

# **ERCOT Nodal Protocols**

## **Section 2: Definitions and Acronyms**

**October 1, 2011**

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## 2 DEFINITIONS AND ACRONYMS

The list of acronyms is at the end of this Definitions Section.

### 2.1 DEFINITIONS

Definitions are supplied for terms used in more than one Section of the Protocols. If a term is used in only one Section, it is defined there at its earliest usage.

#### LINKS TO DEFINITIONS:

[A](#), [B](#), [C](#), [D](#), [E](#), [F](#), [G](#), [H](#), [I](#), [J](#), [K](#), [L](#), [M](#), [N](#), [O](#), [P](#), [Q](#), [R](#), [S](#), [T](#), [U](#), [V](#), [W](#), [X](#), [Y](#), [Z](#);

[List of Acronyms](#)

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## A

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### **Adjusted Metered Load (AML)**

Retail Load usage data that has been adjusted for Unaccounted for Energy (UFE), Transmission Losses, Distribution Losses, and Direct Current Tie (DC Tie) exports (except for the Oklaunion Exemption).

### **Adjusted Static Models**

Load Profiles that are generated from statistical models that are based on static historical Load data, and adjusted for conditions of the day (e.g., weather, Season, etc.).

### **Adjustment Period**

For each Operating Hour, the time between 1800 in the Day-Ahead up to the start of the hour before that Operating Hour.

### **Advanced Meter**

Any new or appropriately retrofitted meter that functions as part of a system that includes such meters and the associated hardware, software, and communications devices, that collects time-differentiated energy usage, and that is deployed pursuant to P.U.C. SUBST. R. 25.130, Advanced Metering.

**Advanced Metering System (AMS)**

A system, including Advanced Meters and the associated hardware, software, and communications devices, that collects time-differentiated energy usage and is deployed pursuant to P.U.C. SUBST. R. 25.130, Advanced Metering.

**Advisory**

The second of four possible levels of communication issued by ERCOT in anticipation of a possible Emergency Condition, detailed in Section 6.5.9, Emergency Operations.

**Affiliate**

- (a) An Entity that directly or indirectly owns or holds at least 5% of the voting securities of another Entity; or
- (b) An Entity in a chain of successive ownership of at least 5% of the voting securities of another Entity; or
- (c) An Entity that has at least 5% of its voting securities owned or controlled, directly or indirectly, by another Entity; or
- (d) An Entity that has at least 5% of its voting securities owned or controlled, directly or indirectly, by an Entity who directly or indirectly owns or controls at least 5% of the voting securities of another Entity or an Entity in a chain of successive ownership of at least 5% of the voting securities of another Entity; or
- (e) A person who is an officer or director of another Entity or of a corporation in a chain of successive ownership of at least 5% of the voting securities of an Entity; or
- (f) Any other Entity determined by the Public Utility Commission of Texas (PUCT) to be an Affiliate.

**Agreement**

A signed written agreement between ERCOT and a Market Participant using one of the standard form agreements in Section 22, Attachments, including those agreements containing changes to the standard form, which changes have been approved by the ERCOT Board.

**All-Inclusive Generation Resource (see [Resource](#))****All-Inclusive Resource (see [Resource](#))****Alternative Dispute Resolution (ADR)**

Procedures, outlined in Section 20, Alternative Dispute Resolution Procedure, for settling disputes by means other than litigation.

**Ancillary Service**

A service necessary to support the transmission of energy to Loads while maintaining reliable operation of the Transmission Service Provider's (TSP's) transmission system using Good Utility Practice.

**Ancillary Service Capacity Monitor**

A set of processes described in Section 8.1.1.3, Ancillary Service Capacity Compliance Criteria, to determine the Real-Time capability of Resources to provide Ancillary Service.

**Ancillary Service Obligation**

For each Ancillary Service, a Qualified Scheduling Entity's (QSE's) ERCOT-allocated share of total ERCOT System needs for that Ancillary Service.

**Ancillary Service Offer**

An offer to supply Ancillary Service capacity in the Day-Ahead Market (DAM) or a Supplemental Ancillary Service Market (SASM).

**Ancillary Service Plan**

A plan produced by ERCOT, as described in Section 4.2.1, Ancillary Service Plan and Ancillary Service Obligation, which identifies the types and amount of Ancillary Service necessary for each hour of the Operating Day.

**Ancillary Service Resource Responsibility**

The MW of an Ancillary Service that each Resource is obligated to provide in Real-Time rounded to the nearest MW.

**Ancillary Service Schedule**

The MW of each Ancillary Service that each Resource is providing in Real-Time and the MW of each Ancillary Service for each Resource for each hour in the Current Operating Plan (COP).

**Ancillary Service Supply Responsibility**

The net amount of Ancillary Service capacity that a QSE is obligated to deliver to ERCOT, by hour and service type, from Resources represented by the QSE.

**Ancillary Service Trade**

A QSE-to-QSE transaction that transfers an obligation to provide Ancillary Service capacity between a buyer and a seller.

**Applicable Legal Authority (ALA)**

A Texas or federal law, rule, regulation, or applicable ruling of the PUCT or any other regulatory authority having jurisdiction, an order of a court of competent jurisdiction, or a rule, regulation, applicable ruling, procedure, protocol, guide or guideline of the Independent Organization, or any Entity authorized by the Independent Organization to perform registration or settlement functions.

**Area Control Error (ACE)**

A calculation of the MW correction needed to control the actual system frequency to the scheduled system frequency.

**Authorized Representative**

The person(s) designated by an Entity during the registration process in Section 16, Registration and Qualification of Market Participants, who is responsible for authorizing all registration information required by ERCOT Protocols and ERCOT business processes, including any changes in the future, and will be the contact person(s) between the registered Entity and ERCOT for all business matters requiring authorization by ERCOT.

**Automatic Voltage Regulator (AVR)**

A device on a Generation Resource used to automatically control the Generation Resource's voltage to an established set point.

**Availability Plan**

An hourly representation of availability of Reliability Must-Run (RMR) Units or Synchronous Condenser Units, or an hourly representation of the capability of Black Start Resources as submitted to ERCOT by 0600 in the Day-Ahead by QSEs representing RMR Units, Synchronous Condenser Units or Black Start Resources.

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**Bank Business Day** (*see* [Business Day](#))**Bankrupt**

The condition of an Entity that:

- (a) Files a petition or otherwise commences a proceeding under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it;
- (b) Makes an assignment or any general arrangement for the benefit of creditors;

- (c) Has a liquidator, administrator, receiver, trustee, conservator, or similar official appointed with respect to it or any substantial portion of its property or assets; or
- (d) Is generally unable to pay its debts as they fall due.

**Base Point**

The MW output level for a Resource produced by the Security-Constrained Economic Dispatch (SCED) process.

**Black Start Resource** (*see* [Resource](#))**Black Start Service (BSS)**

An Ancillary Service provided by a Resource able to start without support of the ERCOT Transmission Grid.

**Blackout**

A condition in which frequency for the entire ERCOT System has dropped to zero and Generation Resources are no longer serving Load.

***Partial Blackout***

A condition in which an uncontrolled separation of a portion of the ERCOT System occurs and frequency for that portion has dropped to zero and Generation Resources within that portion are no longer serving Load and restoration is dependent on either internal Black Start Plans or assistance for restoration is needed from neighboring transmission operator(s) within the ERCOT System which requires ERCOT coordination.

**Block Load Transfer (BLT)**

A transfer system that isolates a group of Loads from the Control Area in which they normally are served and then connects them to another Control Area. Such transfer systems involve either transferring Loads normally in the ERCOT Control Area to a non-ERCOT Control Area or transferring Loads normally in non-ERCOT Control Areas to the ERCOT Control Area.

**Bus Load Forecast**

A set of processes used by ERCOT to determine a forecast of the Load at each Electrical Bus in the ERCOT Transmission Grid.

**Business Day**

Monday through Friday, excluding observed holidays listed below:

- (a) New Year's Day;
- (b) Memorial Day;

- (c) Independence Day;
- (d) Labor Day;
- (e) Thanksgiving Thursday and Friday; and
- (f) Two days at Christmas, as designated from time to time by the ERCOT CEO.

***Bank Business Day***

Any day during which the United States Federal Reserve Bank of New York is open for normal business activity.

***Retail Business Day***

Same as a Business Day, except in the case of retail transactions processed by a TSP or Distribution Service Provider (DSP), Competitive Retailers (CRs) shall substitute the TSP or DSP holidays for ERCOT holidays when determining the time available to the TSP or DSP to process the transaction. For additional important information related to Retail Business Days, please refer to the Retail Market Guide.

**Business Hours**

0800 to 1700 Central Prevailing Time (CPT) on Business Days.

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**Capacity Trade**

A QSE-to-QSE financial transaction that transfers responsibility to supply capacity between a buyer and a seller at a Settlement Point.

**Central Prevailing Time (CPT)**

Either Central Standard Time or Central Daylight Time, in effect in Austin, Texas.

**Comision Federal de Electricidad (CFE)**

The government agency in Mexico charged with the responsibility of operating the Mexican national electricity grid.

**Common Information Model (CIM)**

A standard way to communicate information about a transmission system. The CIM is used to describe the ERCOT transmission system topology consisting of Transmission Elements, including all the parameters needed to describe the Transmission Elements and how they

interrelate to one another. The CIM that ERCOT and the TSP use must conform to the North American Electric Reliability Corporation (NERC) and Electric Power Research Institute (EPRI) standards for CIMs.

### **Competitive Constraint**

A contingency and limiting Transmission Element pair that is determined to be competitive by an appropriate TAC subcommittee.

### **Competitive Retailer (CR)**

A Municipally Owned Utility (MOU) or an Electric Cooperative (EC) that offers Customer Choice and sells electric energy at retail in the restructured electric power market in Texas, or a Retail Electric Provider (REP).

### **Competitive Retailer (CR) of Record**

The CR assigned to the Electric Service Identifier (ESI ID) in ERCOT's database. There can be no more than one CR of Record assigned to an ESI ID for any given time period.

### **Compliance Period**

A calendar year beginning January 1 and ending December 31 in which Renewable Energy Credits (RECs) are required of a Retail Entity.

### **Compliance Premium**

A payment awarded by the Program Administrator in conjunction with a REC that is generated by a renewable energy source that is not powered by wind and meets the criteria of subsection (I) of P.U.C. SUBST. R. 25.173, Goal for Renewable Energy. For the purpose of the Renewable Portfolio Standard (RPS) requirements, one Compliance Premium is equal to one REC.

### **Conductor/Transformer 2-Hour Rating (see [Rating](#))**

### **Congestion Revenue Right (CRR)**

A financial instrument that entitles the holder to be charged or to receive compensation (*i.e.*, congestion rent), depending on the instrument, when the ERCOT Transmission Grid is congested in the DAM or in Real-Time.

#### ***Flowgate Right (FGR)***

A type of CRR that entitles the holder to receive compensation and is evaluated in each CRR Auction and DAM as the positive power flows represented by the quantity of the CRR bid or offer (MW) on a flowgate (*i.e.*, predefined directional network element or a predefined bundle of directional network elements).



***Point-to-Point (PTP) Obligation***

A type of CRR that entitles the holder to be charged or to receive compensation and is evaluated in each CRR Auction and DAM as the positive and negative power flows on all directional network elements created by the injection and withdrawal at the specified source and sink points of the quantity represented by the CRR bid or offer (MW).

***[NPRR322: Insert the following definition “Point-to-Point (PTP) Obligation with Links to an Option” upon system implementation:]***

***Point-to-Point (PTP) Obligation with Links to an Option***

A type of CRR that entitles a Non-Opt-In Entity’s (NOIE’s) PTP Obligation bought in the DAM to be reflective of the NOIE’s PTP Option. To qualify as a PTP Obligation of this type, the source and sink pairs on both the NOIE’s PTP Obligation and the NOIE’s PTP Option shall be the same, and the MWs of the NOIE’s PTP Obligations shall be less than or equal to the number of MWs of the NOIE’s PTP Option. Qualified PTP Obligations with Links to an Option shall be settled as if they were a PTP Option.

