

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Demand Response Availability Data Systems Definitions

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RELIABILITY | ACCOUNTABILITY



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Demand Response Availability Data Systems Definitions

Adjustment Window

The period of time prior to a Demand Response Event used for calculating a Baseline adjustment.

Advance Notification(s)

One or more communications to Demand Resources of an impending Demand Response Event in advance of the actual event.

After-the-Fact Metering

Interval meter data separate from Telemetry that is used to measure Demand Response. May not apply to Demand Resources under Baseline Type II (Non-Interval Meter).

Aggregated Demand Resource

A group of independent Load facilities that provide Demand Response services as a single Demand Resource. Not used in WebDADS

Ancillary Service Reporting Type

Demand Response resources providing Ancillary Services, defined in FERC Order 888-A as those services that are necessary to support the transmission of capacity and energy from resources to Loads while maintaining reliable operation of the Transmission Service Provider's transmission system in accordance with good utility practice. This can also be defined as Demand Response resources displacing generation deployed as operating reserves or regulation.

Average Hourly Committed Demand Response Capacity for Ancillary Service Product (MW)

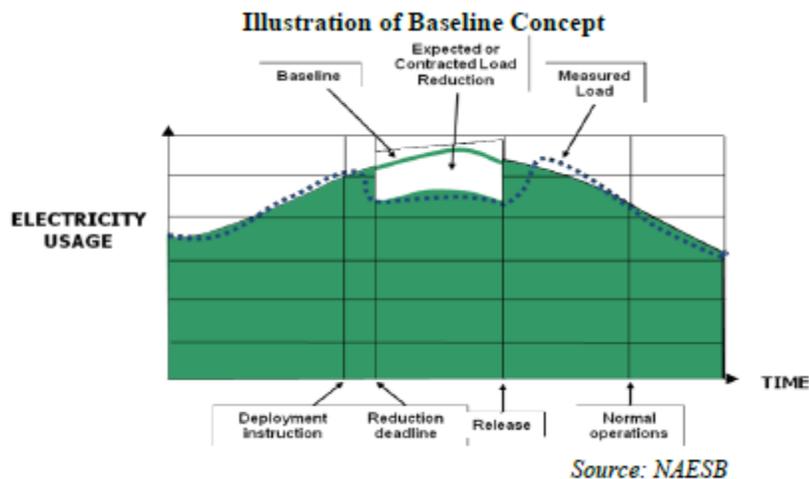
The Total Demand Response Capacity carrying an Ancillary Service product responsibility (MW) divided by the Total Hours of Demand Response Participation.

Balancing Authority

The responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time.

Baseline

A method of estimating the electricity that would have been consumed by a Demand Resource in the absence of a Demand Response Event. The Baseline is compared to the actual metered electricity consumption during the Demand Response Event to determine the Demand Reduction Value. Depending on the type of Demand Response product or service, Baseline calculations may be performed in real time or after the event. The System Operator may offer multiple Baseline models and may assign a Demand Resource to a model based on the characteristics of the Demand Resource's Load or allow the Demand Resource to choose a performance evaluation model consistent with its Load characteristics from a predefined list. The figure below illustrates the concept of Baseline relative to a Demand Response Event.



Baseline Adjustment

An adjustment that modifies the Baseline to reflect actual conditions immediately prior to or during a Demand Response Event to provide a better estimate of the energy the Demand Resource would have consumed if the Demand Response Event had not occurred. The adjustments may include but are not limited to weather conditions, near real-time event facility Load, current Demand Resource operational information, or other parameters based on the System Operator’s requirements.

Baseline Type-I (Interval Metered)

A Baseline performance evaluation method based on a Demand Resource’s historical interval meter data, which may also include other variables such as weather and calendar data.

Baseline Type-II (Non-Interval Metered)

This is a Baseline performance evaluation method that uses statistical sampling to estimate the electricity consumption of an Aggregated Demand Resource for which interval metering is not available on the entire population.

Baseline Window

This is the window of time preceding and following a Demand Response event in which the electricity consumption data is collected for the purpose of establishing a Baseline value. The applicability of this term is limited to Baseline Type-I and Type-II.

