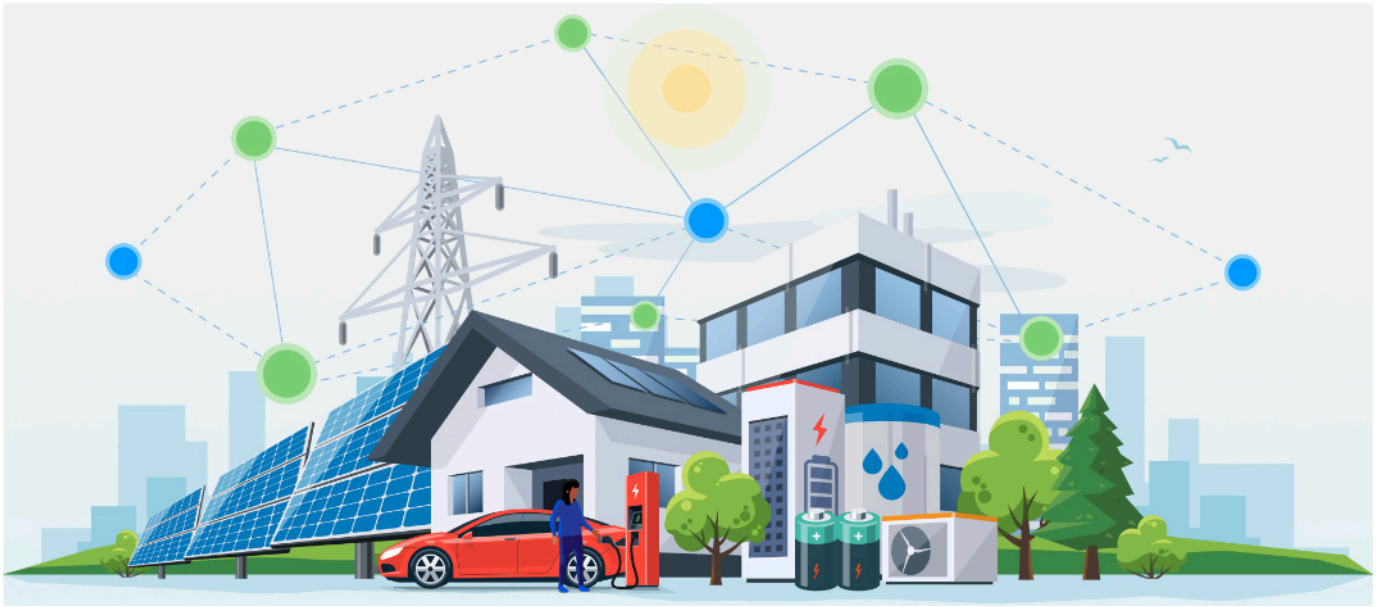
A FLEXIBLE LOAD MANAGEMENT COMMUNITY™

Demand Response Acronyms and Glossary

2021



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Acronym List

Acronym	Term
ADR	Automated Demand Response
AESO	Alberta Electricity System Operator
AGC	Automatic Generation Control
AMI	Advanced Metering Infrastructure
ARC	Aggregation of Retail Customers
BA	Balancing Authority
BAS	Building Automation System
BEMS	Building Energy Management System
BPA	Bonneville Power Administration
BRA	Base Residual Auction
BYOT / BYOD	Bring-Your-Own Thermostat/Device
C&I	Commercial & Industrial
CAISO	California Independent System Operator
CBL	Customer Baseline Load
C-E	Cost-Effectiveness
CIM	Common Information Model
CONE	Cost-of-New-Entry
CPP	Critical Peak Pricing
CR	Contingency Reserve
CSP	Curtailment Services Provider
DA	Day-Ahead
DCFC	DC Fast Charge (up to 150kw through DC)
DDE	Designated Dispatch Entity
DER	Distributed Energy Resource
DERMS	Distributed Energy Resource Management System
DG	Distributed Generation
DLC	Direct Load Control
DR	Demand Response
DRMS	Demand Response Management System
DROMS	Demand Response Optimization and Management System
DRP	Demand Response Provider
DRR	Demand Response Resource
DSM	Demand Side Management
DSO	Distribution System Operator
EDC	Electric Distribution Company
EDR	Emergency Demand Response

