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| NPRR Number | [963](http://www.ercot.com/mktrules/issues/NPRR963) | NPRR Title | Creation of Generation and Controllable Load Resource Group (GCLR Group) |
| Date of Decision | August 15, 2019 |
| Action | Tabled |
| Timeline  | Normal  |
| Proposed Effective Date | To be determined |
| Priority and Rank Assigned | To be determined |
| Nodal Protocol Sections Requiring Revision  | 2.1, Definitions2.2, Acronyms and Abbreviations |
| Related Documents Requiring Revision/Related Revision Requests | None |
| Revision Description | This Nodal Protocol Revision Request (NPRR) establishes a Generation and Controllable Load Resource Group (GCLR Group) that allows for the two components of an energy storage resource to be considered in aggregate for the purposes of Generation Resource Energy Deployment Performance (GREDP) scoring, Controllable Load Resource Energy Deployment Performance (CLREDP) scoring, and Settlement of Base Point Deviation Charges. |
| Reason for Revision |  Addresses current operational issues. Meets Strategic goals (tied to the [ERCOT Strategic Plan](http://www.ercot.com/content/news/presentations/2013/ERCOT%20Strat%20Plan%20FINAL%20112213.pdf) or directed by the ERCOT Board). Market efficiencies or enhancements Administrative Regulatory requirements Other: (explain)*(please select all that apply)* |
| Business Case | Energy storage resources are modeled as two Resources in the ERCOT market, a Generation Resource and a Controllable Load Resource (CLR). Due to being modeled as two separate Resources, GREDP and CLREDP will be scored separately and independently and neither resource will receive a passing score. There is a similar issue with Settlment of Base Point Deviation Charges.Because of this ERCOT market design issue, energy storage resources cannot offer products into the market that will or might require a battery to change from a charging state to a discharging state or vice versa, even though a battery with sufficient state of charge is physically fully able to deliver on these “zero crossing” types of obligations and dispatches. This artificially limits the volumes of Ancillary Services a battery can offer into the market, and also the Base Point a battery can have when providing an Ancillary Service Obligation that might cross zero. This Base Point issue also negatively affects battery state of charge management.The Generation Resource and the CLR need to be aggregated for the purpose of performance monitoring and Settlement of Base Point Deviation Charges. If aggregated together for GREDP and CLREDP analysis, they will meet performance targets and, in addition, they will not incur Base Point Deviation Charges.This NPRR is needed as soon as possible because under current Protocols, an energy storage resource is not able to fully participate in the ERCOT market. |
| Credit Work Group Review | To be determined |
| PRS Decision | On 8/15/19, PRS unanimously voted to table NPRR963 and refer the issue to WMS and ROS. All Market Segments were present for the vote. |
| Summary of PRS Discussion | On 8/15/19, participants discussed the need for additional considerations and language regarding Settlements, metering, telemetry, naming conventions, performance measurement, and reliability operations. |

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| **Comments Received** |
| Comment Author | **Comment Summary** |
| None |  |

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| Market Rules Notes |

Please note that the following NPRR(s) also propose revisions to the definition of “Resource”:

* NPRR957, RTF-4 Create Definition and Terms for Energy Storage

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| Proposed Protocol Language Revision |

## 2.1 DEFINITIONS

**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 or an ERS Resource.

***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 Qualified Scheduling Entity (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.

***Aggregate Generation Resource (AGR)***

A Generation Resource that is an aggregation of generators, with the exception of Intermittent Renewable Resource (IRRs) pursuant to paragraph (12) of Section 3.10.7.2, Modeling of Resources and Transmission Loads, each of which is less than 20 MW in output, which share identical operational characteristics and are interconnected at the same Point of Interconnection (POI) and located behind the same Generator Step-Up (GSU) transformer (with a high-side voltage greater than 60 kV).

***Black Start Resource***

A Generation Resource under contract with ERCOT to provide Black Start Service (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 Rankine 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 Resource Entity has submitted a Notification of Suspension of Operations (NSO), for which ERCOT has declined to execute a Reliability Must-Run (RMR) Agreement, and which has been decommissioned and retired.