Capacity

Demand Side Resource displaces or augments generation for planning or operating resource adequacy; penalties may be assessed for nonperformance.

Capacity Product Type

Demand Resources that are obligated over a defined period of time to be available to provide Demand Response upon deployment by the System Operator. Capacity product is a Demand-Side Resource that displaces or augments generation for planning or operating resource adequacy.

Coincident (Unique) Resources

This is the Demand Response curtailments that would be realized if all Demand Response products were called simultaneously and all responded by curtailing their enrolled quantity.

Committed (MW)

The obligated MW in the Program on the Deployment Date for the Zone.

Company

A Company is uniquely identified using the combination of NERC ID, Region, and Sub-Region. In web Portal this will be the Company Code associated to each company (Registered Entity).

Controllable

System Operator has physical command of the resources.

Critical Peak Pricing (CPP)

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 (CPP) with Direct Load Control

Critical Peak Pricing (CPP) with Direct Load Control 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.

Demand

The rate at which electric energy is delivered to or by a system or part of a system, generally expressed in kW or MW, at a given instant or averaged over any designated interval of time; and the rate at which energy is being used by the customer.

Demand Bidding and Buy-Back

A Demand Bidding and Buy-Back program 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 Reduction Value

Quantity of reduced electrical consumption by a Demand Resource, expressed as MW or MWh.

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 Event

The time periods, deadlines, and transitions during which Demand Resources perform. The Responsible Entity shall specify the duration and applicability of a Demand Response Event.

Demand Response Program

This is a service of Demand Response Providers in which Demand Response Resources enroll and participate in Demand Response.

Demand Response Provider

The entity that is responsible for delivering Demand Reductions from Demand Resources and is compensated for providing such Demand Response products in accordance as specified by the System Operator.

Demand Response Resource

A Load or aggregation of Loads capable of measurably and verifiably providing a reduction in load as seen by the retail delivery point.

Demand Side Management (DSM)

All activities or programs undertaken by any applicable entity to influence the amount or timing of electricity use.

Deployment Date/Time

The time at which a Demand Resource begins reducing Demand on the system in response to an instruction. Deployment is used synonymously for activate/activation.

Deployment Period

The time in a Demand Response Event beginning with the Deployment and ending with the Release/Recall.

Direct Load Control Management (DLCM)

Demand-Side Management that is under the direct control of the Responsible Entity. DLCM may control the electric supply to individual appliances or equipment on customer premises. DLCM as defined here does not include Interruptible Demand.

Dispatchable

Demand-side management resource that is curtailed according to a signal from a Responsible Entity.

Distribution Provider

Provides and operates the paths between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the Distribution function at any voltage.

Dual-Purpose or Jointly Enrolled Resources

Resources that are enrolled in two or more programs.

Economic Dispatch

The allocation of Demand to individual generating units on-line to effect the most economical production of electricity.

Emergency Demand Response

A program that provides incentive payments to customers for Load reductions achieved during an emergency period Demand Response Event.

Energy Efficiency

These are permanent changes to electricity use through replacement with more efficient end-use devices or more effective operation of existing devices. Generally it results in reduced consumption across all hours rather than event-driven targeted Load reductions.

Energy Product Type

A type of Demand Response product that is compensated solely based on its ability to deliver kWh during an event.

Estimated Realized Demand Reduction (MW)

The total estimated Load reduced by Demand Response resources during the reported month.

Estimated Realized Energy Reduction (MWh)

The total estimated energy reduced by Demand Response resources during the reported month.

Event Reporting Type

Demand Response services in which resources are obligated over a defined period of time to provide Demand Response upon deployment by the appropriate Balancing Authority, Load-Serving Entity, Distribution Provider, etc.

External Entity

A person or organization with sufficient legal standing to enter into a contract or arrangement with another such person or organization (as such legal standing may be determined by those parties) for the purpose of conducting or coordinating energy transactions.

External Relationship

Resources that are shared or can be enrolled in multiple programs between multiple companies.

Internal Demand

The total of all end-use customer demand and electric system losses within specified metered boundaries, less Direct Control Management and Interruptible Demand.