***Point-to-Point (PTP) Option***

A type of CRR that is evaluated in each CRR Auction and DAM as the positive power flows on all directional network elements created by the injection and withdrawal at the specified source and sink points in the quantity represented by the CRR bid or offer (MW), excluding all negative flows on all directional network elements. A PTP Option entitles the holder to receive compensation equal to the positive energy price difference between the sink and the source Settlement Point Prices. A PTP Option with Refund is evaluated in the same manner and compensated as described in Section 7.4.2, PCRR Allocation Terms and Conditions.

**Congestion Revenue Right (CRR) Account Holder**

An Entity that is qualified to become the owner of record of CRRs and is registered as a CRR Account Holder with ERCOT.

***Participating Congestion Revenue Right (CRR) Account Holder***

For a given CRR Auction, a CRR Account Holder who either owns one or more CRRs effective during the Operating Days covered by the CRR Auction, or whose Counter-Party has a non-zero credit limit available and allocated to the CRR Auction as described in paragraph (1) of Section 7.5.5.3, Auction Process.

**Congestion Revenue Right (CRR) Auction**

A periodic auction by ERCOT that allows eligible CRR Account Holders to buy and sell CRRs.

**Congestion Revenue Right (CRR) Network Model**

A model of ERCOT network topology to be used in conducting a CRR Auction. It must be based on, but is not the same as, the Updated Network Model, as detailed in Section 3.10.3, CRR Network Model.

**Congestion Revenue Right (CRR) Owner**

A CRR Account Holder that owns one or more CRRs.

**Continuous Service Agreement (CSA)**

An arrangement between the owner or controller of a leased Premise and a CR wherein the CR provides service to the leased Premise between tenants so that the Premise does not experience discontinuation of electric service during vacancy.

**Control Area**

An electrical system, bound by interconnect (tie line) metering and telemetry, that continuously regulates, through automatic Resource control, its Resource(s) and interchange schedules to match its system Load and frequency schedule.

**Control Area Operator (CAO)**

An individual or set of individuals responsible for monitoring and controlling operation of a Control Area.

**Controllable Load Resource (see [Resource](#))****Controllable Load Resource Desired Load**

The MW consumption for a Controllable Load Resource produced by summing its Scheduled Power Consumption and Ancillary Service deployments.

**Cost Allocation Zone**

One of the four zones in effect during the 2003 ERCOT market as they are changed pursuant to Section 3.4.2, Load Zone Modifications. A Cost Allocation Zone may be used by ERCOT to uplift certain costs to a QSE's Load regardless of NOIE Load Zone.

**Counter-Party**

A single Entity that is a QSE and/or a CRR Account Holder. A Counter-Party includes all registrations as a QSE, all subordinate QSEs, and all CRR Account Holders by the same Entity.

**Critical Energy Infrastructure Information (CEII)**

Information concerning proposed or existing critical infrastructure (physical or virtual) that:

- (a) Relates to the production, generation, transmission or distribution of energy;
- (b) Could be useful to a person planning an attack on critical infrastructure;
- (c) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. § 552; and
- (d) Gives strategic information beyond the location of the critical infrastructure.

### **Current Operating Plan (COP)**

A plan by a QSE reflecting anticipated operating conditions for each of the Resources that it represents for each hour in the next seven Operating Days, including Resource operational data, Resource Status, and Ancillary Service Schedule.

### **Current Operating Plan (COP) and Trades Snapshot**

A record of a QSE's Capacity Trades, Energy Trades, and most recent COP.

### **Customer**

An Entity that purchases electricity for its consumption.

### **Customer Choice**

The freedom of a retail Customer to purchase electric services, either individually or on an aggregated basis with other retail Customers, from the provider or providers of the Customer's choice and to choose among various fuel types, energy efficiency programs, and renewable power suppliers.

### **Customer Registration Database**

The database maintained by the registration agent containing information identifying each Premise, including current and previous CRs serving the Premise.

## **D**

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### **Data Aggregation**

The process of netting, grouping, and summing Load consumption data, applying appropriate profiles, Transmission Loss Factors (TLFs), and Distribution Loss Factors (DLFs) and calculating and allocating UFE to determine each QSE and/or Load Serving Entity's (LSE's) responsibility by Settlement Interval by Load Zone and by other prescribed aggregation determinants.

**Data Aggregation System (DAS)**

The database and communication system that collects meter data from TSPs, DSPs and ERCOT Polled Settlement (EPS) Meters. The system performs aggregation functions to Load data in order to satisfy certain objectives, such as providing TSPs with Load share data to use in billing CRs, assigning QSE Load responsibility, and assisting CRs and QSEs in their Settlement responsibilities. The data is also compiled along Load and Weather Zones.

**Data Archive**

An integrated normalized data structure of all the target source systems' transactions. The population of the Data Archive is an extraction of data from the transaction systems without altering the data. The Data Archive is used to populate the Data Warehouse.

**Data Warehouse**

De-normalized data stored in a schema, physically optimized to handle high volumes of data and concurrent user access, and generally lightly indexed.

**Day-Ahead**

The 24-hour period before the start of the Operating Day.

**Day-Ahead Market (DAM)**

A daily, co-optimized market in the Day-Ahead for Ancillary Service capacity, certain CRRs, and forward financial energy transactions.

**Day-Ahead Market (DAM)-Committed Interval**

A Settlement Interval for which the Resource has been committed due to a DAM award.

**Day-Ahead Market (DAM) Energy Bid**

A proposal to buy energy in the DAM at a Settlement Point at a monotonically decreasing price with increasing quantity.

**Day-Ahead Market (DAM) Energy-Only Offer**

A QSE's willingness to sell energy at or above a certain price and at a certain quantity at a specific Settlement Point in the DAM. A DAM Energy-Only Offer Curve may be offered only in the DAM. DAM Energy-Only Offer Curves are not Resource-specific.

**Day-Ahead Market (DAM) Resettlement Statement (*see* [Settlement Statement](#))****Day-Ahead Market (DAM) Statement (*see* [Settlement Statement](#))**

**Day-Ahead Operations**

The Day-Ahead process consisting of the DAM and Day-Ahead Reliability Unit Commitment (DRUC).

**Day-Ahead Reliability Unit Commitment (DRUC)**

A Reliability Unit Commitment (RUC) process performed for the next Operating Day.

**Delivery Plan**

A plan by ERCOT containing the hours and levels of operation that an RMR Unit, including a Synchronous Condenser Unit, is instructed to operate.

**Demand**

The amount of instantaneous electric power in MW delivered at any specified point or points on a system.

**Designated Representative**

A responsible natural person authorized by the owners or operators of a renewable Resource to register that Resource with ERCOT.

*[NPRR260: Insert the following definition “Digital Certificate” upon system implementation:]*

**Digital Certificate**

An electronic file installed on a programmatic interface or an individual’s assigned computer used to authenticate that the interface or individual is authorized for secure electronic messaging with ERCOT’s computer systems.

**Direct Current Tie (DC Tie)**

Any non-synchronous transmission interconnections between ERCOT and non-ERCOT electric power systems.

**Direct Current Tie (DC Tie) Load**

A Load used to represent the withdrawal of power from the ERCOT System to a DC Tie.

**Direct Current Tie (DC Tie) Resource**

A Resource used to represent the injection of power into the ERCOT System from a DC Tie.

**Direct Current Tie (DC Tie) Schedule**

An energy schedule between ERCOT and a non-ERCOT Control Area and is represented by a corresponding Electronic Tag (e-Tag) that contains the physical transaction information such as the Settlement Point energy amount (MW), the associated DC Tie, and the buyer and seller.

**Direct Load Control (DLC)**

The control of end-use equipment (e.g., air conditioning equipment, water heaters) to reduce or increase energy consumption during select periods.

**Dispatch**

The act of issuing Dispatch Instructions.

**Dispatch Instruction**

A specific command issued by ERCOT to a QSE, TSP or DSP in the operation of the ERCOT System.

**Dispute Contact**

The individual associated with a Market Participant who is the primary contact with ERCOT regarding the pursuit of an Alternative Dispute Resolution (ADR) request.

**Distributed Generation (DG)**

An electrical generating facility located at a Customer's point of delivery (point of common coupling) ten megawatts (MW) or less and connected at a voltage less than or equal to 60 kilovolts (kV) which may be connected in parallel operation to the utility system.

**Distributed Renewable Generation (DRG)**

Electric generation with a capacity of not more than 2,000 kW provided by a renewable energy technology that is installed on a retail electric Customer's side of the meter.

**Distribution Loss Factor (DLF)**

The ratio of a DSP's estimated Distribution Losses to the total amount of energy deemed consumed (Interval Data Recorder (IDR) plus profiled consumption) on the DSP's system.

**Distribution Losses**

The difference between the energy delivered to the Distribution System and the energy consumed by Customers connected to the Distribution System.

**Distribution Service Provider (DSP)**

An Entity that owns or operates a Distribution System for the delivery of energy from the ERCOT Transmission Grid to Customers.

**Distribution System**

That portion of an electric delivery system operating under 60 kV that provides electric service to Customers or Wholesale Customers.

**DUNS Number**

A unique nine-digit common company identifier used in electronic commerce transactions, supplied by the Data Universal Numbering System (DUNS).

**Dynamic Rating**

The current-carrying capability of a Transmission Element adjusted to take into account the effect of ambient weather conditions.

**Dynamic Rating Processor**

A process used to establish ERCOT Transmission Element limits based upon factors such as ambient temperature and wind speed.

**Dynamically Scheduled Resource (DSR) (see [Resource](#))****Dynamically Scheduled Resource (DSR) Load**

A Load that a QSE designates to be followed by a Dynamically Scheduled Resource (DSR).

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**Electric Cooperative (EC)**

- (a) A corporation organized under the Electric Cooperative Corporation Act, TEX. UTIL. CODE ANN. ch 161 (Vernon 1998 & Supp. 2007);
- (b) A corporation organized as an electric cooperative in a state other than Texas that has obtained a certificate of authority to conduct business in Texas; or
- (c) A successor to an electric cooperative created before June 1, 1999 under a conversion plan approved by a vote of the members of the electric cooperative, regardless of whether the successor later purchases, acquires, merges with, or consolidates with other electric cooperatives.

**Electric Reliability Council of Texas, Inc. (ERCOT)**

A Texas nonprofit corporation that has been certified by the PUCT as the Independent Organization for the ERCOT Region.

**Electric Reliability Organization**

The organization approved by the Federal Energy Regulatory Commission (FERC) to perform the electric reliability organization functions described in the Electricity Modernization Act of 2005, 16 U.S.C. § 824o (2005).

**Electric Service Identifier (ESI ID)**

The basic identifier assigned to each Service Delivery Point used in the registration and settlement systems managed by ERCOT or another Independent Organization.

**Electrical Bus**

- (1) A physical transmission element defined in the Network Operations Model that connects, using breakers and switches, one or more:
  - (a) Loads;
  - (b) Lines;
  - (c) Transformers;
  - (d) Generators;
  - (e) Capacitors;
  - (f) Reactors;
  - (g) Phase shifters; or
  - (h) Other reactive control devices to the ERCOT Transmission Grid where there is negligible impedance between the connected Transmission Elements.
- (2) All Electrical Buses are designated by ERCOT and TSPs for modeling the electrical topology of the ERCOT Transmission Grid.

**Electrically Similar Settlement Points**

Two or more distinct Settlement Points that are either mapped to the same electrical location in a market model or are mapped to locations that are connected by a transmission element with a reactance of less than 0.0005 per unit and a rating of more than 9000 MVA.