EE	Energy Efficiency
E-MaaS	Electric Mobility as a Service
EFORd	Equivalent Forced Outage rate
EISA	Energy Independence and Security Act
eLRS	Load Response System
EM&V	Evaluation, Measurement, and Verification
EMCS	Energy Management Control System
EMS	Energy Management System
EPA	Environmental Protection Agency
ERCOT	Electricity Reliability Council of Texas
ESCO	Energy Service Company
EV	Electric Vehicle
FCA	Forward Capacity Auction
FCM	Forward Capacity Market
FCM SOI	Forward Capacity Market Show Of Interest
FERC	Federal Energy Regulatory Commission
FRP	Flexible Ramping Product
FSL	Firm Service Level
FTR	Financial Transmission Rights
GLD	Guaranteed Load Drop
GW	Gigawatt
HVAC	Heating, Ventilation and Air Conditioning
IA	Incremental Auction
ICAP	Installed Capacity Demand Response
ICCP	Inter-Control Center Communications Protocol
IDSM	Integrated Demand Side Management
IEC	International Electrotechnical Commission
IESO	Independent Electricity System Operator
IOU	Investor Owned Utility
IRC	ISO/RTO Council
ISO	Independent System Operator
ISO-NE	ISO New England
kW	Kilowatt
LAP	Load Aggregation Point
LMP	Locational Marginal Price = Lamda + losses + congestion
LMR	Load-Modifying Resource
LMS	Load Management System
LSE	Load Serving Entity
M&V	Measurement & Valuation

MA	Metering Authority
MAP	Maximum Achievable Potential
MB/MA	Meter Before/Meter After
MB/MA	Meter Before/Meter After
MBL	Maximum Base Load
MCP	Market Clearing Price
MDMA	Meter Data Management Agent (?)
MDU	Multi-dwelling Unit
MFRR	Marginal Forgone Retail Rate
MISO	Midcontinent Independent System Operator
MP	Market Participant
MW	Megawatt
MWh	Megawatt hours
NAESB	North American Energy Standards Board
NARUC	National Association of Regulatory Utility Commissioners
NERC	North American Electric Reliability Corporation
NOC	Network Operating Center
NWA	Non-wires Alternative
NWS	Non-wires System or Solution
NYISO	New York Independent System Operator
OASIS	Open Access Same-Time Information System (as defined by PJM)
OASIS	Organization for the Advancement of Structured Information Standards
OATT	Open-Access Transmission Tariff
OPA	Ontario Power Authority
OR	Operating Reserve
PAC	Program Administrator Cost
PCT	Programmable Communicating Thermostat
PDR	Proxy Demand Resource
PJM	Pennsylvania New Jersey Maryland regional ISO
PLMA	Peak Load Management Alliance (www.peakload.org)
PRD	Price-Responsive Demand
PSC	Public Service Commission
PTR	Peak Time Rebate
PUC	Public Utilities Commission
RAP	Realistic Achievable Potential
RE	Renewable Energy
RERRA	Relevant Electric Retail Regulatory Authority
RIM	Ratepayer Impact Measure
ROI	Return on Investment