Internal Relationship

Resources that are shared or can be enrolled in multiple programs within an individual company.

Interruptible Load (IL)

A program where the electrical consumption is 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 affected by action of

the System Operator, called “remote tripping,” after notice to the customer in accordance with contractual provisions.

Jointly Enrolled Capacity (MW)

Total number of MW that are enrolled in two or more programs.

Load

This is an end-use device or customer that receives power from the electric system.

Load as a Capacity Resource (LCR)

A Load as Capacity Resource commits to making pre-specified Load reductions when system contingencies arise.

Load Serving Entity

Secures energy and transmission service (and related Interconnected Operations Services) to serve the electrical demand and energy requirements of its end-use customers.

Market Participation Reporting Type

Energy Demand Response Programs where the Load reduction is based on economics and not reliability and are compensated only if deployed.

Maximum Allowable Demand Response Participation in Ancillary Service Product (MW)

The maximum cumulative capacity responsibility for Demand Response resources providing the Ancillary Service product during the reporting period. Capacity responsibility may vary by hour. This value is always equal or less than the Total Ancillary Service Product Responsibility

Maximum Base Load

A performance evaluation methodology based solely on a Demand Resource’s ability to reduce to a specified level of electricity Demand, regardless of its electricity consumption or Demand at Deployment.

Meter Before/Meter After

A performance evaluation methodology in which electricity Demand over a prescribed period of time prior to Deployment is compared to similar readings during the Sustained Response Period.

Metering Generator Output

A performance evaluation methodology used when a generation asset is located behind the Demand Resource’s revenue meter in which the Demand Reduction Value is based on the output of the generation asset.

NERC

NERC is at the top of the hierarchy and has access to all data.

Non Dispatchable

Programs in which Demand Resources curtail according to tariff structure, not in response to instructions from a Responsible Entity.

Normal Operations

The time following Release/Recall at which a Responsible Entity may require Demand Resource to have returned its Load consumption to normal levels, and to be available again for Deployment.

Non Spinning Reserves (NSR)

Operating reserves that can be started, synchronized and loaded within a specified time period in response to instructions from the System Operator.

Number of Committed Resources

The number of obligated Resources (or assets) for the Deployment Date for the Zone/Location.

Number of Resources

The number of Contracted/Registered Resources (or Assets) on the Deployment Month for the Zone activated.

Offered or Self-Scheduled Demand Reduction (MW)

The total capacity offered by Demand Response resources during the reported month.

Percentage of Demand Response Capacity (MW) subject to economic dispatch for Ancillary Service product (%) – Possibly a future metric for Ancillary Service products.

Performance Window

The period of time in a Demand Response Event analyzed by the Responsible Entity to measure and verify the Demand Reduction Value for a Demand Resource.

Purchasing and Selling Entity (PSE)

The entity that purchases or sells, and takes title to, energy, capacity, and Interconnected Operations Services. Purchasing-Selling Entities may be affiliated or unaffiliated merchants and may or may not own generating facilities.

Ramp Period

The time between Deployment and Reduction Deadline, representing the period of time over which a Demand Resource is expected to achieve its change in Demand. For WebDADS this is defined as: hh:mm:ss

Ramp Rate

The rate, expressed in megawatts per minute that a generator changes its output or a Demand Resource changes its Load.

Realized Demand Reduction (MW)

The estimated MW reduced by Demand Response resources/assets during hours 1–24 of the event.

Realized Energy Reduction (MWh)

The estimated total energy reduction (MWh) achieved from all the dispatched resources in the Deployment Period during hours 1–24 or greater of the event.

Real Time Pricing (RTP)

A rate in which the price for electricity fluctuates reflecting changes in the price of electricity or other appropriate costs that vary in time such as marginal costs of generation.

Recovery Period

The time between Release and Normal Operations that represents the window over which Demand Resources may be required to return to their normal Load.

Reduction Deadline

The time at the end of the Ramp Period when a Demand Resource is required to have met its Demand Reduction Value obligation.

Reduction Offered or Self-Scheduled Energy Reduction (MWh)

The total energy offered by Demand Response resources during the reported month.

Region

Within NERC, there are Regions.