**Eligible Transmission Service Customer**

A Transmission and/or Distribution Service Provider (TDSP) (for all uses of its transmission system), or any electric utility, MOU, EC, power generation company, CR, REP, federal power marketing agency, exempt wholesale generator, Qualifying Facility (QF), Independent Power Marketer, or other Entity that the PUCT has determined to be an Eligible Transmission Service Customer.

**Emergency Base Point**

The target MW output level for a Resource that is selected by ERCOT during an Emergency Condition.

**Emergency Condition**

An operating condition in which the safety or reliability of the ERCOT System is compromised or threatened, as determined by ERCOT, or that is the result of a failure of the SCED process.

**Emergency Interruptible Load Service (EILS)**

A special emergency service consistent with subsection (a) of P.U.C. SUBST. R. 25.507, Electric Reliability Council of Texas (ERCOT) Emergency Interruptible Load Service (EILS), used during an Energy Emergency Alert (EEA) Level 2 to reduce Load and assist in maintaining or restoring ERCOT System frequency. EILS is not an Ancillary Service.

**Emergency Interruptible Load Service (EILS) Contract Period**

A time frame during which ERCOT may procure EILS in an amount no greater than 1,000 MW.

**Emergency Interruptible Load Service (EILS) Load**

A Load or aggregation of Loads that is contracted to provide EILS.

**Emergency Interruptible Load Service (EILS) Self-Provision**

The act by a QSE to meet its Load Ratio Share (LRS) of the total EILS procurement by designating Load to act as an EILS Load. A QSE self-providing EILS shall submit EILS offers at a price of zero dollars.

**Emergency Interruptible Load Service (EILS) Time Period**

Blocks of hours in an EILS Contract Period in which EILS Loads are contractually committed to provide EILS. EILS Time Periods are specific to an EILS Contract Period and shall be defined by ERCOT in the Request for Proposal for that EILS Contract Period.

**Emergency Notice**

The fourth of four possible levels of communication issued by ERCOT in anticipation of a possible Emergency Condition, detailed in Section 6.5.9, Emergency Operations.

**Emergency Ramp Rate**

The maximum rate of change in MW per minute of a Resource to provide Responsive Reserve (RRS) that is deployed by ERCOT and that is provided to ERCOT in up to ten segments, each represented by a single MW per minute value (across the capacity of the Resource), which describes the available rate of change in output for the given range (between High Sustained Limit (HSL) and Low Sustained Limit (LSL)) of the output of a Resource. In Real-Time SCED Dispatch, the Emergency Ramp Rate is telemetered by the QSE to ERCOT and represents the total capacity (in MW) that the Resource can change from its current actual generation within the next five minutes divided by five.

**Emergency Rating** (*see* [Rating](#))**Energy Emergency Alert (EEA)**

An orderly, predetermined procedure for maximizing use of available Resources and, only if necessary, curtailing load during an Emergency Condition while providing for the maximum possible continuity of service and maintaining the integrity of the ERCOT System.

**Energy Imbalance Service**

An Ancillary Service that is provided when a difference occurs between the scheduled and the actual delivery of energy in Real-Time.

**Energy Offer Curve**

A proposal to sell energy at a Settlement Point at a monotonically increasing price with increasing quantity.

**Energy Trade**

A QSE-to-QSE financial transaction that transfers responsibility for energy between a buyer and a seller at a Settlement Point.

**Entity**

Any natural person, partnership, municipal corporation, cooperative corporation, association, governmental subdivision, or public or private organization.

**ERCOT-Polled Settlement (EPS) Meter**

Any meter polled directly by ERCOT for use in the Settlement of the market.

**ERCOT Region**

The power region, as defined in P.U.C. SUBST. R. 25.5, Definitions, represented by the ERCOT Control Area.

**ERCOT System**

The interconnected power system that is under the jurisdiction of the PUCT and that is not synchronously interconnected with either the Eastern Interconnection or the Western Electricity Coordinating Council.

**ERCOT System Demand**

The sum of all power flows, in MW, on the DC Ties and from Generation Resources metered at the points of their interconnections with the ERCOT System at any given time.

**ERCOT Transmission Grid**

All Transmission Facilities that are part of the ERCOT System.

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**Facilities**

Equipment situated for the purpose of conducting service and/or business through use of the ERCOT System

**Facility Identification Number**

A number assigned to a renewable Resource facility by ERCOT.

**15-Minute Rating** (see [Rating](#))**Financing Person**

The lender, security holder, investor, partner, multilateral institution, or other Entity providing financing or refinancing for the business of another Entity, including development, construction, ownership, operation and/or maintenance of a facility or any portion thereof, or any trustee or agent acting on behalf of any of the foregoing.

**Flowgate Right (FGR)** (see [Congestion Revenue Right \(CRR\)](#))**Force Majeure Event**

Any event beyond the reasonable control of, and that occurs without the fault or negligence of, an Entity whose performance is prevented by the occurrence of such event. Examples of such a Force Majeure Event may include the following, subject to the limitations of the above sentence: an act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, or a curtailment, order, regulation or restriction imposed by governmental, military, or lawfully established civilian authorities.

**Forced Derate**

The portion of the Resource removed from service must exceed 2% of its prior High Sustained Limit (HSL) for Generation Resources larger than 500 MW and 10% of its prior HSL for Generation Resources smaller than 500 MW. For Qualified Scheduling Entities (QSEs) representing Wind-powered Generation Resources (WGRs), the loss of a portion of the capacity shall be due to the unavailability of a portion of the equipment and shall not include capacity changes due to changes in wind speed at the WGR facility. For QSEs representing WGRs, the percentage calculation will be determined using the seasonal net maximum sustainable rating of the WGR.

**Forced Outage** (*see* [Outage](#))**Fuel Index Price (FIP)**

The midpoint price expressed in dollars per million British thermal units (\$/MMBtu), published in *Gas Daily*, in the Daily Price Survey, under the heading “East-Houston-Katy, Houston Ship Channel.” The *Gas Daily* indicates which flow dates the prices are effective. For Saturdays, Sundays, holidays, and other days for which *Gas Daily* does not publish an effective price, the effective price shall be the effective price for the Operating Day following the holiday or day without a published price. If, at the time of calculation of peaking operating cost of System-Wide Offer Cap, or at the time of settlement or calculation of generic costs, the described midpoint price for a particular Operating Day is not available, the effective price for the most recent preceding Operating Day shall be used.

***[NPRR181: Replace the above definition “Fuel Index Price (FIP)” with the following upon system implementation:]***

**Fuel Index Price (FIP)**

The midpoint price expressed in dollars per million British thermal units (\$/MMBtu), published in *Gas Daily*, in the Daily Price Survey, under the heading “East-Houston-Katy, Houston Ship Channel” for the previous Gas Day applicable to the hour ending 0100 through hour ending 0900 of the current Operating Day. For hour ending 1000 through hour ending 2400 of the current Operating Day, the FIP is the midpoint price expressed in dollars per million British thermal units (\$/MMBtu), published in *Gas Daily*, in the Daily Price Survey, under the heading “East-Houston-Katy, Houston Ship Channel” for the current Gas Day. The *Gas Daily* indicates which flow dates for the Gas Day that the prices are effective. For Saturdays, Sundays, holidays, and other days for which *Gas Daily* does not publish an effective price, the effective price shall be the effective price for the Gas Day following the holiday or day without a published price. If, at the time of calculation of peaking operating cost of System-Wide Offer Cap (SWCAP), or at the time of Settlement or calculation of generic costs, the described midpoint price for a particular Gas Day is not available, the effective price for the most recent preceding Gas Day shall be used.

**Fuel Oil Price (FOP)**

The sum of five cents per gallon plus the average of the *Platts Oilgram Price Report* for U.S. Gulf Coast, pipeline No. 2 oil, converted to dollars per million British thermal units (\$/MMBtu). The conversion is 0.1385 MMBtu per gallon. The *Platts Oilgram Price Report* indicates which Operating Days the prices are effective. In the event, at the time of settlement or calculation of generic costs, that the effective price for a particular Operating Day is not available, the effective price for the most recent preceding Operating Day shall be used.

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*[NPRR181: Insert the following definition “Gas Day” with the following upon system implementation:]*

**Gas Day**

The 24 hour period containing hour ending 1000 of the Operating Day and concluding at hour ending 0900 the day following the Operating Day.

**Generation Entity**

The owner of an All-Inclusive Generation Resource and, unless otherwise specified in these Protocols, is registered as a Resource Entity.

**Generation Resource** (see [Resource](#))**Generic Transmission Limit (GTL)**

A transmission flow limit more constraining than a Transmission Element’s normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT’s transmission security analysis applications.

**Good Utility Practice**

Any of the practices, methods, and acts engaged in, or approved by, a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts that, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act, to the exclusion of all others, but rather is intended to include acceptable practices, methods, and acts generally accepted in the region.

**Governmental Authority**

Any federal, state, local, or municipal body having jurisdiction over a Market Participant or ERCOT. A Governmental Authority that is also a Market Participant may not exercise its jurisdiction in any matter that involves the interests of that Market Participant where that matter also involves the interests or responsibilities of any other Market Participant or ERCOT, unless the matter is one in which the Market Participant has exclusive jurisdiction.

**Governor**

The electronic, digital, or mechanical device that implements Primary Frequency Response of a Resource.

**Governor Dead-Band**

The range of deviations of system frequency (+/-) that produces no Primary Frequency Response.

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*[NPRR222: Insert the following definition “Half-Hour Start Unit” upon system implementation:]*

**Half-Hour Start Unit**

A Generation Resource that in its cold-temperature state can deliver energy at its LSL within 30 minutes of receiving ERCOT notice.

**High Ancillary Service Limit (HASL)**

A dynamically calculated MW upper limit on a Resource to reserve the part of the Resource’s capacity committed for Ancillary Service, calculated as described in Section 6.5.7.2, Resource Limit Calculator.

**High Emergency Limit (HEL)**

The limit established by the QSE describing the maximum temporary unsustainable energy production capability of a Resource. This limit must be achievable for a time stated by the QSE, but not less than 30 minutes.

**High Sustained Limit (HSL)***High Sustained Limit (HSL) for a Generation Resource*

The limit established by the QSE, continuously updated in Real-Time, that describes the maximum sustained energy production capability of the Resource.

*High Sustained Limit (HSL) for a Load Resource*

The limit calculated by ERCOT, using the QSE-established Maximum Power Consumption (MPC).

**Hourly Reliability Unit Commitment (HRUC)**

Any RUC executed after the DRUC.

**Hub**

A designated Settlement Point consisting of a Hub Bus or group of Hub Buses and the associated Settlement price calculation methodology prescribed in the definition of the Hub in Section 3.5.2, Hub Definitions. Hubs may only be created by an amendment to Section 3.5.2. The list of Hub Buses and the Settlement price calculation methodology that define a Hub can never be modified, and a Hub, once defined, exists in perpetuity.

**Hub Bus**

An energized Electrical Bus or group of energized Electrical Buses defined as a single element in the Hub definition. The Locational Marginal Price (LMP) of the Hub Bus is the simple average of the LMPs assigned to each energized Electrical Bus in the Hub Bus. If all Electrical Buses within a Hub Bus are de-energized, the LMP of the Hub does not include the de-energized Hub Bus. This is used solely for calculating the prices of existing Hub Buses defined in Section 3.5.2, Hub Definitions.

**Hub LMP (see Locational Marginal Price)****I**

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*[NPRR260: Insert the following definition “Independent Market Information System Registered Entity (IMRE)” upon system implementation:]*

**Independent Market Information System Registered Entity (IMRE)**

A Market Participant that has signed the Standard Form Market Participant Agreement (as provided for in Section 22, Attachment A, Standard Form Market Participant Agreement), and has completed applicable registration and approval for the sole purpose of accessing the Market

Information System (MIS) Secure Area.