RPM	Reliability Pricing Model
RPS	Renewable Portfolio Standard
RTDR	Real-Time Demand Response
RTEG	Real-Time Emergency Generation
RTM	Real-Time Market
RTO	Regional Transmission Organization
RTP	Real Time Pricing
RTU	Remote Terminal Unit
RUC	Reliability Unit Commitment
SCADA	Supervisory Control and Data Acquisition
SCED	Security-Constrained Economic Dispatch
SCED	Security-Constrained Economic Dispatch
SCR	Special Case Resources
SCUC	Security-Constrained Unit Commitment
SMB	Small- to Medium-Business
SO	System Operator
SP	Service Provider
SPP	Southwest Power Pool
STLF	Short-Term Load Forecast
T&D	Transmission and Distribution
TDSP	Transmission/Distribution Service Provider
TO	Transmission Owner
TSO	Transmission System Operator
TOU	Time-of-Use
TRC	Total Resource Cost
TVA	Tennessee Valley Authority
UCAP	Unforced Capacity
UDC	Utility Distribution Company
UFC	Ultra Fast Charge (over 150kw through DC)
UFR	Under-Frequency Relay
VEE	Validating-Estimating-Editing
VPP	Variable Peak Pricing
VPP	Virtual Power Plant
VRR	Variable Resource Requirement
WAPA	Western Area Power Administration
WSA	Weather-Sensitive Adjustment

Glossary

Adequacy represents the ability of the electrical grid to meet the aggregate power and energy requirement of all consumers, at all times.

Aggregator is a company that negotiates the purchase of utility services for a customer group.

Ancillary Service Programs are DR programs where customers bid load curtailments into various ancillary services markets and agree to be on standby if their bid is accepted. They receive a payment if they are called by the ISO/RTO or utility.

Auto-DR is a form of demand response that allows customers to participate in DR programs when they enable their automated systems (either energy management systems or process automation systems) to send and receive automated signals from a utility, ISO/RTO, or curtailment service provider.

Balancing Authority is the company or entity responsible for balancing supply and demand according to federal standards and regulations for a particular geographic area of the grid.

BPA (Bonneville Power Administration) is a federal nonprofit agency based in the Pacific Northwest. Although BPA is part of the U.S. Department of Energy, it is self-funding and covers its costs by selling its products and services. BPA markets wholesale electrical power from 31 federal hydro projects in the Columbia River Basin, one nonfederal nuclear plant, and several other small non-federal power plants. The dams are operated by the U.S. Army Corps of Engineers and the Bureau of Reclamation. About one-third of the electric power used in the Northwest comes from BPA.

CAISO (California Independent System Operator) is a nonprofit public benefit corporation that provides open and non-discriminatory access to the bulk of the state's wholesale transmission grid, supported by a competitive energy market and comprehensive infrastructure planning efforts. The ISO manages the flow of electricity across the high-voltage, long-distance power lines that make up 80 percent of California's power grid, and a small part of Nevada's. As the only independent grid operator in the western U.S., the ISO grants equal access to 26,000 circuit miles of power lines and reduces barriers to diverse resources competing to bring power to customers. It also facilitates a competitive wholesale power market designed to diversify resources and lower prices.

Capacity Market Programs are arrangements in which customers offer load reductions as system capacity to replace conventional generation or delivery resources. Participating customers typically receive notice of events requiring a load reduction and face penalties when failing to curtail load. Incentives usually consist of up-front reservation payments.

Capacity Service is a type of demand response service in which demand resources are obligated over a defined period of time to be an available resource for the system operator.

Cost-Effectiveness (C-E) testing provides the economic rationale for moving forward with specific DR programs. An acceptable DR program is one where the benefits derived from the DR effort exceed the costs required to implement. The C-E test methodologies most commonly used for DR programs include: total resource cost (TRC), utility or program administrator cost (PAC), and ratepayer impact measure (RIM) tests.

Critical Peak Pricing (CPP) is a rate and/or price structure designed to encourage reduced consumption during periods of high wholesale market prices or system contingencies by imposing a pre-specified high rate or price for a limited number of days or hours.

Critical Peak Pricing with Load Control is demand-side management that combines direct load control with a pre-specified high price for use during designated critical peak periods, triggered by system contingencies or high wholesale market prices.

Curtailment is load reduction for set periods of time.

Curtailment Service Providers (CSPs) are businesses that sponsor demand response programs and that recruit and contract with end users, selling the aggregated demand response to utilities, RTOs, and ISOs. A Curtailment Service Provider is sometimes called an Aggregator and is not necessarily a load-serving entity.