Registered Capacity (MW)

Eligible MW in the program for the Deployment Month for the Zone activated.

Regulation Product Type

A type of Demand Response product in which a Demand Resource increases and decreases Load in response to real-time signals. Demand Resources providing Regulation Service are subject to continuous dispatch during a commitment period. For WebDADS, the provision of Regulation Service does not correlate to the time periods, deadlines and transitions in the Demand Response Event definition.

Release/Recall Date/Time

The time when the Deployment Period has ended or will end.

Reliability Event

This is the deployment of Demand Response for resource adequacy or operational reliability.

Reserve Product Type

Demand Resources that 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 applicable reliability standards. (Spinning, non-spinning)

Responsible Entity

An organization required to submit DADS data. A Responsible Entity is required to maintain Demand Response data in the NERC system and is generally the entity responsible for

dispatching the Demand Response Program, product or service. In WebDADS Responsible Entity = Registered Entity.

NERC Responsible Entities for DADS Reporting	
Function Name	Responsible Entity
Balancing	Balancing Authority
Distribution	Distribution Provider
Load-Serving	Load-Serving Entity
Purchasing-Selling	Purchasing-Selling Entity

Scheduled Cleared Hours (Hrs)

The total number of hours where offers made by Demand Response resources/assets cleared or were scheduled during the reported month.

Scheduled Demand Reduction (MW)

The total MW for which offers made by Demand Response resources/assets cleared or were scheduled during the reported month.

Scheduled Energy Reduction (MWh)

The total energy for which offers made by Demand Response resources/assets cleared or were scheduled during the reported month.

Spinning Reserves (MW) (SR)

Operating Reserves from resources that are synchronized to the grid and can respond to instructions from the System Operator.

Spinning Reserves Service Type

Reserves can be either generation that is synchronized and ready to serve additional demand or demand-side resources ready to provide balancing services within the first few minutes of a Contingency event.

Sub Region

Within each Region, there are sub-regions (In NPCC there's Maritimes, New England, New York, Ontario and Quebec). These are defined by NERC within web Portal.

Sustained Response Period

The time between Reduction Deadline and Release/Recall representing the window over which a Demand Resource is required to maintain its reduced net consumption of electricity.

System Demand at Dispatch (MW)

Load (in MW) at the time the dispatch was initiated.

System Operator

A System Operator is a Balancing Authority, Transmission Operator, or Reliability Coordinator whose responsibility is to monitor and control an electric system in real time. The System

Operator is responsible for initiating Advance Notifications, Deployment, and Release/Recall instructions.

System Peak Response Transmission Tariff

A rate and/or price structure in which interval metered customers reduce Load during coincident peaks as a way of reducing transmission charges.

System Zone

If no zones exist or there is only one zone, "System" will be the default for "Zone Name."

Time of Use (TOU)

Rates where usage unit prices vary by more than one time period within a 24-hour day. Daily pricing blocks may include, but are not limited to, an on-peak, partial-peak, and an off-peak price for non-holiday weekdays, with the on-peak price as the highest price, and the off-peak price as the lowest price.

Total Ancillary Service Product Responsibility (MW)

The cumulative capacity responsibility for all resources providing the Ancillary Service product during the reporting period.

Total Demand Response Capacity carrying an Ancillary Service Product Responsibility (MW)

The cumulative capacity responsibility for all Demand Response resources providing the Ancillary Service product during the reporting period.

Total Hours Ancillary Service Product was secured

The total number of hours that the Ancillary Service product was secured for the reporting period. For example, if the service is required 24 hours a day for the entire month, 24 x Number of Days in the Month should be reported. (This number should include any hours the service was secured, regardless of whether or not Demand Response resources participated.)

Total Hours of Demand Response Participation in Ancillary Service Product

The total number of hours for which one or more Demand Response resources/assets carried a responsibility for providing the Ancillary Service product during the reporting period.

Total Offer and Self-Scheduled Hours (Hrs)

This is the total number of offer and self-scheduled hours made by Demand Response resources during the reported month.

Zone

The user-defined location of where Load reductions occur. Each company is assigned a system zone, and companies can create additional zones specific to their company.