**Independent Market Monitor (IMM)**

The Entity selected to monitor the wholesale electric market pursuant to the Public Utility Regulatory Act (PURA), TEX. UTIL. CODE ANN. § 39.1515 (Vernon 1998 & Supp. 2007) and P.U.C SUBST. R. 25.365, Independent Market Monitor.

**Independent Organization**

An independent organization as defined in the Public Utility Regulatory Act (PURA), TEX. UTIL. CODE ANN. § 39.151 (Vernon 1998 & Supp. 2007)

**Intermittent Renewable Resource (IRR)** (*see* [Resource](#))**Interval Data Recorder (IDR)**

A metering device that is capable of recording energy in each Settlement Interval under Section 9, Settlement and Billing, and Section 10, Metering.

**Interval Data Recorder (IDR) Meter**

An IDR where the ESI ID is required to be assigned a BUSIDRRQ Load Profile Type code and data is submitted in accordance with Section 10.3.3.3, Submission of Settlement Quality Meter Data to ERCOT.

**Interval Data Recorder (IDR) Meter Data Threshold**

The percentage of IDR Meter data, by Meter Reading Entity (MRE), that must be available before ERCOT will perform a True-Up Settlement as set forth in Section 9.5.8, RTM True-Up Statement.

**Interval Data Recorder (IDR) Meter Mandatory Installation Requirements**

The kW (kVA) level at which the installation of an IDR Meter is required for Settlement purposes as set forth in Section 18.6.1, Interval Data Recorder Meter Mandatory Installation Requirements.



**Interval Data Recorder (IDR) Meter Optional Removal Threshold**

The kW (kVA) level at which an IDR may be removed as set forth in Section 18.6.6, Interval Data Recorder Meter Optional Removal.

**Invoice**

A notice for payment or credit due rendered by ERCOT.

**Invoice Recipient**

A Market Participant that receives an Invoice from ERCOT.

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**Level I Maintenance Outage** (*see* [Outage](#))

**Level II Maintenance Outage** (*see* [Outage](#))

**Level III Maintenance Outage** (*see* [Outage](#))

**Load**

The amount of energy in MWh delivered at any specified point or points on a system.

**Load Frequency Control (LFC)**

The deployment of those Generation Resources that are providing Regulation Service to ensure that system frequency is maintained within predetermined limits and the deployment of those Generation Resources that are providing Responsive Reserve Service when necessary as backup regulation. LFC does not include the deployment of Responsive Reserve by Load Resources when deployed as a block under EEA procedures.

**Load Profile**

A representation of the energy usage of a group of Customers, showing the Demand variation on an hourly or sub-hourly basis.

**Load Profile ID**

The Load Profile designation string that contains, the Load Profile Type Code, the Weather Zone Code, the Meter Data Type Code, the Weather Sensitivity Code, and the Time-Of-Use Schedule Code. An example of all Load Profile IDs are located in the Load Profiling Guide, Appendix D, Profile Decision Tree.

**Load Profile Models**

Processes that use analytical modeling techniques to create Load Profiles.

**Load Profile Segment**

A sub-classification of a Load Profile Group. High Winter Ratio (HWR) is an example. Together, the Load Profile Group and the Load Profile Segment form the Load Profile Type.

**Load Profile Type**

A classification of a group of Customers having similar energy usage patterns and that are assigned the same Load Profile.

**Load Profiling**

The set of processes used to develop and create Load Profiles.

**Load Profiling Methodology**

The fundamental basis on which Load Profiles are created. The implementation of a Load Profiling Methodology may require statistical Sampling, engineering methods, econometric modeling, or other approaches.

**Load Ratio Share**

The ratio of an Entity's AML to total ERCOT AML for an interval.

**Load Resource** (*see* [Resource](#))**Load Serving Entity (LSE)**

An Entity that sells energy to Customers or Wholesale Customers and that has registered as an LSE with ERCOT. LSEs include Competitive Retailers (which includes REPs) and NOIEs that serve Load.

**Load Zone**

A group of Electrical Buses assigned to the same zone under Section 3.4, Load Zones. Every Electrical Bus in ERCOT with a Load must be assigned to a Load Zone for Settlement purposes. A NOIE Load Zone is a type of Load Zone.

**Load Zone LMP (see [Locational Marginal Price](#))****Locational Marginal Price (LMP)**

The offer-based marginal cost of serving the next increment of Load at an Electrical Bus, which marginal cost is produced by the DAM process or by the SCED process.

***Hub LMP***

The price calculated for a Hub for each SCED interval according to the formula in Section 6.6.1.5, Hub LMPs, using LMPs at the Electrical Buses included in the Hub.

***Load Zone LMP***

The price calculated for a Load Zone for each SCED interval according to the formula in Section 6.6.1.4, Load Zone LMPs, using State Estimator (SE) Load data and LMPs at the Electrical Buses included in the Load Zone.

**Low Ancillary Service Limit (LASL)**

A dynamically calculated MW lower limit on a Resource to maintain the ability of the Resource to provide committed Ancillary Service.

**Low Emergency Limit (LEL)**

The limit established by the QSE describing the minimum temporary unsustainable energy production capability of a Resource. This limit must be achievable for a period of time indicated by the QSE but not less than 30 minutes.

**Low Power Consumption (LPC)**

For a Load Resource, the limit established by the QSE, continuously updated in Real-Time, that describes the minimum sustained power consumption of a Load Resource. The LPC shall be a positive number in MW.

**Low Sustained Limit (LSL)*****Low Sustained Limit (LSL) for a Generation Resource***

The limit established by the QSE, continuously updatable in Real-Time, that describes the minimum sustained energy production capability of a Resource.

***Low Sustained Limit (LSL) for a Load Resource***

The limit calculated by ERCOT, using the QSE-established LPC.

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**Maintenance Outage** (see [Outage](#))

**Make-Whole Charge**

A charge made by ERCOT to a QSE for a Resource to recapture all or part of the revenues received by a QSE that exceed the Make-Whole Payment for a Resource.

**Make-Whole Payment**

A payment made by ERCOT to a QSE for a Resource to reimburse a QSE for allowable startup and minimum energy costs of a Resource not recovered in energy revenue when a Resource is committed by the DAM or by a RUC.

**Mandatory Installation Threshold**

A peak demand greater than 700 kW (or 700 kVA).

**Market Clearing Price for Capacity (MCPC)**

The hourly price for Ancillary Service capacity awarded in the DAM or a SASM.

**Market Information System (MIS)**

An electronic communications interface established and maintained by ERCOT that provides a communications link to the public and to Market Participants, as a group or individually.

*Market Information System (MIS) Public Area*

The portion of the MIS that is available to the public.

*Market Information System (MIS) Secure Area*

The portion of the MIS that is available only to registered users.

***[NPRR260: Replace the above definition “Market Information System (MIS) Secure Area” with the following upon system implementation:]***

*Market Information System (MIS) Secure Area*

The portion of the MIS that is available only to registered Market Participants.

*Market Information System (MIS) Certified Area*

The portion of the MIS that is available only to a specific Market Participant.

**Market Participant**

An Entity, other than ERCOT, that engages in any activity that is in whole or in part the subject of these Protocols, regardless of whether that Entity has signed an Agreement with ERCOT. Examples of such an Entity include but are not limited to the following: LSE, QSE, TDSP, CRR Account Holder, Resource Entity, and REC Account Holder.

*[NPRR260: Replace the above definition “Market Participant” with the following upon system implementation:]*

**Market Participant**

An Entity, other than ERCOT, that engages in any activity that is in whole or in part the subject of these Protocols, regardless of whether that Entity has signed an Agreement with ERCOT. Examples of such an Entity include but are not limited to the following: LSE, QSE, TDSP, CRR Account Holder, Resource Entity, IMRE and REC Account Holder.

**Market Segment**

The segments defined in Article 2 of the ERCOT Bylaws.

**Mass Transition**

The transition of ESI IDs from one CR to a Provider of Last Resort (POLR) or designated CR, or from one TDSP to another TDSP, in a quantity or within a timeframe identified by Applicable Legal Authority.

**Master Qualified Scheduling Entity (QSE)** (*see [Qualified Scheduling Entity \(QSE\)](#)*)

**Maximum Power Consumption (MPC)**

For a Load Resource, the limit established by the QSE, continuously updated in Real-Time, that describes the maximum sustained power consumption of a Load Resource. The MPC shall be a positive number in MW.

**Measurable Event**

A Measurable Event for performance analysis is a sudden change in frequency that has either:

- (a) A frequency B Point between 59.700 Hz and 59.900 Hz or between 60.100 Hz and 60.300 Hz; or
- (b) A difference between the B Point and the A Point greater than or equal to +/- 0.100 Hz; or
- (c) Sudden generation or Load loss greater than 420 MW.

**Messaging System**

The ERCOT-to-QSE communications system used to send Real-Time notices and Dispatch Instructions to QSEs.

**Meter Data Acquisition System (MDAS)**

The system used to obtain revenue quality meter data from EPS meters and Settlement Quality Meter Data from TSPs and DSPs for Settlement and to populate the DAS and Data Archive.

**Meter Reading Entity (MRE)**

A TSP or DSP that is responsible for providing ERCOT with ESI ID level consumption data as defined in Section 19, Texas Standard Electronic Transaction. In the case of an EPS Meter or ERCOT-populated ESI ID data (such as Generation Resource site Load), ERCOT will be identified as the MRE in ERCOT systems.

**Metering Facilities**

Revenue Quality Meters, instrument transformers, secondary circuitry, secondary devices, meter data servers, related communication Facilities and other related local equipment intended to supply ERCOT settlement quality data.

**Minimum-Energy Offer**

An offer for the costs incurred by a Resource in producing energy at the Resource's LSL expressed in \$/MWh.

**Minimum Point-to-Point (PTP) Option Bid Price**

A value of \$0.010 representing the minimum price that can be submitted into the CRR Auction for a PTP Option bid.

**Minimum Reservation Price**

The lowest price that a seller is willing to accept.

**Mitigated Offer Cap**

An upper limit on the price of an offer as detailed in Section 4.4.9.4.1, Mitigated Offer Cap.

**Mitigated Offer Floor**

A lower limit on the price of an offer as detailed in Section 4.4.9.4.2, Mitigated Offer Floor.

**Mothballed Generation Resource (see [Resource](#))**

**Move-In Request**

A request submitted by a CR on behalf of a Customer to initiate service at a Premise with the requesting CR.

**Move-Out Request**

A request submitted by a CR on behalf of a Customer to terminate service at a Premise with the requesting CR.

**Municipally Owned Utility (MOU)**

A utility owned, operated, and controlled by a nonprofit corporation, the directors of which are appointed by one or more municipalities, or a utility owned, operated, or controlled by a municipality.

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**Net Dependable Capability**

The maximum sustained capability of a Resource as demonstrated by performance testing.

**Net Generation**

Gross generation less station auxiliary Load or other internal unit power requirements metered at or adjusted to the Point of Interconnection (POI) with the ERCOT Transmission Grid at the common switchyard.

**Network Operations Model**

A representation of the ERCOT System providing the complete physical network definition, characteristics, ratings, and operational limits of all elements of the ERCOT Transmission Grid and other information from TSPs, Resource Entities, and QSEs.

**Network Security Analysis**

A processor used by ERCOT to monitor Transmission Elements in the ERCOT Transmission Grid for limit violations and to verify Electrical Bus voltage limits to be within a percentage tolerance as outlined in the Operating Guides.

**Non-Competitive Constraint**

A Transmission Element that is not a Competitive Constraint.

**Non-Metered Load**

Load that is not required to be metered by applicable transmission or distribution tariff.

