

Federal Energy Regulatory Commission <i>FERC-733 Demand Response/Time-Based Rate</i> <i>Programs and Advanced Metering</i>	OMB No. 1902-XXXX Expires: MM/DD/YYYY
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GLOSSARY

Note: The terms and definitions provided in this glossary are for the limited purpose of this survey.

Advanced Metering Infrastructure (AMI): Meters that measure and record usage data at a minimum, in hourly intervals, and provide usage data to both consumers and energy companies at least once daily. Data are used for billing and other purposes. Advanced meters include basic hourly interval meters and extend to real-time meters with built-in two way communication capable of recording and transmitting instantaneous data. Enter the state and report the total number of AMI meters by sector.

Automated Meter Reading (AMR): Meters that collect data for billing purposes only and transmit this data one way, usually from the customer to the distribution utility. Aggregated monthly kWh data captured on these meters may be retrieved by a variety of methods including drive-by vans with short-distance remote reading capabilities and communication over a fixed network such as a cellular network. Enter the state and report the total number of AMR meters by sector.

Aggregator: See “**Curtailment Service Provider**”.

Ancillary Services: Services that ensure reliability and support the transmission of electricity to customer loads. Such services may include: energy imbalance, operating reserves, contingency reserves, spinning (also known as synchronized, ten-minute spinning, responsive) reserves, supplemental (also known as non-spinning, non-synchronized, ten-minute non-synchronous, thirty-minute operating) reserves, reactive supply and voltage control, and regulation and frequency response (also known as regulation reserves, regulation service, up-regulation and down-regulation).

Capacity (program type): Displacement or augmentation of generation for planning and/or operating resource adequacy; penalties are assessed for nonperformance.

Capacity Market Programs: 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: 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.

Commercial and Industrial: Belonging to either of the energy-consuming sectors that consist of (a) a broad range of facility types including office buildings, retail establishments, hospitals, universities, the facilities of federal, state, and local governments and non-profit organizations, institutional living quarters, master-metered apartment buildings, and homes on military bases; and (b) manufacturing facilities and equipment used for producing, processing, or assembling

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goods and encompassing the following types of activities: manufacturing; processing; agriculture, forestry and fisheries; mining; and construction. Also, a business labeled as “industrial” by the North American Industry Classification System or by the energy provider on the basis of energy demand or annual usage exceeding some specified limit set by the energy provider.

Coincident Reduction Capability: The amount of demand response curtailments that would be realized if all demand response products were called simultaneously and all responded by curtailing load at prearranged levels or at their enrolled quantity.

Critical Peak Pricing with Load Control: 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.

Critical Peak Pricing: 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.

Curtailment Service Provider: Businesses that sponsor demand response programs that recruit and contract with end users, and sell 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.

Customer Sector: A group of customers: **residential**, **commercial and industrial**, and **other** (e.g., **transportation**). Agricultural customers should be allocated to commercial customers.

Demand Bidding: A program which allows a demand resource in retail and wholesale markets to offer load reductions at a price, or to identify how much load it is willing to curtail at a specific price.

Demand Resource or Demand-Side Resource: Load or an aggregation of Loads capable of measurably and verifiably providing Demand Response.

Demand Response: Changes in electric use by demand-side resources from their normal consumption patterns in response to changes in the price of electricity, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized.

Demand Response Program: A company's service/program/tariff related to demand response, or 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

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preprogrammed control system when system reliability is jeopardized. Includes both time-based rate programs and incentive-based programs.

Demand Response Program/Tariff and Program/Tariff Types: A company or utility's service/product/compilation of all effective rate schedules, general terms and conditions and standard forms related to demand response and/or AMI services and classification thereof.

Direct Load Control: 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. Also known as direct control load management.

Economic Demand Response Event: An event in which the demand response program sponsor directs response to an economic market opportunity, rather than for reliability or because of an emergency in the energy delivery system.

Electric Utility: 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.

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

Emergency Demand Response Event: The period of time during which participants in a Demand Response Program must reduce load. The Emergency Demand Response Event is announced by the program sponsor in response to an Emergency Event declared by it or by another entity such as a utility or RTO/ISO. Demand Response Program sponsors, utilities and RTO/ISOs typically declare these emergency events.

Emergency Demand Response Program: A demand response program that provides incentive payments to customers for load reductions achieved during an Emergency Demand Response Event.