***Generation and Controllable Load Resource (GCLR) Group***

A Generation Resource and Controllable Load Resource (CLR) that represent a single energy storage resource whose performance in responding to Security-Constrained Economic Dispatch (SCED) instructions and other instructions will be assessed as an aggregate for Generation Resource Energy Deployment Performance (GREDP), Controllable Load Resource Energy Deployment (CLREDP), and Settlement of Base Point Deviation Charges. Additionally, only Generation Resources and CLRs that have the same Point of Interconnection (POI) can be mapped to a GCLR Group. Resource Entities can choose to group a Generation Resource and a CLR and shall provide the grouping information in a timely manner for ERCOT review prior to the scheduled database loads.

***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.

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

A group of two or more IRRs whose performance in responding to Security-Constrained Economic Dispatch (SCED) Dispatch Instructions will be assessed as an aggregate for Generation Resource Energy Deployment Performance (GREDP) and Base Point Deviation. An IRR Group cannot contain any IRRs that are Split Generation Resources. Additionally, only IRRs that have the same Resource Node can be mapped to an IRR Group. Resource Entities can choose to group IRRs and shall provide the grouping information in a timely manner for ERCOT review prior to the scheduled database loads.

***Mothballed Generation Resource***

A Generation Resource for which a Resource Entity has submitted a Notification of Suspension of Operations (NSO), for which ERCOT has declined to execute a Reliability Must-Run (RMR) Agreement, and which has not been decommissioned and retired.

***PhotoVoltaic Generation Resource (PVGR)***

A Generation Resource that is powered by PhotoVoltaic (PV) equipment exposed to light. PV equipment may be aggregated together to form a PVGR as set forth in paragraph (12) of Section 3.10.7.2, Modeling of Resources and Transmission Loads.

***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 (SWGR)***

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 as set forth in paragraph (12) of Section 3.10.7.2, Modeling of Resources and Transmission Loads.

***Load Resource***

A Load capable of providing Ancillary Service to the ERCOT System and/or energy in the form of Demand response and registered with ERCOT as a Load Resource.

***Aggregate Load Resource (ALR)***

A Load Resource that is an aggregation of individual metered sites, each of which has less than ten MW of Demand response capability and all of which are located within a single Load Zone.

***Controllable Load Resource***

A Load Resource capable of controllably reducing or increasing consumption under dispatch control by ERCOT.

***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 Public Utility Commission of Texas (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, Reliability Unit Commitment (RUC), or Security-Constrained Economic Dispatch (SCED).

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| ***[NPRR889 and NPRR921: Replace the above definition “Resource” with the following upon system implementation.]*****Resource**The term is used to refer to both a Generation Resource and a Load Resource.***Generation Resource***A generator capable of providing energy or Ancillary Service to the ERCOT System and is registered with ERCOT as a Generation Resource. ***Distribution Generation Resource (DGR)***A Generation Resource connected to the Distribution System that is either: (1) Greater than ten MW and not registered with the Public Utility Commission of Texas (PUCT) as a self-generator; or(2) Ten MW or less that chooses to register as a Generation Resource to participate in the ERCOT markets. DGRs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and will be modeled in ERCOT systems in accordance with Section 3.10.7.2, Modeling of Resources and Transmission Loads.***Transmission Generation Resource (TGR)***A Generation Resource connected to the ERCOT transmission system that is either: (1) Greater than ten MW and not registered with the Public Utility Commission of Texas (PUCT) as a self-generator; or (2) Ten MW or less that chooses to register as a Generation Resource to participate in the ERCOT markets. TGRs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and will be modeled in ERCOT systems in accordance with Section 3.10.7.2, Modeling of Resources and Transmission Loads.***Settlement Only Generator (SOG)***A generator that is settled for exported energy only, but may not participate in the Ancillary Services market, Reliability Unit Commitment (RUC), Security-Constrained Economic Dispatch (SCED), or make energy offers. These units are comprised of:***Settlement Only Distribution Generator (SODG)***A generator that is connected to the Distribution System with a rating of:(1) One MW or less that chooses to register as an SODG; or (2) Greater than one and up to ten MW that is capable of providing a net export to the ERCOT System and does not register as a Distribution Generation Resource (DGR).SODGs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and will be modeled in ERCOT systems for reliability in accordance with Section 3.10.7.2, Modeling of Resources and Transmission Loads. ***Settlement Only Transmission Generator (SOTG)***A generator that is connected to the ERCOT transmission system with a rating of ten MW or less and is registered with the Public Utility Commission of Texas (PUCT) as a power generation company. SOTGs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and may be modeled in ERCOT systems for reliability in accordance with Section 3.10.7.2, Modeling of Resources and Transmission Loads.***Settlement Only Transmission Self-Generator (SOTSG)***A generator that is connected to the ERCOT transmission system with a rating of one MW or more and is registered with the Public Utility Commission of Texas (PUCT) as a self-generator. SOTSGs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and will be modeled in ERCOT systems for reliability in accordance with Section 3.10.7.3, Modeling of Private Use Networks.***Load Resource***A Load capable of providing Ancillary Service to the ERCOT System and/or energy in the form of Demand response and registered with ERCOT as a Load Resource.***Aggregate Load Resource (ALR)***A Load Resource that is an aggregation of individual metered sites, each of which has less than ten MW of Demand response capability and all of which are located within a single Load Zone.***Controllable Load Resource***A Load Resource capable of controllably reducing or increasing consumption under dispatch control by ERCOT. |