**Non-Modeled Generator** (*see* [Resource](#))**Non-Opt-In Entity (NOIE)**

An EC or MOU that does not offer Customer Choice.

**Non-Opt-In Entity (NOIE) Load Zone**

A Load Zone established by a NOIE or a group of NOIEs using a one-time NOIE election.

**Non-Spinning Reserve (Non-Spin)**

An Ancillary Service that is provided through use of the part of Off-Line Generation Resources that can be synchronized and ramped to a specified output level within 30 minutes (or Load Resources that can be interrupted within 30 minutes) and that can operate (or Load Resources that can be interrupted) at a specified output level for at least one hour. Non-Spin may also be provided from unloaded On-Line capacity that meets the 30-minute response requirements and that is reserved exclusively for use for this service.

**Normal Ramp Rate**

The rate of change in MW per minute of a Resource, which is specified by the QSE to ERCOT by up to ten segments; each segment represents a single MW per minute value (across the capacity of the Resource) that describe the available rate of change in output for the given range (between HSL and LSL) of output of a Resource. In Real-Time SCED Dispatch, the Normal Ramp Rate is telemetered by the QSE to ERCOT and represents the total capacity (in MW) that the Resource can change from its current actual generation within the next five minutes divided by five.

**Normal Rating** (*see* [Rating](#))**Notice or Notification**

The sending of information by an Entity to Market Participants, ERCOT, or others, as called for in these Protocols. Notice or Notification may be sent by electronic mail, facsimile transmission, or U.S. mail.

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**Off-Line**

The status of a Resource that is not synchronously interconnected to the ERCOT System.



**Oklaunion Exemption**

The export schedules from the Public Service Company of Oklahoma, the Oklahoma Municipal Power Authority, and the AEP Texas North Company for their share of the Oklaunion Resource over the North DC Tie that are not treated as Load connected at transmission voltage, are not subject to any of the fees described in Section 4.4.4, DC Tie Schedules, and are limited to the actual net output of the Oklaunion Resource.

**On-Line**

The status of a Resource that is synchronously interconnected to the ERCOT System.

**On-Peak Hours**

Hours ending in 0700 to 2200 CPT from Monday through Friday excluding NERC holidays.

**Operating Condition Notice (OCN)**

The first of four possible levels of communication issued by ERCOT in anticipation of a possible emergency condition detailed in Section 6.5.9.1 Emergency and Short Supply Operation.

**Operating Day**

The day, including hours ending 0100 to 2400, during which energy flows.

**Operating Hour**

A full clock hour during which energy flows.

**Operating Period**

A two-hour period comprised of the Operating Hour and the clock hour preceding the Operating Hour.

**Opportunity Outage (see [Outage](#))****Other Binding Documents List**

List of Other Binding Documents as managed in paragraph (3) of Section 1.1, Summary of the ERCOT Protocols Document.

**Outage**

The condition of a Transmission Facility or a portion of a Facility, or Generation Resource that is part of the ERCOT Transmission Grid and defined in the Network Operations Model that has been removed from its normal service, excluding the operations of Transmission Facilities associated with the start-up and shutdown of Generation Resources.

***Forced Outage***

An Outage initiated by protective relay, or manually in response to an observation by personnel that the condition of equipment could lead to an event, or potential event, that poses a threat to people, equipment, or public safety.

For a Generation Resource, an Outage that requires immediate removal, either through controlled or uncontrolled actions, of all or a portion of the capacity of the Resource from service through automated or manual means. This type of Outage usually results from immediate mechanical/electrical/hydraulic control system trips and operator-initiated actions in response to a Resource's condition.

***Maintenance Outage***

An Outage initiated manually to remove equipment from service to perform work on components that could be postponed briefly but that is required to prevent a potential Forced Outage and that cannot be postponed until the next Planned Outage. Maintenance Outages are classified as follows:

- (1) **Level I Maintenance Outage** – Equipment that must be removed from service within 24 hours to prevent a potential Forced Outage;
- (2) **Level II Maintenance Outage** – Equipment that must be removed from service within seven days to prevent a potential Forced Outage; and
- (3) **Level III Maintenance Outage** – Equipment that must be removed from service within 30 days to prevent a potential Forced Outage.

***Opportunity Outage***

An Outage that may be accepted by ERCOT when a specific Resource is Off-Line due to an Outage.

***Planned Outage***

An Outage that is planned and scheduled in advance with ERCOT, other than a Maintenance Outage or Opportunity Outage.

***Simple Transmission Outage***

A Planned Outage or Maintenance Outage of any Transmission Element in the Network Operations Model such that when the Transmission Element is removed from its normal service, absent a Forced Outage of other Transmission Elements, the Outage does not cause a topology change in the LMP calculation and thus cannot cause any LMPs to change with or without the Transmission Element that is suffering the Outage.

**Outage Scheduler**

The application that TSPs or QSEs use to submit Notification of Outages or requests for Outages to ERCOT for approval, acceptance, or rejection.

**Output Schedule**

The self-scheduled output for every five-minute interval of a Resource provided by a QSE before the execution of SCED.

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**Partial Blackout** (*see* [Blackout](#))

**Participating Congestion Revenue Right (CRR) Account Holder** (*see* [Congestion Revenue Right \(CRR\) Account Holder](#))

**PhotoVoltaic (PV)**

Of or pertaining to a material or device in which electricity is generated as a result of exposure to light.

**Physical Responsive Capability (PRC)**

A representation of the total amount of system wide On-Line capability that has a high probability of being able to quickly respond to system disturbances.

**Planned Outage** (*see* [Outage](#))

**Point of Interconnection (POI)**

The voltage level and substation where a Generation Entity's interconnection Facilities connect to the Transmission Facilities as reflected in the Standard Generation Interconnection Agreement (SGIA) between a Generation Entity and a Transmission Service Provider (TSP) or the voltage level and substation where Load interconnects to the TSP Facilities.

**Point-to-Point (PTP) Obligation** (*see* [Congestion Revenue Right \(CRR\)](#))

**Point-to-Point (PTP) Obligation with Links to an Option** (*see* [Congestion Revenue Right \(CRR\)](#))

**Point-to-Point (PTP) Option** (*see* [Congestion Revenue Right \(CRR\)](#))

**Point-to-Point (PTP) Option Award Fee**

A fee placed on each PTP Option bid awarded where the clearing price for the PTP Option bid awarded is less than the Minimum PTP Option Bid Price as further described in Section 7.7.1, Charging of PTP Option Award Fee.

**Power System Stabilizer (PSS)**

A device that is installed on Generation Resources to maintain synchronous operation of the ERCOT System under transient conditions.

**Premise**

A Service Delivery Point or combination of Service Delivery Points that is assigned a single ESI ID for Settlement and registration.

**Primary Frequency Response**

The instantaneous proportional increase or decrease in real power output provided by a Resource and the natural real power dampening response provided by Load in response to system frequency deviations. This response is in the direction that stabilizes frequency.

**Prior Agreement**

Any previous Agreement between an Entity, its Affiliate, or its predecessor in interest and ERCOT about performance under the ERCOT Protocols.

**Private Use Network**

An electric network connected to the ERCOT Transmission Grid that contains Load that is not directly metered by ERCOT (i.e., Load that is typically netted with internal generation).

**Program Administrator**

The Entity approved by the PUCT that is responsible for carrying out the administrative responsibilities for the Renewable Energy Credit Program as set forth in P.U.C. SUBST. R. 25.173.

**Protected Information**

Information protected from disclosure as described in Section 1, Overview.

**Provider of Last Resort (POLR)**

The designated CR as defined in the P.U.C. SUBST. R. 25.43, Provider of Last Resort (POLR), for default Customer service, and as further described in Section 15.1, Customer Switch of Competitive Retailer.

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**Qualified Scheduling Entity (QSE)**

A Market Participant that is qualified by ERCOT in accordance with Section 16, Registration and Qualification of Market Participants, for communication with ERCOT for Resource Entities and LSEs and for settling payments and charges with ERCOT.

***Master Qualified Scheduling Entity (QSE)***

A QSE designated by Resource Entities owning or controlling a Generation Resource that has been split into two or more Split Generation Resources as set forth in Section 3.8.1, Split Generation Resources, that provides ERCOT data and dispatch on total Generation Resource basis in accordance with the Protocols.

**Qualified Scheduling Entity (QSE) Clawback Interval**

Any QSE-Committed Interval that is part of a contiguous block that includes at least one RUC-Committed Hour unless it is:

- (a) QSE-committed before the first RUC instruction for any RUC-Committed Hour in that contiguous block; or
- (b) Part of a contiguous block of a QSE-Committed Intervals, at least one of which was committed by the QSE before the RUC instruction described in paragraph (a) above.

**Qualified Scheduling Entity (QSE)-Committed Interval**

A Settlement Interval for which the QSE for a Resource has committed the Resource without a RUC instruction to commit it.

**Qualifying Facility (QF)**

A qualifying small power production facility or qualifying cogeneration facility under regulatory qualification criteria as defined in 16 U.S.C.A. § 796(17)(C) and (18)(B).

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**Rating*****Conductor/Transformer 2-Hour Rating***

The two-hour MVA rating of the conductor or transformer only, excluding substation terminal equipment in series with a conductor or transformer, at the applicable ambient temperature. The conductor or transformer can operate at this rating for two hours without violation of National Electrical Safety Code (NESC) clearances or equipment failure.

***Emergency Rating***

The two-hour MVA rating of a Transmission Element, including substation terminal equipment in series with a conductor or transformer, at the applicable ambient temperature. The Transmission Element can operate at this rating for two hours without violation of NESC clearances or equipment failure.

***15-Minute Rating***

The 15-minute MVA rating of a Transmission Element, including substation terminal equipment in series with a conductor or transformer, at the applicable ambient temperature and with a step increase from a prior loading up to 90% of the Normal Rating. The Transmission Element can operate at this rating for 15 minutes, assuming its pre-contingency loading up to 90% of the Normal Rating limit at the applicable ambient temperature, without violation of NESC clearances or equipment failure. This rating takes advantage of the time delay associated with heating of a conductor or transformer following a sudden increase in current.

***Normal Rating***

The continuous MVA rating of a Transmission Element, including substation terminal equipment in series with a conductor or transformer, at the applicable ambient temperature. The Transmission Element can operate at this rating indefinitely without damage, or violation of NESC clearances.

**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, overexcited generators and other capacitive devices and is absorbed by reactors, under-excited generators and other inductive devices.

**Real-Time**

The current instant in time.

**Real-Time Market (RTM) Final Statement** (*see* [Settlement Statement](#))

**Real-Time Market (RTM) Initial Statement** (*see* [Settlement Statement](#))

**Real-Time Market (RTM) Resettlement Statement** (*see* [Settlement Statement](#))

**Real-Time Market (RTM) True-Up Statement** (*see* [Settlement Statement](#))

**Redacted Network Operations Model**

A version of the Network Operations Model, redacted to exclude Private Use Network Load data and the following defined Resource Parameters as applicable:

- (a) Normal Ramp Rate curve;

- (b) Emergency Ramp Rate curve;
- (c) Minimum On-Line time;
- (d) Minimum Off-Line time;
- (e) Hot start time;
- (f) Intermediate start time;
- (g) Cold start time;
- (h) Maximum weekly starts;
- (i) Maximum On-Line time;
- (j) Maximum daily starts;
- (k) Maximum weekly energy;
- (l) Hot-to-intermediate time;
- (m) Intermediate-to-cold time;
- (n) Minimum interruption time;
- (o) Minimum restoration time;
- (p) Maximum weekly deployments;
- (q) Maximum interruption time;
- (r) Maximum daily deployments;
- (s) Minimum notice time; and
- (t) Maximum deployment time.

### **Regional Planning Group (RPG) Project Review**

The evaluation of a proposed transmission project pursuant to the process described in Section 3.11.4, Regional Planning Group Project Review Process.