End-Use Customer: 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**.

Entity: The organization that is (1) responding to the survey, or (2) offering demand response programs, time-based rates and/or tariffs, or (3) using AMI, AMR, or standard electric meters.

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Entity ID Number: The respondent should enter the ID number which appears on the survey transmittal e-mail, or the ID number used for the entity's response to Form EIA-861.

Event Limits: The maximum number of times a demand response resource may be called during a specified period of time (typically one year or one season).

Federal (Electric) Utility: A utility that is either owned or financed by the Federal Government.

Generation and Transmission Company (G&T Company): A company that provides both energy production and facilities for transmitting energy to wholesale customers. G&T companies are usually formed by rural electric cooperatives and electric utilities to pool the costs and risks of constructing and managing the generation facilities and high-voltage transmission infrastructure which are needed to deliver energy to their customers.

Green Button: A common and voluntary technical standard to provide electricity customers with secure energy-usage data in a standardized, easy-to-understand format that is accessible from personal computers and mobile devices.

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

Industrial Sector: The energy-consuming sector that consists of manufacturing facilities and equipment used for producing, processing, or assembling goods. The Industrial Sector encompasses the following types of activities: manufacturing; processing; agriculture, forestry and fisheries; mining; and construction. The term Industrial Sector may also designate a business labeled as "industrial" by the North American Industry Classification System or by the energy provider on the basis of energy demand or annual usage exceeding some specified limit set by the energy provider. See **Commercial and Industrial** sector.

Interruptible Load: Electric consumption subject to curtailment or interruption under tariffs or contracts that provide a rate discount or bill credit for agreeing to reduce load during system contingencies. In some instances, the demand reduction may be effected by action of the System Operator (remote tripping) after notice to the customer in accordance with contractual provisions.

Interval: The period of time for which advanced meters measure energy usage (and possibly other data). Increments are typically in minutes, and may consist of five-minute intervals, 15-minute intervals, or hourly intervals.

Interval Usage: The amount of energy, measured in kWh, consumed during a period of time, typically five minutes, 15 minutes, or an hour.

Investor-Owned (Electric) Utility: A privately-owned electric utility whose stock is publicly traded. It is rate regulated and authorized to achieve an allowed rate of return.

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Load as a Capacity Resource: Demand-side resources that commit to make pre-specified load reductions when system contingencies arise.

Load Serving Entity: Entities that provide electric service to end-users, wholesale customers, or both.

Mandatory Participation: Participation in the demand response program is required based on the customer's size or rate class. Customers are not offered the option of refusing to respond to requests for load reduction.

Maximum Demand: The highest level of demand in MWs as tracked by an entity, such as an hourly demand, 30-minute demand, 15-minute demand or 5-minute demand.

Maximum Demand of Participants: The highest level of total demand, in MWs, for customers participating in a demand response program, excluding any demand reduction that results from the program. The maximum non-coincident demand of the participating customers that would occur without the program.

Maximum Duration of Event: A specified maximum length of time a particular demand response event will continue, usually defined by 30-minute or hourly increments.

Megawatt (MW): One thousand kilowatts or one million watts of electric power.

Megawatt-hour (MWh): One thousand kilowatt-hours or one million watt-hours of electric energy.

Municipality: A village, town, city, county, or other political subdivision of a state.

NERC Regional Entity: One of the eight groups listed below (formerly known as Reliability Councils) organized within the major interconnections in the North American bulk power system. They work with the North American Electric Reliability Corporation to improve the reliability of the bulk power system. 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 Regional Entity (TRE), Western Electricity Coordinating Council (WECC). The states of Alaska and Hawaii are not within a NERC Regional Entity, but for purposes of this survey appear as a choice in NERC Regional Entity fields.

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

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

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Opt-Out: 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.

Other (as shown in Q3, Q5 & Q6): Customers who are in a customer class that is not listed (e.g., transportation).

Other Demand Response Program/Tariff: A company or utility's service/product/compilation of all effective rate schedules, general terms and conditions and standard forms related to demand response/AMI services for customers that are not **Residential, Commercial and Industrial**, or **Other**.

Peak Time Rebate: Peak time rebates allow customers to earn a rebate by reducing energy use from a baseline during a specified number of hours on critical peak days. Like Critical Peak Pricing, the number of critical peak days is usually capped for a calendar year and is linked to conditions such as system reliability concerns or very high supply prices.