Department of Energy (DOE) is the U.S. federal agency responsible for advancing national economic and energy security; promoting scientific and technological innovation in energy; and overseeing cleanup of the national nuclear weapons complex.

Demand Bidding/Buyback Programs are DR programs where customers bid load curtailments in the day-ahead or day-of markets which are in competition with supply-side resources.

Demand-Side Management is utility technology and program deployments designed to help customers change their electricity usage, including the timing of use and the customer's amount of use. These are activities that influence consumption behaviors and don't include changes based on government-mandated energy efficiency standards. DSM contains two components: energy efficiency and demand response.

Demand-Side Resource or Demand Resource is an electricity consumer that can decrease its power consumption in response to a price signal or direction from a system operator.

Demand Response means "the ability of customers to respond to either a reliability trigger or a price trigger from their utility system operator, load-serving entity, regional transmission organization/independent system operator (RTO/ISO), or other demand response provider by lowering their power consumption." In other words, DR is a temporary change in energy consumption, generally with a decrease in service level (e.g. less comfortable climate, sub-optimal lighting).

Demand Response Events are the time periods, deadlines and transitions during which Demand Resources perform. The System Operator specifies the duration and applicability of a Demand Response Event. All deadlines, time periods and transitions may not be not applicable to all Demand Response products or services.

Demand Response Potential is the estimation of how many MW of curtailment are feasible. There are four types to consider: technical potential, economic potential, maximum achievable potential (MAP), and realistic achievable potential (RAP).

Demand Response Program is 1) a company's service/program/tariff related to demand response, or 2) the change in customer electric usage from normal consumption patterns in response to changes in the price of electricity over time, or in response to incentive payments designed to induce lower electricity use at times of high wholesale market prices, or a change in electric usage by end-use customers at the direction of a system operator, or an automated preprogrammed control system when system reliability is jeopardized. Includes both time-based rate programs and incentive-based programs.

Designated Dispatch Entity receives and processes demand resource dispatch instructions or market information and provides response feedback

Direct Load Control (DLC) is a demand response activity by which the program sponsor remotely shuts down or cycles a customer's electrical equipment (e.g. air conditioner, water heater) on short notice. Direct load control programs are primarily offered to residential or small commercial customers. DLC is also known as direct control load management.

Dispatchable DR is electricity consumption that can be reduced based on communication from a Control Center. It includes direct load control, interruptible demand, CPP with control, load as a capacity resource, spinning and non-spinning reserves, regulation, and energy-voluntary and energy=price resources.

Distribution Operator owns and operates the distribution grid, is generally a regulated entity, and may be a municipality or cooperative utility.

Electric Grid is a system of synchronized power providers and consumers connected by transmission and distribution lines and operated by one or more control centers. The continental U.S. electric power grid consists of three systems: the Eastern Interconnect, Western Interconnect, and Texas Interconnect.

Economic Demand Response is employed to allow electricity customers to curtail their consumption when the production of, or the convenience of consuming, that electricity is worth less to them than paying for the electricity (price trigger). This is "active" energy with call generally of 50-200 hours/year.

Electric Utility is a corporation, person, agency, authority, or other legal entity or instrumentality producing, transmitting, or distributing electricity for use primarily by the public. This includes: investor-owned electric utilities, municipal and state utilities, federal electric utilities, and rural electric cooperatives. A few entities that are tariff based and affiliated with companies owning distribution facilities are also included in this definition.

ERCOT (Electric Reliability Council of Texas) manages the flow of electric power to 24 million Texas customers, which represents about 90 percent of the state's electric load. As the independent system operator for the region, ERCOT schedules power on an electric grid that connects more than 43,000 miles of transmission lines and 550 generation units. ERCOT also performs financial settlement for the competitive wholesale bulk-power market and administers retail switching for 7 million premises in competitive choice areas. ERCOT is a membership-based 501(c)(4) nonprofit corporation, governed by a board of directors and subject to oversight by the Public Utility Commission of Texas and the Texas Legislature. ERCOT's members include consumers, cooperatives, generators, power marketers, retail electric providers, investor-owned electric utilities (transmission and distribution providers), and municipal-owned electric utilities.

