**From:** Agbassekou, Kokou <KAgbassekou@caiso.com>
**Sent:** Tuesday, June 29, 2021 9:40 AM
**To:** Caroline Trum <ctrum@naesb.org>
**Cc:** Vaa, Eric <EVAA@caiso.com>; Messner, Nicholas <NMessner@caiso.com>
**Subject:** FW: NAESB WEQ BPS Standard Terms Work Paper

Good morning Caroline,

Here is the feedback from California ISO. Eric is OOO today and may not attend today’s meeting.

Thanks, Kokou

**Subject:** RE: NAESB WEQ BPS Standard Terms Work Paper

Two suggestions: (1) change DER Aggregator to DER Provider. It’s consistent with what we do, and more importantly, it avoids giving aggregation and aggregator the same acronym (DERA), which anyone would immediately do with a four word term. (2) The definition of electric storage resource is problematic. Many storage resources will not receive electric energy *from the grid*—they’ll receive it from onsite generation. Lots of new hybrids have storage but physically prevent themselves from receiving energy from the grid. They can just cut the receiving part altogether, ergo: “a resource capable of storing energy for later injection to the grid.”

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# Standard Terms

**Electric Storage Resource (ESR)** – a resource capable of receiving electric energy from the grid and storing it for later injection of electric energy back to the grid. *Order 841 – footnote 1*

**Distributed Energy Resource (DER)** – “any resource located on the distribution system, any subsystem thereof or behind a customer meter. *Order 2222 -* ¶114

**Distributed Energy Resource Aggregator** – “the entity that aggregates one or more distributed energy resources for purposes of participation in the capacity, energy and/or ancillary service markets of the regional transmission organizations and/or independent system operators.” *Order 2222 -* ¶118

**Distributed Energy Resource Aggregation** – One or more DER(s) for participation in the ISO/RTO markets

**Transmission System** - “[t]he facilities owned, controlled or operated by the Transmission Provider or the Transmission Owner that are used to provide transmission service under the Tariff.”

**Distribution System** - as “[t]he Transmission Provider’s facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.”

**Heterogeneous Aggregation** - An aggregation of more than one DER utilizing differing resources within an aggregation.

**Homogeneous Aggregation** - An aggregation of more than one DER utilizing identical resources within an aggregation.

**Aggregation Metering Types**

Type I – Aggregation at single transmission connection to the grid with revenue quality meter at point of connection.

Type II – Aggregation at single transmission connection to the grid with calculated metering based upon individual resources.

Type III – Aggregation across multiple transmission connections to the grid with revenue quality metering at each connection location.

Type IV- Aggregation across multiple transmission connections with calculated performance based upon calculated meter data.

**Heterogeneous Aggregation Classes**

Class 1 – ESR (stationary and mobile) with Demand Response

Class 2 – ESR with Generator (aka hybrid resource)

Class 3 – Demand Response with Generator

Class 4 – Demand Response, distributed generator, ESR (stationary and mobile)

Class X – Any other combination of resource types

Grid Services (definition only)

|  |  |
| --- | --- |
| Service Name | Usage |
| Supply reactive power | Voltage control |
| Up ramping | Frequency control |
| Down ramping | Frequency control |
| Regulation service | Area control error (ACE) management (frequency response) |
| Capacity service |  |
| Energy service | Providing active power |
| Reserve service | Demand response |
| Blackstart service | System restoration |
| Synthetic inertia  | Stability/ride through |
| Fast frequency response | Frequency control |
| Primary frequency response | Frequency control |
| Operating reserves | Contingency |
| Voltage ride through |  |
| Frequency ride through |  |
| Load consumption | Capacity that can be provided to increase load consumption |

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