### **Regulation Down Service (Reg-Down) (*see* [Regulation Service](#))**

#### **Regulation Service**

An Ancillary Service that consists of either Regulation Down Service (Reg-Down) or Regulation Up Service (Reg-Up).

***Regulation Down Service (Reg-Down)***

An Ancillary Service that provides capacity that can respond to signals from ERCOT within three to five seconds to respond to changes in system frequency. Such capacity is the amount available below any Base Point but above the LSL of a Generation Resource and may be called on to change output as necessary throughout the range of capacity available to maintain proper system frequency. A Load Resource providing Reg-Down must be able to increase and decrease Load as deployed within its Ancillary Service Schedule for Reg-Down below the Load Resource's MPC limit.

***Regulation Up Service (Reg-Up)***

An Ancillary Service that provides capacity that can respond to signals from ERCOT within three to five seconds to respond to changes in system frequency. Such capacity is the amount available above any Base Point but below the HSL of a Generation Resource and may be called on to change output as necessary throughout the range of capacity available to maintain proper system frequency. A Load Resource providing Reg-Up must be able to increase and decrease Load as deployed within its Ancillary Service Schedule for Reg-Up above the Load Resource's LPC limit.

**Regulation Up Service (Reg-Up) (see [Regulation Service](#))****Reliability Must-Run (RMR) Service**

An Ancillary Service provided from an RMR Unit under an Agreement with ERCOT.

**Reliability Must-Run (RMR) Unit**

A Generation Resource operated under the terms of an Agreement with ERCOT that would not otherwise be operated except that it is necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria where market solutions do not exist.

**Reliability Unit Commitment (RUC)**

A process to ensure that there is adequate Resource capacity and Ancillary Service capacity committed in the proper locations to serve ERCOT forecasted Load.

**Reliability Unit Commitment (RUC) Cancellation**

An ERCOT instruction, prior to breaker close, to cancel a previously issued RUC instruction.

**Reliability Unit Commitment (RUC)-Committed Hour**

An Operating Hour for which a RUC has committed a Resource to be On-Line.

**Reliability Unit Commitment (RUC)-Committed Interval**

A Settlement Interval for which there is a RUC instruction to commit a Resource.



*[NPRR207: Insert the following definition “Reliability Unit Commitment (RUC) Notification” upon system implementation:]*

**Reliability Unit Commitment (RUC) Notification**

An ERCOT notification for specified Operating Hour(s), taking into account a Generation Resource’s start-up time, indicating that the Resource was recommended but deselected in the RUC process.

**Reliability Unit Commitment (RUC) Study Period**

As defined under Section 5.1, Introduction.

**Remedial Action Plan (RAP)**

A set of pre-defined actions to be taken to relieve transmission security violations (normally post-contingency overloads or voltage violations) that are sufficiently dependable to assume they can be executed without loss of reliability to the interconnected network. These plans may be relied upon in allowing additional market use of the transmission system. RAPs may include controllable Load shedding by dispatcher or ERCOT action.

**Renewable Energy Credit (REC)**

A tradable instrument that represents all of the renewable attributes associated with one MWh of production from a certified renewable generator.

**Renewable Energy Credit (REC) Account**

An account maintained by ERCOT for the purpose of tracking the production, sale, transfer, purchase, and retirement of RECs or Compliance Premiums by a REC Account Holder.

**Renewable Energy Credit (REC) Account Holder**

An Entity registered with ERCOT to participate in the REC Trading Program.

**Renewable Energy Credit (REC) Trading Program**

The Renewable Energy Credit Trading program, as described in Section 14, State of Texas Renewable Energy Credit Trading Program, and P.U.C. SUBST. R. 25.173, Goal for Renewable Energy.

**Renewable Portfolio Standard (RPS)**

The amount of capacity required to meet the requirements of Public Utility Regulatory Act (PURA), TEX. UTIL. CODE ANN. § 39.904 (Vernon 1998 & Supp. 2007) and P.U.C. SUBST. R. 25.173(h).

**Renewable Production Potential (RPP)**

The maximum generation in MWh per interval from an Intermittent Renewable Resource (IRR) that could be generated from all available units of that Resource. The RPP depends on the renewable energy that can be generated from the available units (wind, solar radiation, or run-of-river water supply), current environmental conditions and the energy conversion characteristics of each unit.

**Repowered Facility**

An existing facility that has been modernized or upgraded to use renewable energy technology to produce electricity consistent with P.U.C. SUBST. R. 25.173, Goal for Renewable Energy.

**Reserve Discount Factor (RDF)**

A representation of the average amount of system-wide capability that, for whatever reason, is historically undeliverable during periods of high system demand. The RDF will be verified by ERCOT and then approved by the Reliability and Operations Subcommittee (ROS).

**Resource**

The term is used to refer to both a Generation Resource and a Load Resource. The term “Resource” used by itself in these Protocols does not include a Non-Modeled Generator.

***All-Inclusive Generation Resource***

A term used to refer to both a Generation Resource and a Non-Modeled Generator.

***All-Inclusive Resource***

A term used to refer to a Generation Resource, Load Resource and a Non-Modeled Generator.

***Dynamically Scheduled Resource (DSR)***

A Resource that has been designated by the QSE, and approved by ERCOT, as a DSR status-type and that follows a DSR Load.

***Generation Resource***

A generator capable of providing energy or Ancillary Service to the ERCOT System and is registered with ERCOT as a Generation Resource. The term “Generation Resource” used by itself in these Protocols does not include a Non-Modeled Generator.

***Black Start Resource***

A Generation Resource under contract with ERCOT to provide BSS.

***Combined Cycle Train***

The combinations of gas turbines and steam turbines in an electric generation plant that employs more than one thermodynamic cycle. For example, a Combined Cycle Train

refers to the combination of gas turbine generators (operating on the Brayton Cycle) with turbine exhaust waste heat boilers and steam turbine generators (operating on the Rankin Cycle) for the production of electric power. In the ERCOT market, Combined Cycle Trains are each registered as a plant that can operate as a Generation Resource in one or more Combined Cycle Generation Resource configurations.

***Combined Cycle Generation Resource***

A specified configuration of physical Generation Resources (gas and steam turbines), with a distinct set of operating parameters and physical constraints, in a Combined Cycle Train registered with ERCOT.

***Decommissioned Generation Resource***

A Generation Resource for which a Generation Entity has submitted a Notification of Suspension of Operations, for which ERCOT has declined to execute an RMR Agreement, and for which the Generation Entity has announced decommissioning and retirement of the Generation Resource.

***Intermittent Renewable Resource (IRR)***

A Generation Resource that can only produce energy from variable, uncontrollable Resources, such as wind, solar, or run-of-the-river hydroelectricity.

***Mothballed Generation Resource***

A Generation Resource for which a Generation Entity has submitted a Notification of Suspension of Operations, for which ERCOT has declined to execute an RMR Agreement, and for which the Generation Entity has not announced decommissioning and retirement of the Generation Resource.

***Quick Start Generation Resource (QSGR)***

A Generation Resource that in its cold-temperature state can come On-Line within ten minutes of receiving ERCOT notice and has passed an ERCOT QSGR test that establishes an amount of capacity that can be deployed within a ten-minute period.

***Split Generation Resource***

Where a Generation Resource has been split to function as two or more independent Generation Resources in accordance with Section 10.3.2.1, Generation Resource Meter Splitting, and Section 3.10.7.2, Modeling of Resources and Transmission Loads, each such functionality independent Generation Resource is a Split Generation Resource.

***Switchable Generation Resource***

A Generation Resource that can be connected to either the ERCOT Transmission Grid or a non-ERCOT Control Area.

***Wind-powered Generation Resource (WGR)***

A Generation Resource that is powered by wind. Wind turbines may be aggregated together to form a WGR if each turbine is the same model and size and located behind the same Generator Step-Up (GSU) transformer.

***Load Resource***

A Load capable of providing Ancillary Service to the ERCOT System and registered with ERCOT as a Load Resource.

***Controllable Load Resource***

A Load Resource capable of controllably reducing or increasing consumption under dispatch control (similar to Automatic Generation Control (AGC)) and provides Primary Frequency Response.

***Non-Modeled Generator***

A generator that is:

- (a) Capable of providing net output of energy to the ERCOT System;
- (b) Ten MW or less in size; or greater than ten MW and registered with the PUCT according to P.U.C. SUBST. R. 25.109, Registration of Power Generation Companies and Self-Generators, as a self-generator; and
- (c) Registered with ERCOT as a Non-Modeled Generator, which means that the generator may not participate in the Ancillary Service or energy markets, RUC, or SCED.

**Resource Category**

The generation technology category designated for a Generation Resource in its Resource registration documentation.

**Resource Entity**

An Entity that owns or controls an All-Inclusive Resource and is registered with ERCOT as a Resource Entity.

**Resource ID (RID)**

A unique identifier assigned to each Resource used in the registration and Settlements systems managed by ERCOT.

**Resource Node**

Either a logical construct that creates a virtual pricing point required to model a Combined-Cycle Configuration or an Electrical Bus defined in the Network Operations Model, at which a Generation Resource's Settlement Point Price is calculated and used in Settlement. All Resource

Nodes shall be identified in accordance with the document titled “Procedure for Identifying Resource Nodes,” which shall be approved by the appropriate TAC subcommittee and posted to the MIS Public Area. For a Generation Resource that is connected to the ERCOT Transmission Grid only by one or more radial transmission lines that all originate at the Generation Resource and terminate in a single substation switchyard, the Resource Node is an Electrical Bus in that substation. For all other Generation Resources, the Resource Node is the Generation Resource’s side of the Electrical Bus at which the Generation Resource is connected to the ERCOT Transmission Grid.

**Resource Parameter**

A registered Resource-specific parameters required for use in ERCOT business processes.

**Resource Status**

The operational state of a Resource as provided in Section 3.9, Current Operating Plan (COP).

**Responsive Reserve (RRS)**

An Ancillary Service that provides operating reserves that is intended to:

- (a) Arrest frequency decay within the first few seconds of a significant frequency deviation on the ERCOT Transmission Grid using Primary Frequency Response and interruptible Load;
- (b) After the first few seconds of a significant frequency deviation, help restore frequency to its scheduled value to return the system to normal;
- (c) Provide energy or continued Load interruption during the implementation of the EEA; and
- (d) Provide backup regulation.

**Retail Business Day** (*see* [Business Day](#))**Retail Business Hour**

Any hour within a Retail Business Day.

**Retail Electric Provider (REP)**

As defined in P.U.C. SUBST. R. 25.5, Definitions, an Entity that sells electric energy to retail Customers in Texas but does not own or operate generation assets and is not an MOU or EC.

**Retail Entity**

An MOU, generation and transmission cooperative or distribution cooperative that offers Customer Choice; REP; or IOU that has not unbundled pursuant to Public Utility Regulatory Act (PURA), TEX. UTIL. CODE ANN. § 39.051 (Vernon 1998 & Supp. 2007).

**Revenue Quality Meter**

For EPS Meters, a meter that complies with the Protocols and the Settlement Metering Operating Guide. For TSP- or DSP-metered Entities, a meter that complies with Governmental Authority-approved meter standards, or the Protocols and the Operating Guides.

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**Sampling**

The process of selecting a subset of a population of Customers that statistically represents the entire population.

**Scheduled Power Consumption**

Expected Load, in MW, reported by a QSE for a Controllable Load Resource pursuant to Section 6.5.5.2, Operational Data Requirements.

**Scheduled Power Consumption Snapshot**

A snapshot, taken by ERCOT, of the Scheduled Power Consumption provided by the QSE for a Controllable Load Resource at the end of the adjustment period and used in determining the Controllable Load Resource Desired Load.

**Season**

Winter months are December, January, and February; Spring months are March, April, and May; Summer months are June, July, and August; Fall months are September, October, and November.