Emergency or Backup Generation are electric power systems located at a customer site and are typically used for the purposes of supporting DR programs. When the system's reliability is threatened, the system operator may automatically dispatch the generator at the customer's site.

Emergency Event is an abnormal system condition (for example, system constraints and local capacity constraints) that requires automatic or immediate manual action to prevent or limit a failure of transmission facilities or generation supply that could adversely affect the reliability of the Bulk Electric System.

Emergency Demand Response is employed to avoid involuntary service interruptions during times of supply scarcity (reliability trigger). This is generally "stand-by" energy, with <50 hours per year call.

Emergency Demand Response Program provides incentive payments to customers for load reductions achieved during an Emergency Demand Response Event.

Energy Efficiency means "using less energy to provide the same or improved level of service to the energy consumer in an economically efficient way." In other words, a permanent change in energy consumption, generally with no decrease in service level.

Energy Retailer is a competitive provider (in areas with competition) or a local utility (in areas without competition), that procures and delivers energy to customers.

End-Use Customer is a firm or individual that purchases electricity for its own consumption and not for resale; an ultimate consumer of electricity.

Energy Service Providers: See Power Marketers.

Equivalent Forced Outage Rate (EFOR) is the rate (hours out of all hours in the year) that a generating unit will not be available because of an outage. **EFORd** is a modified calculation based on selected hours in the year where d = Demand.

Federal Electric Utility is either owned or financed by the federal government, such as TVA.

FERC (Federal Energy Regulatory Commission) is a federal agency that has oversight of electricity sales, wholesale electricity rates, oil pipeline rates, natural gas pricing and gas pipeline certification, and hydroelectric licensing. FERC is responsible for publishing standards on Smart Grid interoperability to ensure that devices and technologies deployed across the grid work together. It is an independent regulatory agency within the DOE, and is the successor to the Federal Power Commission.

Fully-Automated Demand Response does not involve human intervention but is initiated at a home, building, or facility through receipt of an external communications signal. The receipt of the external signal initiates pre-programmed demand response strategies.

Hourly Pricing is a plan in which energy prices vary by the hour, usually based in part on a wholesale market price for energy.

Installed Capacity (ICAP) is the measure of an energy market's combined electric generating and demand response reduction capacity, usually measured in megawatts (MW) determined by either the full nameplate output of a generating asset or the demand reduction capability of a demand response resource. At the individual unit level, ICAP is the capacity physically available from the generating unit. Generally the "nameplate" rating of the generator.

Integrated Demand Side Management (ISDM) or integrated EE and DR refers to a program design type that delivers the benefits of EE to customers and DR to the grid using the same technology intervention and/or a linked incentive while leveraging the same program delivery resources and infrastructure.

Interruptible Load is the customer load that can be interrupted at the time of annual peak load by the action of the consumer, at the direct request of the system operator. This type of control usually involves large commercial and industrial customers and is governed by a contact. There may be penalties for failure to curtail electricity consumption upon receipt of a request. Interruptible load does not include direct load control. It is also known as "curtailable" load and is classified by NERC as a form of dispatchable DR.

ISO (Independent System Operator) an independent, federally regulated (U.S. or Canadian) entity established to coordinate regional transmission in a non-discriminatory manner and ensure the safety and reliability of the electric system. ISO organizations monitor system loads and voltage profiles, operate transmission facilities and direct generation, define operating limits, develop contingency plans, and implement emergency procedures.

ISO –NE (ISO New England) is the independent, not-for-profit company authorized by FERC to perform three critical, complex, interconnected roles for the region spanning Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and most of Maine. These are 1) grid operation: coordinate and direct the flow of electricity over the region's high-voltage transmission system; 2) market administration: design, run, and oversee the billion-dollar markets where wholesale electricity is bought and sold; 3) power system planning: the studies, analyses, and planning to make sure New England's electricity needs will be met over the next 10 years.

