *NERC (NPCC)*

Wheel-Through - Transmission Service, originating in another Control Area, that is wheeled through the NYCA to another Control Area. *(NYISO)*

Zone - A defined portion of the NYCA area that encompasses a set of load and generation buses. Each zone has an associated zonal price that is calculated as a weighted average price based on generator LBMPs and generator bus load distribution factors. A "zone" outside the NY control area is referred to as an external zone. Currently New York State is divided into eleven zones, corresponding to ten major transmission interfaces that can become congested. *(NYSRC RR)*