**Security-Constrained Economic Dispatch (SCED)**

The determination of desirable Generation Resource output levels using Energy Offer Curves while considering State Estimator (SE) output for Load at transmission-level Electrical Buses, Generation Resource limits, and transmission limits to provide the least offer-based cost dispatch of the ERCOT System.

**Self-Arranged Ancillary Service Quantity**

The portion of its Ancillary Service Obligation that a QSE secures for itself using Resources represented by that QSE and Ancillary Service Trades.

**Self-Schedule**

Information for Real-Time Settlement purposes that specifies the amount of energy supply at a specified source Settlement Point used to meet an energy obligation at a specified sink Settlement Point for the QSE submitting the information.

**Service Address**

The street address associated with an ESI ID as recorded in the Customer Registration Database. This address shall conform to United States Postal Service Publication 28.

**Service Delivery Point**

The specific point on the system where electricity flows from the TSP or DSP to a Customer.

**Settlement**

The process used to resolve financial obligations between a Market Participant and ERCOT.

**Settlement Calendar**

A calendar that provides information on when Settlement Statements and Invoices shall be posted, payment due dates, and dispute deadlines. Additional information is provided in Section 9.1.2, Settlement Calendar.

**Settlement Interval**

The time period for which markets are settled.

**Settlement Invoice**

A notice for payment or credit due rendered by ERCOT based on data contained in Settlement Statements.

**Settlement Meter**

Generation and end-use consumption meters used for allocation of ERCOT charges and wholesale and retail Settlements.

**Settlement Point**

A Resource Node, Load Zone, or Hub.

**Settlement Point Price**

A price calculated for a Settlement Point for each Settlement Interval using LMP data and the formulas detailed in Section 4.6, DAM Settlement, and Section 6.6, Settlement Calculations for the Real-Time Energy Operations.

**Settlement Quality Meter Data**

Data that has been edited, validated, and is appropriate for the ERCOT Settlement agent to use for Settlement and billing purposes.

**Settlement Statement**

A statement issued by ERCOT reflecting a breakdown of administrative, miscellaneous, and market charges for the applicable market services, as further described in Section 9.2, Settlement Statements for the Day-Ahead Market, and Section 9.5, Settlement Statements for Real-Time Market.

***Day-Ahead Market (DAM) Resettlement Statement***

The Settlement Statement issued for a particular DAM using corrected Settlement data, in accordance with Section 9.2.5, DAM Resettlement Statement.

***Day-Ahead Market (DAM) Statement***

The Settlement Statement issued for a particular DAM, as further described in Section 9.2.4, DAM Statement.

***Real-Time Market (RTM) Final Statement***

The RTM Settlement Statement issued at the end of the 59th calendar day following the Operating Day, as described in Section 9.5.5, RTM Final Statement.

***Real-Time Market (RTM) Initial Statement***

The first iteration of an RTM Settlement Statement issued for a particular Operating Day, as further described in Section 9.5.4, RTM Initial Statement.

***Real-Time Market (RTM) Resettlement Statement***

The RTM Settlement Statement using corrected Settlement data, in accordance with Section 9.5.6, RTM Resettlement Statement.

***Real-Time Market (RTM) True-Up Statement***

The RTM Settlement Statement issued 180 days following the Operating Day, as further described in Section 9.5.8, RTM True-Up Statement.



**Shadow Price**

A price for a commodity that measures the marginal value of this commodity; that is, the rate at which system costs could be decreased or increased by slightly increasing or decreasing, respectively, the amount of the commodity being made available.

**Shift Factor**

A measure of the flow on a particular Transmission Element due to a unit injection of power from a particular Electrical Bus to a fixed reference Electrical Bus.

**Short-Term Wind Power Forecast (STWPF)**

An ERCOT produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each Wind-powered Generation Resource (WGR) that could be generated from all available units of that Resource.

**Simple Transmission Outage** (*see* [Outage](#))**Special Protection Systems (SPS)**

A set of automatic actions to be taken to relieve transmission security violations (normally post-contingency overloads or voltage violations) that are sufficiently dependable to assume they can be executed without loss of reliability to the interconnected network.

**Split Generation Resource** (*see* [Resource](#))**Startup Cost**

All costs incurred by a Generation Resource in starting up and reaching LSL, minus the average energy produced during the time period between breaker close and LSL multiplied by a heat rate proxy “H” multiplied by the appropriate FIP, FOP, or \$1.50 per MMBtu, as applicable and as described in the Verifiable Cost Manual. The Startup Cost is in dollars per start.

**Startup Loading Failure**

An event that results when a Generation Resource is unable to operate at Low Sustained Limit (LSL) at the time scheduled in the Current Operating Plan (COP) which occurs while the unit is ramping up to its scheduled MW output. A Startup Loading Failure ends when the Resource:

- (a) Achieves its LSL;
- (b) Is scheduled to go Off-Line; or
- (c) Enters a Forced Outage.

**Startup Offer**

An offer for all costs incurred by a Generation Resource in starting up and reaching LSL, minus the average energy produced during the time period between breaker close and LSL multiplied by a heat rate proxy “H” multiplied by the appropriate FIP or FOP. The Startup Cost is in dollars per start.

**State Estimator (SE)**

A computational algorithm that uses Real-Time inputs from the network’s Supervisory Control and Data Acquisition (SCADA) system that measure the network’s electrical parameters, including its topology, voltage, power flows, etc., to estimate electrical parameters (such as line flows and Electrical Bus voltages and Loads) in the ERCOT Transmission Grid. The SE’s output is a description of the network and all of the values (topology, voltage, power flow, etc.) to describe each Electrical Bus and line included in the system model.

**State Estimator (SE) Bus**

An electrical node of common voltage at a substation that consists of one or more Electrical Buses tied together with closed breakers or switches.

**Sustained Response Period**

The period of time beginning ten minutes after ERCOT’s issuance of a Verbal Dispatch Instruction (VDI) requesting EILS deployment and ending with ERCOT’s issuance of a VDI releasing the EILS Loads from the deployment.

**Switch Request**

A request submitted by a CR on behalf of a Customer to switch service from the Customer’s current CR to the requesting CR.

**Switchable Generation Resource (see [Resource](#))****Synchronous Condenser Unit**

A unit operated under the terms of an annual Agreement with ERCOT that is only capable of supplying Volt-Amperes reactive (VAr) that would not otherwise be operated except that it is necessary to provide voltage support under first contingency criteria.

**System Operator**

An Entity that supervises the collective Transmission Facilities of a power region. This Entity is charged with coordination of market transactions, system-wide transmission planning, and network reliability.

**System-Wide Offer Cap (SWCAP)**

The system-wide offer cap defined in subsection (g) of P.U.C. SUBST. R. 25.505, Resource Adequacy in the Electric Reliability Council of Texas Power Region.

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**TSP and DSP Metered Entity**

An Entity that meets the requirements of Section 10.2.2, TSP and DSP Metered Entities.

**Texas Nodal Market Implementation Date**

The date on which ERCOT starts operation of the Texas Nodal Market in compliance with the rules and orders of the PUCT. Once this date is determined, ERCOT shall post it on the ERCOT website and maintain it on either the ERCOT website or the MIS Public Area.

**Texas Standard Electronic Transaction (TX SET)**

The procedure used to transmit information pertaining to the Customer Registration Database, as set forth in Section 19, Texas Standard Electronic Transaction. Record and data element definitions are provided in the data dictionary in Section 19.

**Three-Part Supply Offer**

An offer made by a QSE for a Generation Resource that it represents containing three components: a Startup Offer, a Minimum-Energy Offer, and an Energy Offer Curve.

**Time Of Use (TOU) Meter**

A programmable electronic device capable of measuring and recording electric energy in pre-specified time periods. For Load Profiling purposes TOU Metering does not include IDRs.

**Time Of Use Schedule (TOUS)**

A schedule identifying the Time Of Use period associated with each Settlement Interval. These schedules may include on-peak, off-peak, and shoulder periods.

**Transmission Access Service**

The use of a TSP's Transmission Facilities for which the TSP is allowed to charge through tariff rates approved by the PUCT.

**Transmission and/or Distribution Service Provider (TDSP)**

An Entity that is a TSP, a DSP or both, or an Entity that has been selected to own and operate Transmission Facilities and has a PUCT approved code of conduct in accordance with P.U.C. SUBST. R. 25.272, Code of Conduct for Electric Utilities and Their Affiliates.

**Transmission Element**

A physical Transmission Facility that is either an Electrical Bus, line, transformer, generator, Load, breaker, switch, capacitor, reactor, phase shifter, or other similar device that is part of the ERCOT Transmission Grid and defined in the ERCOT Network Operations Model.

**Transmission Facilities**

- (1) Power lines, substations, and associated facilities, operated at 60 kV or above, including radial lines operated at or above 60 kV;
- (2) Substation facilities on the high voltage side of the transformer, in a substation where power is transformed from a voltage higher than 60 kV to a voltage lower than 60 kV or is transformed from a voltage lower than 60 kV to a voltage higher than 60 kV; and
- (3) The direct current interconnections between ERCOT and the Southwest Power Pool or Comision Federal de Electricidad (CFE).

**Transmission Loss Factor (TLF)**

The fraction of ERCOT Load (forecast or actual) that is considered to constitute the ERCOT Transmission Grid losses in a Settlement Interval, based on a linear interpolation (or extrapolation) of the calculated losses in the off-peak and on-peak seasonal ERCOT base cases.

**Transmission Losses**

The difference between energy put into the ERCOT Transmission Grid and energy taken out of the ERCOT Transmission Grid.

**Transmission Service**

The commercial use of Transmission Facilities.

**Transmission Service Provider (TSP)**

An Entity under the jurisdiction of the PUCT that owns or operates Transmission Facilities used for the transmission of electricity and provides Transmission Service in the ERCOT Transmission Grid.

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**Unaccounted for Energy (UFE)**

The difference between total metered Load for each Settlement Interval, adjusted for applicable Distribution Losses and Transmission Losses, and total ERCOT System Net Generation.

**Unit Reactive Limit (URL)**

The maximum quantity of Reactive Power that a Generation Resource is capable of providing at a 0.95 power factor at its maximum real power capability.

**Updated Desired Base Point**

A calculated MW value representing the expected MW output of a Generation Resource ramping to a Base Point.

**Updated Network Model**

A computerized representation of the ERCOT physical network topology, including some Resource Parameters, all of which replicates the forecasted or current network topology of the ERCOT System needed by ERCOT to perform its functions.

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**Verbal Dispatch Instruction (VDI)**

A Dispatch Instruction issued orally.

**Voltage Profile**

The normally desired predetermined distribution of desired nominal voltage set points across the ERCOT System.

**Voltage Support Service (VSS)**

An Ancillary Service that is required to maintain transmission and distribution voltages on the ERCOT Transmission Grid within acceptable limits.

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**Watch**

The third of four possible levels of communication issued by ERCOT in anticipation of a possible Emergency Condition, detailed in Section 6.5.9, Emergency Operations.

**Weather Zone**

A geographic region designated by ERCOT in which climatological characteristics are similar for all areas within such region.

**Wholesale Customer**

A NOIE receiving service at wholesale points of delivery from an LSE other than itself.

**Wind-powered Generation Resource (WGR) (see [Resource](#))****Wind-powered Generation Resource Production Potential (WGRPP)**

The generation in MWh per hour from a WGR that could be generated from all available units of that Resource allocated from the 80% probability of exceedance of the Total ERCOT Wind Power Forecast (TEWPF).