Load Curtailment occurs when customers are paid a specified amount per kW curtailed in response to a call that is made on a day-of basis. This requires the specification of a baseline or normal usage.

Load Serving Entity serves end-users electric energy.

Load Shedding is the reduction of electricity use or “load” by participants to alleviate pressure on the grid. It usually happens in response to a DR event.

Load Shifting is the shift of electricity use from on-peak to off-peak times.

Manual Demand Response involves a labor-intensive approach such as having the building operator manually turn off or change comfort set points at each equipment switch or controller upon receipt of request from the system operator.

Marginal Cost is the change in power system costs that accompanies a small (e.g., 1 MW) increase in demand (or "load").

Metering Authority provides the data necessary to determine the performance of a resource.

MISO (Midcontinent Independent System Operator, Inc.) formerly named Midwest Independent Transmission System Operator, Inc. is an Independent System Operator and the regional Organization that provides open-access transmission service and monitors the high voltage transmission system throughout the Midwest United States and Manitoba, Canada, and more recently integrated a southern region which includes much of Arkansas, Mississippi, and Louisiana. MISO operates one of the world’s largest real-time energy markets.

NERC (North American Electric Reliability Corporation) is an international, independent self-regulatory, not-for-profit organization whose mission is to ensure the reliability of the bulk power system in North America. It monitors the bulk power system; develops and enforces reliability standards; assesses future adequacy of electricity; audits owners, operators, and users for preparedness; and educates and trains industry personnel.

NAESB (North American Energy Standards Board) serves as an industry forum for the development and promotion of standards which will lead to a seamless marketplace for wholesale and retail natural gas and electricity, as recognized by its customers, business community, participants, and regulatory entities. NAESB succeeded the Gas Industry Standards Board (GISB) in 2001 with a widened scope to include both retail and wholesale sectors of the gas and electric industries.

NAESB standards are voluntary; however, FERC has traditionally mandated industry adoption of the wholesale market standards.

NERC Regional Entity is a member entity of the North American Electric Reliability Corporation. The regional entities were formerly known as Reliability Councils and are organized within the major interconnections in the North American bulk power system.

Regional entities work with the North American Electric Reliability Corporation to improve the reliability of the bulk power system. They include:

- Florida Reliability Coordinating Council (FRCC)
- Midwest Reliability Organization (MRO)
- Northeast Power Coordinating Council (NPCC)
- ReliabilityFirst Corporation (RFC)
- SERC Reliability Corporation (SERC)
- Southwest Power Pool RE (SPP)
- Texas Reliability Entity (TRE)
- Western Electricity Coordinating Council (WECC).

Non-Spinning Reserves is a demand-side resource that may not be immediately available, but may provide solutions for an energy supply and demand imbalance after a delay of ten minutes or more (FERC).

Non-wires Alternative is an electricity grid investment or project that uses non-traditional transmission and distribution (T&D) solutions, such as distributed generation (DG), energy storage, energy efficiency (EE), demand response (DR), and grid software and controls, to defer or replace the need for specific equipment upgrades, such as T&D lines or transformers, by reducing load at a substation or circuit level.

Non-wires Alternative (this is an alternate definition used by some utilities) are alternative solutions such as distributed generation, energy storage, energy efficiency, demand response, or operating practices and controls that solve, in part or wholly, a present or future performance constraint thereby displacing or deferring a traditional upgrade such as new power lines or equipment.

Non-wires System (see Non-wires Alternative).

NYISO (New York Independent System Operator) is at the heart of New York State's electric system, operating the high-voltage transmission network, administering and monitoring the wholesale electricity markets and planning for the state's energy future. The NYISO is responsible for the reliable operation of New York's nearly 11,000 miles of high-voltage transmission and the dispatch of over 500 electric power generators. In addition, the NYISO administers bulk power markets that trade an average of $7.5 billion in electricity and related products annually.

Opt-In is a Time-Based Rate/Tariff or demand response program in which a customer will be enrolled only if the customer chooses to enroll.