**Resource Attribute**

Specific qualities associated with various Resources (i.e., specific aspects of a Resource or the services the Resource is qualified to provide).

Limited Duration Resource (LDR)

A Generation Resource less than 10 MW or a Load Resource less than 10 MW that may be unavailable to Security-Constrained Economic Dispatch (SCED) due to the need to maintain its current state of charge.

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| ***[NPRR889: Replace the above definition “Resource Attribute” with the following upon system implementation:]*****Resource Attribute**Specific qualities associated with various Resources (i.e., specific aspects of a Resource or the services the Resource is qualified to provide).***Aggregate Generation Resource (AGR)***A Generation Resource that is an aggregation of generators, with the exception of Intermittent Renewable Resources (IRRs) pursuant to paragraph (12) of Section 3.10.7.2, Modeling of Resources and Transmission Loads, each of which is less than 20 MW in output, which share identical operational characteristics and are interconnected at the same Point of Interconnection (POI) and located behind the same Generator Step-Up (GSU) transformer (with a high-side voltage greater than 60 kV).***Black Start Resource***A Generation Resource under contract with ERCOT to provide Black Start Service (BSS).***Decommissioned Generation Resource***A Generation Resource for which a Resource Entity has submitted a Notification of Suspension of Operations or a Notification of Change of Generation Resource Designation, for which ERCOT has declined to execute a Reliability Must-Run (RMR) Agreement, and which has been decommissioned and permanently retired.***Dynamically Scheduled Resource (DSR)***A Resource that has been designated by the Qualified Scheduling Entity (QSE), and approved by ERCOT, as a DSR status-type and that follows a DSR Load.***Generation and Controllable Load Resource (GCLR) Group***A Generation Resource and Controllable Load Resource (CLR) that represent a single energy storage resource whose performance in responding to Security-Constrained Economic Dispatch (SCED) instructions and other instructions will be assessed as an aggregate for Generation Resource Energy Deployment Performance (GREDP), Controllable Load Resource Energy Deployment (CLREDP), and Settlement of Base Point Deviation Charges. Additionally, only Generation Resources and CLRs that have the same Point of Interconnection (POI) can be mapped to a GCLR Group. Resource Entities can choose to group a Generation Resource and a CLR and shall provide the grouping information in a timely manner for ERCOT review prior to the scheduled database loads.***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.***Intermittent Renewable Resource (IRR) Group***A group of two or more IRRs whose performance in responding to Security-Constrained Economic Dispatch (SCED) Dispatch Instructions will be assessed as an aggregate for Generation Resource Energy Deployment Performance (GREDP) and Base Point Deviation. An IRR Group cannot contain any IRRs that are Split Generation Resources. Additionally, only IRRs that have the same Resource Node can be mapped to an IRR Group. Resource Entities can choose to group IRRs and shall provide the grouping information in a timely manner for ERCOT review prior to the scheduled database loads.Limited Duration Resource (LDR)A Generation Resource less than 10 MW or a Load Resource less than 10 MW that may be unavailable to Security-Constrained Economic Dispatch (SCED) due to the need to maintain its current state of charge.***Mothballed Generation Resource*** A Generation Resource for which a Resource Entity has submitted a Notification of Suspension of Operations, for which ERCOT has declined to execute a Reliability Must-Run (RMR) Agreement, and which has not been decommissioned and retired. ***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.***Switchable Generation Resource (SWGR)***A Generation Resource that can be connected to either the ERCOT Transmission Grid or a non-ERCOT Control Area.***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. |

## 2.2 ACRONYMS AND ABBREVIATIONS

**GCLR Group** Generation and Controllable Load Resource Group