Penalties: Fines or reductions in payments that result when a demand response program participant fails to meet targeted reductions in power demand or chooses to not reduce consumption during a demand response event.

Potential Peak Reduction: The sum of the load reduction capabilities (measured in megawatts) of the demand response program participants, within the 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.

Power Marketers: Business entities, including energy service providers, which are engaged in buying and selling electricity, but which do not necessarily own generating 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 the 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.

Program Type: 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 buy-back, 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.

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Program End Date: A date specified when the demand response and/or time-based rate program is no longer in effect.

Program Start Date: A date specified when a demand response and/or time-based rate program began.

Public Utility District: Municipal corporations organized to provide electric service to both incorporated cities and towns and unincorporated rural areas.

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

Realized Demand Reduction: The largest hourly demand reduction (in megawatts) that occurred when the demand response program was called, or that was attributable to the demand response program, during the calendar year.

Real Time Pricing: 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.

Regulation Service: A type of Demand Response service in which a Demand Resource increases and decreases load in response to real-time signals from the system operator. Demand Resources providing Regulation Service are subject to dispatch continuously during a commitment period. This service is usually responsive to Automatic Generation Control (AGC) to provide normal regulating margin. Also known as regulation or regulating reserves, up-regulation and down-regulation.

Reliability: A measure of the ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system components.

Reliability Event: The deployment of Demand Response for resource adequacy or operational reliability.

Reserve: 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.

Residential: The energy-consuming sector consisting of private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other electric-powered devices. The residential sector excludes institutional living quarters. This sector excludes deliveries or sales to master-metered apartment buildings or homes on military bases (these buildings or homes are included in the commercial sector).

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Retail: Sales covering electrical energy supplied for residential, commercial, industrial, and other (e.g., agricultural) end-use purposes. Electricity supplied at retail cannot be offered for resale.

Retail Customer: A purchaser of energy that consumes electricity for residential, commercial, or industrial use, or a variety of other end-uses.

Retail Electric Customer: See Retail Customer.

Rural Electric Cooperative: A member-owned electric utility company serving retail electricity customers. Electric cooperatives may be engaged in the generation, wholesale purchasing, transmission, and/or distribution of electric power to serve the demands of their members on a not-for-profit basis.

Smart Phone: A full-featured mobile phone that provides users with personal computer like functionality by incorporating Personal Information Manager applications, enhanced Internet connectivity and email operating over an Operating System supported by accelerated processing and larger storage capacity compared with present cellular phones.

Standard (Electric) Meters: Electromechanical or solid state meters measuring aggregated kWh where data are manually retrieved over monthly billing cycles for billing purposes only. Standard meters may also include functions to measure time-of-use and/or demand with data manually retrieved over monthly billing cycles.

Submission Date: The date on which the survey is submitted to FERC. A respondent may submit revised versions of the survey. Completion of the Submission Date field provides a means to ensure the data in the latest submission by chronological order is utilized.

Spinning/Responsive Reserves: 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 Peak Response Transmission Tariff: The terms, conditions, and rates and/or prices for customers with interval meters who reduce load during peaks as a way of reducing transmission charges.

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

Time-Based Rate/Tariff: 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, real time pricing, hourly pricing, and critical peak pricing. Time-based rates do not include seasonal rates, inverted block, or declining block rates.

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Time-of-Use: A rate where usage unit prices vary by time period, and where the 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.

Transportation: An energy consuming sector that consists of electricity supplied and services rendered to railroads and inter-urban and street railways, for general railroad use including the propulsion of cars or locomotives, where such electricity is supplied under separate and distinct rate schedules. In this survey, transportation customers should be counted in the **Other** category.

Transportation Program/Tariff: A company or utility's service/product/compilation of all effective rate schedules, general terms and conditions and standard forms related to demand response/AMI services for transportation customers.

Type of Entity: The category of organization that best represents the energy market participant. The available options include: investor-owned utility, municipal utility, cooperative utility, state-owned utility, federally-owned utility, independent system operator, retail power marketer, wholesale power marketer, regional transmission operator, curtailment service provider, transmission, or other.

Voluntary: Customers have the option of participating or not participating. This would include opt-out programs where customers are automatically enrolled but are allowed to discontinue their participation.

Wholesale: Pertaining to a sale of electric energy for resale.

Wholesale Customer: An entity that purchases electric energy for resale.