Opt-Out is a Time-Based Rate/Tariff or demand response program in which a customer will be enrolled unless the customer chooses not to enroll; a program that is the default for a class of customers but that allows individual customers to choose an alternative rate/tariff or program.

Outage is the time period when some part of the T&D system is not functioning for planned reasons, such as repairs, or unplanned reasons, such as weather or component failure.

Peak Demand is the maximum electricity load required for a period of time which can be a specific point in time or averaged over a period of time. It is also known as Peak Load.

Peaker Plant is a generator reserved for use during highest peak load periods. Also known as a Peak Load Plant.

Peak Time Rebate is a DR program approach where customers receive a cash rebate for each kWh of load that they reduce below their baseline usage during the event hours instead of paying higher rates during the critical event hours.

Peak Shed Programs are generally implemented through automating technologies to reduce the load from certain end-use devices, and to reduce demand charges that will be paid by the customer.

Penalties are fines or reductions in payments that result when a demand response program participant fails to meet targeted load reductions or chooses to not reduce consumption during a DR event (FERC).

PJM Interconnection is an RTO that coordinates the movement of wholesale electricity in all or parts of 13 states, including Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. Acting as a neutral, independent party, PJM operates a competitive wholesale electricity market and manages the high-voltage electricity grid to ensure reliability for more than 61 million people. PJM's long-term regional planning process provides a broad, interstate perspective that identifies the most effective and cost-efficient improvements to the grid to ensure reliability and economic benefits on a system-wide basis. An independent Board oversees PJM's activities.

Potential Peak Reduction is the sum of the load reduction capabilities (measured in megawatts) of the demand response program participants, within a specified customer sector, whether reductions are made through the direct control of the utility system operator or by the participant in response to price signals or a utility request to curtail load. It reflects the demand reduction capability, as opposed to the actual peak reduction, achieved by participants. (FERC)

Power Marketers are business entities, including energy service providers, that are engaged in buying and selling electricity but which do not necessarily own generation or transmission facilities. Power marketers and energy service providers take ownership (title) of the electricity, unlike power brokers, who do not take title to electricity. Power marketers are involved in interstate commerce and must file with FERC for authority to make wholesale sales. Energy service providers will not file with FERC but may file with the states if they undertake only retail transactions. (FERC)

Program Type is the category of demand response arrangements between retail or wholesale entities and their retail or wholesale customers. Examples of these arrangements include: critical peak pricing, critical peak pricing with load control, direct load control, interruptible load, load as a capacity resource, regulation, non-spinning reserves, spinning reserves, demand bidding and buyback, time of use pricing, real-time pricing, system peak response transmission tariff, peak time rebate, and emergency demand response, all of which are defined in this glossary. (FERC)

Public Utility District is an organization of municipal corporations whose purpose is to provide electric service to either incorporated cities and towns or unincorporated rural areas. (FERC)

Publicly Owned Electric Utility are utilities operated by municipalities, political subdivisions, and state and federal power agencies, such as the Bonneville Power Administration and the Tennessee Valley Authority. (FERC)

Real Time Pricing is a rate and price structure in which the retail price for electricity typically fluctuates hourly or more often, to reflect changes in the wholesale price of electricity on either a day ahead or hour-ahead basis. (FERC)

Reliability, simply put, is the grid operator's ability to effectively balance supply and demand. Additionally, it is a measure of the electric system's ability to withstand sudden disturbances such as electric short circuits or unanticipated loss of system components. (FERC)

Reliability-based DR programs are generally "call-type," where participants commit to load reductions. The utility or grid operator pays customers to shed load at peak times and participants are subject to penalties if they fail to meet their commitment. The payments made to participants are subsidized by utilities or grid operators, and ultimately funded by other customers. A baseline for each customer is required to determine the amount of energy shed during the DR incident. Weather and production often convolute these measurements and make financial settlement difficult.

