Distributed Energy Resources in the ERCOT Region with ADDITIONS from May 21 ETWG

Draft Outline

* Participation in ERCOT wholesale markets
	+ DER minimal
		- Passive participation
			* Clarify that this is energy only (Yes/No?)
		- Settled at Load Zone SPP
		- Separate metering of load and generation not required (net metering allowed)
		- For the most part, business as usual for current registered and unregistered DG
	+ DER light
		- Supports aggregations
		- Passive participation
		- Settled at applicable electrical bus LMP, or weighted LMP average for multiple buses
			* Is this the nearest logical currently existing point?
			* If this is an aggregation, do we do a weighting (by what?) of the electrical busses behind which they are located?
			* What is the geographic constraint on the aggregation?
			* Does this NOT have impact on the CRR market, offers & bids in DAM, because the DER is only being settled at an existing electrical bus.
		- Separate metering of gross load and gross generation required
		- Requires Real-Time or near Real-Time information to ERCOT
	+ DER heavy
		- Supports aggregations
		- Active participation (energy and ancillary services)
		- Settled at “Logical” Resource Node assigned to DER
			* Is this a new settlement point that is created for the DER Heavy?
		- Separate metering of gross load and gross generation required
		- Requires information to ERCOT the same or similar to what traditional Resources provide
		- Is the intent of these to become Resource Nodes – tradable in CRR – and participatory in DAM?
		- Can the system handle new LMPs for DERs within the idea of the CRR market, etc?
* Modeling Requirements
	+ Data from TDSPs
	+ Resource specific operational data (single site or aggregations)
* Registration / Interconnection Requirements
	+ ERCOT
	+ TDSP
	+ For the DER GE / and QSE–
		- Qualification Specifics for each AS type / market activity
			* Govenor response?
* Settlement Mechanisms
* Forecasting tools
* Compliance metrics
* OTHER ISSUES
	+ Two Interconnection Types
		- The Concern is the reporting requirement – net to grid, or total production
			* If it is over a MW but never net positive, do we really care?
		- Off-setting Load: Designed to not over produce
			* How do we see assets that are not net positive of load?
			* Interconnection Agreement Uncertainty
				+ Provider (Co-Op, Muni) - Should they be responsible for aggregating net out data?
				+ DSP in Competitive Area:
				+ DSP in NOIE Area:
		- How do we treat Distribution Side but not load sited DG assets?
			* What if this asset and that feeder is never net positive onto the HV system? (i.e. it is only seen as load offset by the HV grid / ERCOT)
		- Do we care? (Opinion: We do care, even if it is “only” an off set.)
* Can we really address congestion with an Aggregation that may have assets on both sides of a constraint?
* Should the layout of the white paper be organized by market activity (DAM integration, CRR market, RTM)?Does ERCOT have examples of what existing assets could fall into each bucket (Bucket meaning minimal, light, heavy)?
* Does ERCOT have an idea of what assets could fall into each bucket within the next 5-10 years?
* Are there other appropriate “buckets” / Resource Types that should be moved forward?
* Discussion on possible optimal number of new Resource Types necessary in order to enable what this DER effort is trying to enable?
* This paper should capture these two angles / ways of looking at DERs:
	+ One – Already in the market: How does this work for me?
	+ Two – I am looking to build something new, and I want to interact with the market, and I am looking for price signals to direct me to the right location.
* Other Comments, Contributed via email:
* From 30,000ft there will be two pods of participants, I am "Load First" and thinking about *also* adding some soft of DG.  I think that as this moves forward ERCOT will see a lot of comments from this group because they are here and now.
	+ The second group, I am "Generator First" and am looking to install generation and am influenced by market price signals.  This group is an opportunity that will come for ERCOT and they may not see as much "action from the crowd".
	+ As ERCOT develops each DG integration section (aggregation, registration, buckets, etc) it may be beneficial to ask what concerns/opportunities will "Load First" have and what concerns/opportunities will "Generator First" have.
* Questions:
	+ 1.
		- ANSWERED: When did the 1MW reporting rule go into effect? Answer: forever.
	+ 2.
		- There are two types of DER interconnections: one that serves a load and one that is a generation resource (these are typically systems smaller than utility scale systems that otherwise would be tied to the transmission side of the grid.
	+ 3.
		- Suggestions:
			* a. All reporting for load serving DER should be responsibility of distribution grid owner per interconnection agreements between them and the end user.
			* b. Load serving DER systems are typically designed to offset load and to have limited overproduction. Any overproduction would serve loads behind the substation master meter. If none of the electricity produced by a DER enters the transmission circuits, there would be no electricity to pass through a price point. The effect of a load offset within a distribution circuit would be less electricity forecasted and delivered through the grid to the distribution point.
			* c. If the aggregated amount of DER on a distribution circuit is below demand (assuming the DER is designed to produce below demand levels at the end-user, then the reporting size should be based on the amount of overproduction (if any) available to be delivered to the ERCOT system delivered through a master meter.