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**2.2 ACRONYMS AND ABBREVIATIONS**

<b>4-CP</b>	4-Coincident Peak
<b>AAA</b>	American Arbitration Association
<b>ACE</b>	Area Control Error
<b>ACH</b>	Automated Clearing House
<b>ACL</b>	Available Credit Limit
<b>ADR</b>	Alternative Dispute Resolution
<b>AEIC</b>	Association of Edison Illuminating Companies
<b>AGC</b>	Automatic Generation Control
<b>AIL</b>	Aggregate Incremental Liability
<b>ALA</b>	Applicable Legal Authority
<b>AML</b>	Adjusted Metered Load

<b>AMS</b>	Advanced Metering System
<b>ANSI ASC X12</b>	American National Standards Institute Accredited Standards Committee X12
<b>AREP</b>	Affiliated Retail Electric Provider
<b>ARR</b>	Adjusted RPS Requirement
<b>AVR</b>	Automatic Voltage Regulator
<b>BLT</b>	Block Load Transfer
<b>BSS</b>	Black Start Service
<b>CAO</b>	Control Area Operator
<b>CARD</b>	CRR Auction Revenue Distribution
<b>CCD+</b>	Cash Concentration and Disbursement Plus
<b>CCF</b>	Capacity Conversion Factor
<b>CCN</b>	Certificate of Convenience and Necessity
<b>CEII</b>	Critical Energy Infrastructure Information
<b>CEO</b>	Chief Executive Officer
<b>CFE</b>	Comision Federal de Electricidad
<b>CIM</b>	Common Information Model
<b>CMLTD</b>	Current Maturities of Long-Term Debt
<b>CMZ</b>	Congestion Management Zone
<b>COP</b>	Current Operating Plan
<b>COPS</b>	Commercial Operations Subcommittee
<b>CPS</b>	Control Performance Standard
<b>CPT</b>	Central Prevailing Time
<b>CR</b>	Competitive Retailer
<b>CRR</b>	Congestion Revenue Right
<b>CSA</b>	Continuous Service Agreement
<b>CSV</b>	Comma Separated Value
<b>CTX</b>	Corporate Trade Exchange
<b>DAM</b>	Day-Ahead Market
<b>DAS</b>	Data Aggregation System
<b>DASPP</b>	Day-Ahead Settlement Point Price
<b>DC</b>	Direct Current
<b>DC Tie</b>	Direct Current Tie
<b>DG</b>	Distributed Generation
<b>DLC</b>	Direct Load Control
<b>DLF</b>	Distribution Loss Factor
<b>DRG</b>	Distributed Renewable Generation
<b>DRUC</b>	Day-Ahead Reliability Unit Commitment
<b>DSC</b>	Debt Service Coverage
<b>DSP</b>	Distribution Service Provider
<b>DSR</b>	Dynamically Scheduled Resource
<b>DUNS</b>	Data Universal Numbering System
<b>DUNS #</b>	DUNS Number

<b>e-Tag</b>	Electronic Tag
<b>EAF</b>	Equivalent Availability Factor
<b>EAL</b>	Estimated Aggregate Liability
<b>EC</b>	Electric Cooperative
<b>ECI</b>	Element Competitiveness Index
<b>EDI</b>	Electronic Data Interchange
<b>EEA</b>	Energy Emergency Alert
<b>EFT</b>	Electronic Funds Transfer
<b>EILS</b>	Emergency Interruptible Load Service
<b>EMMS</b>	Energy and Market Management System
<b>EMS</b>	Energy Management System
<b>EPRI</b>	Electric Power Research Institute
<b>EPS</b>	ERCOT-Polled Settlement
<b>ERCOT</b>	Electric Reliability Council of Texas, Inc.
<b>ERCOT Board</b>	The Board of Directors of the Electric Reliability Council of Texas, Inc.
<b>ESI ID</b>	Electric Service Identifier
<b>F&amp;A</b>	Finance and Audit
<b>FASD</b>	First Available Switch Date
<b>FCE</b>	Future Credit Exposure
<b>Fed</b>	Federal
<b>FERC</b>	Federal Energy Regulatory Commission
<b>FGR</b>	Flowgate Right
<b>FIP</b>	Fuel Index Price
<b>FOP</b>	Fuel Oil Price
<b>FPA</b>	Federal Power Act
<b>FRR</b>	Final RPS Requirement
<b>GADS</b>	Generation Availability Data System
<b>GREDP</b>	Generation Resource Energy Deployment Performance
<b>GSU</b>	Generator Step-Up
<b>GTL</b>	Generic Transmission Limit
<b>HASL</b>	High Ancillary Service Limit
<b>HDL</b>	High Dispatch Limit
<b>HE</b>	Hour Ending
<b>HEL</b>	High Emergency Limit
<b>HRL</b>	High Reasonability Limit
<b>HRUC</b>	Hourly Reliability Unit Commitment
<b>HSL</b>	High Sustained Limit
<b>HWR</b>	High Winter Ratio
<b>Hz</b>	Hertz
<b>ICCP</b>	Inter-Control Center Communications Protocol
<b>IDR</b>	Interval Data Recorder



<b>IEL</b>	Initial Estimated Liability
<b>IMM</b>	Independent Market Monitor
<b>IMRE</b>	Independent Market Information System Registered Entity
<b>IOU</b>	Investor Owned Utility
<b>IPM</b>	Independent Power Marketer
<b>IRR</b>	Intermittent Renewable Resources
<b>kV</b>	Kilovolt
<b>kVA</b>	Kilovolt-Ampere
<b>kVAr</b>	Kilovolt-Ampere reactive
<b>kVArh</b>	Kilovolt-Ampere reactive hour
<b>kW</b>	Kilowatt
<b>kWh</b>	Kilowatt-Hour
<b>LASL</b>	Low Ancillary Service Limit
<b>LDL</b>	Low Dispatch Limit
<b>LEL</b>	Low Emergency Limit
<b>LFC</b>	Load Frequency Control
<b>LMP</b>	Locational Marginal Price
<b>LPC</b>	Low Power Consumption
<b>LRL</b>	Low Reasonability Limit
<b>LRS</b>	Load Ratio Share
<b>LSE</b>	Load Serving Entity
<b>LSL</b>	Low Sustained Limit
<b>MAP</b>	Mitigation Action Plan
<b>MCPC</b>	Market Clearing Price for Capacity
<b>MDAS</b>	Meter Data Acquisition System
<b>MIS</b>	Market Information System
<b>MMBtu</b>	Million British Thermal Units
<b>MOU</b>	Municipally Owned Utility
<b>MPC</b>	Maximum Power Consumption
<b>MRA</b>	Must-Run Alternative
<b>MRE</b>	Meter Reading Entity
<b>MTLF</b>	Mid-Term Load Forecast
<b>MVA</b>	Megavolt Ampere
<b>MVAr</b>	Mega Volt-Amperes reactive
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt Hour
<b>NCI</b>	Notice of Change of Information
<b>NERC</b>	North American Electric Reliability Corporation
<b>NESC</b>	National Electrical Safety Code
<b>NIS</b>	Nodal Implementation Surcharge
<b>NIST</b>	National Institute of Standards and Technology
<b>NOIE</b>	Non-Opt-In Entity

<b>NOMCR</b>	Network Operations Model Change Request
<b>Non-Spin</b>	Non-Spinning Reserve
<b>NSA</b>	Network Security Analysis
<b>NWSIDR</b>	Non-Weather Sensitive IDR
<b>O&amp;M</b>	Operations and Maintenance
<b>OCN</b>	Operating Condition Notice
<b>PCRR</b>	Pre-Assigned Congestion Revenue Right
<b>PNM</b>	Peaker Net Margin
<b>POLR</b>	Provider of Last Resort
<b>POC</b>	Peaking Operating Cost
<b>POI</b>	Point of Interconnection
<b>POS</b>	Power Operating System
<b>PRC</b>	Physical Responsive Capability
<b>PRR</b>	Protocol Revision Request
<b>PRS</b>	Protocol Revision Subcommittee
<b>PSS</b>	Power System Stabilizer
<b>PTB</b>	Price-to-Beat
<b>PTP</b>	Point-to-Point
<b>PUCT</b>	Public Utility Commission of Texas
<b>PURA</b>	Public Utility Regulatory Act, Title II, Texas Utility Code
<b>PURPA</b>	Public Utility Regulatory Policy Act
<b>PV</b>	PhotoVoltaic
<b>PWG</b>	Profiling Working Group
<b>QF</b>	Qualifying Facility
<b>QSE</b>	Qualified Scheduling Entity
<b>QSGR</b>	Quick Start Generation Resource
<b>RAP</b>	Remedial Action Plan
<b>RDF</b>	Reserve Discount Factor
<b>REC</b>	Renewable Energy Credit
<b>Reg-Down</b>	Regulation Down
<b>Reg-Up</b>	Regulation Up
<b>REP</b>	Retail Electric Provider
<b>RID</b>	Resource ID
<b>RIDR</b>	Representative IDR
<b>RMR</b>	Reliability Must-Run
<b>RMS</b>	Retail Market Subcommittee
<b>ROS</b>	Reliability and Operations Subcommittee
<b>RPG</b>	Regional Planning Group
<b>RPP</b>	Renewable Production Potential
<b>RPS</b>	Renewable Portfolio Standard
<b>RRS</b>	Responsive Reserve
<b>RTEP</b>	Real-Time Energy Price

<b>RTM</b>	Real-Time Market
<b>RUC</b>	Reliability Unit Commitment
<b>SASM</b>	Supplemental Ancillary Services Market
<b>SCADA</b>	Supervisory Control and Data Acquisition
<b>SCED</b>	Security-Constrained Economic Dispatch
<b>SCUC</b>	Security-Constrained Unit Commitment
<b>SDRAMP</b>	SCED Down Ramp Rate
<b>SE</b>	State Estimator
<b>SFT</b>	Simultaneous Feasibility Test
<b>SGIA</b>	Standard Generation Interconnection Agreement
<b>SMOG</b>	Settlement Metering Operating Guides
<b>SPS</b>	Special Protection Systems
<b>SRR</b>	Statewide RPS Requirement
<b>STEC</b>	South Texas Electric Cooperative
<b>STLF</b>	Short-Term Load Forecast
<b>STWPF</b>	Short-Term Wind Power Forecast
<b>SURAMP</b>	SCED Up Ramp Rate
<b>SWCAP</b>	System-Wide Offer Cap
<b>T&amp;D</b>	Transmission and Distribution
<b>TAC</b>	Technical Advisory Committee
<b>TDSP</b>	Transmission and/or Distribution Service Provider
<b>TDTWG</b>	Texas Data Transport Working Group
<b>TEWPF</b>	Total ERCOT Wind Power Forecast
<b>TIER</b>	Times/Interest Earning Ratio
<b>TLF</b>	Transmission Loss Factor
<b>TMTP</b>	Texas Market Test Plan
<b>TOU</b>	Time Of Use
<b>TOUS</b>	Time Of Use Schedule
<b>TPE</b>	Total Potential Exposure
<b>TSP</b>	Transmission Service Provider
<b>TTPT</b>	Texas Test Plan Team
<b>TUO</b>	Total Usable Offset
<b>TWC</b>	Texas Water Code
<b>TX SET</b>	Texas Standard Electronic Transaction
<b>UFE</b>	Unaccounted For Energy
<b>URL</b>	Unit Reactive Limit
<b>USA</b>	User Security Administrator
<b>USD</b>	United States Dollar or U.S. Dollar
<b>VAr</b>	Volt-Ampere reactive
<b>VDI</b>	Verbal Dispatch Instruction
<b>VEE</b>	Validation, Editing and Estimating
<b>VSS</b>	Voltage Support Service

<b>WAN</b>	Wide Area Network
<b>WGR</b>	Wind-powered Generation Resource
<b>WGRPP</b>	Wind-powered Generation Resource Production Potential
<b>WMS</b>	Wholesale Market Subcommittee
<b>WSIDR</b>	Weather Sensitive IDR
<b>XML</b>	Extensible Markup Language