Reliability Event is an event which threatens the safe operation of the grid and can be occasioned by such occurrences as the loss of a line or generator, or an imbalance between supply and demand. (FERC)

Reserve is a service in which demand resources are obligated to be available to provide demand reduction upon deployment by the system operator, based on reserve capacity requirements that are established to meet reliability standards. (FERC)

Response Time is the maximum time allowed in a demand response program for a program participant to react to the program sponsor's notification, in hours. (FERC)

Retail Power is electrical energy supplied for residential, commercial, industrial, and other end-use purposes, such as agriculture. Electricity supplied at retail cannot be offered for resale. (FERC)

RTO (Regional Transmission Organization) is a FERC-regulated entity similar to an ISO and has similar functions that include monitoring system loads and voltage profiles, operating transmission, overseeing generation, and creating and deploying contingency plans and emergency procedures. However, RTOs cover large geographic areas.

Scheduling Entity submits bids/offers and receives Schedules and Awards.

Security describes the ability of the electrical grid to withstand disturbances.

Semi-Automated Demand Response describes a strategy in which the system operator calls a demand response event by sending a signal to the participant and a person, such as the Demand Response Coordinator or Facilities Manager. That person then initiates a control strategy that has been preprogrammed into the Building Automation System (BAS).

Service Provider coordinates resources to deliver electricity products and services to a market or distribution operator.

Smart Grid is a bi-directional electric and communication network that improves the reliability, security, and efficiency of the electric system for small-to large-scale generation, transmission, distribution, and storage.

Spinning/Responsive Reserves is a demand-side resource that is synchronized and ready to provide solutions for energy supply and demand imbalance within the first few minutes of an Emergency Event.

System Operator provides open transmission access, administers a wholesale electricity market and demand response processes, and maintains bulk power system reliability.

Supplier owns and operates generation facilities, provides energy, and may also provide Ancillary Services.

Tariff is a published volume of all effective rate schedules, and terms and conditions, under which a product or service will be supplied to customers.

Time-Based Rate/Tariff is a retail rate or Tariff in which customers are charged different prices for using electricity at different times during the day. Examples are time-of-use rates (TOU), real-time pricing, hourly pricing, and critical peak pricing. Time-based rates do not include seasonal rates, inverted block rates, or declining block rates.

Time-of-Use is a rate where usage unit prices vary by time period. These time periods are typically longer than one hour within a 24-hour day. Time-of-use rates reflect the average cost of generating and delivering power during those time periods.

Transmission / Distribution Service Provider operates a local electricity transmission / distribution system.

TVA (Tennessee Valley Authority) is the nation's largest public power provider and a corporation of the U.S. government. TVA was established by Congress in 1933 to address a wide range of environmental, economic, and technological issues, including the delivery of low-cost electricity and the management of natural resources. TVA's power service territory includes most of Tennessee and parts of Alabama, Georgia, Kentucky, Mississippi, North Carolina, and Virginia, covering 80,000 square miles and serving more than 9 million people. TVA sells electricity to 155 power distributor customers and 56 directly served industries and federal facilities.

Unforced Capacity (UCAP) is the amount of ICAP available at any given time, effectively ICAP (1 – EFOR). The rate (hours out of all hours in the year) that a generating unit will not be available because of an outage.

Virtual Power Plant is a cluster of distributed generation installations, such as wind-turbines, small hydro, etc., which are collectively run by a central control entity.

Wholesale pertains to the sale of electric energy for resale.

Wholesale Customer is an entity that purchases electric energy for resale.

Additional Resources

1. Federal Energy Regulatory Commission Orders: www.ferc.gov/legal/maj-ord-reg.asp
    - Order 676: Business Practices and Communications Protocols
    - Order 719: DR Impacts
    - Order 841: Electric Storage Participation in Regional Markets
    - Order 888: ISO Features
    - Order 2000: RTO Features
2. The National Action Plan for Energy Efficiency, Coordination of Energy Efficiency and Demand Response (FERC, 2010): www.ferc.gov/legal/staff-reports/06-17-10-demand-response.pdf
3. PLMA's Load Management Resource Center: http://plma.mclms.net/en
    - This online resource provides a searchable repository of PLMA's content from 2020 forward.