Department of Local Government, Industry Regulation and Safety (Building and Energy Division) – Public consultation submission

Exposure draft: Proposed Electricity System and Market Rules for Distributed Energy Resources

Dear EPWA colleagues,

Thanks for the opportunity to provide feedback on the DSO, TPA and technical requirements consultation.

We have framed our feedback in two ways:

a) questions that can hopefully be clarified in the proposed rules or guidance documentation; and

b) general comments for consideration from an electrical safety perspective.

Questions:

1) Who will (AEMO, DSO or other) be responsible for sending network support signals to DER devices to deliver power system support within the capability of the Energy Producing Systems (EPS)? How will the request chain look and be structured? What will be Synergy and the TPA's roles in the chain?
2) Who will be responsible to ensure the initial and ongoing technical requirements of a Facility comply with:
    a) the BEGCTR; and
    b) the WEM Procedure?
3) Does the Western Power distribution network operations role (switching, managing power flows, access to work on the network, fault management, etc) transfer to the DSO?
4) Is the DSO only permitted to operate behind the meter consumer devices? Will the DSO operate or control any network equipment and network service apparatus?
5) Is the DSO a functional role assigned to the Electricity Networks Corporation t/a Western Power that is not intended to segregate the DSO from Western Power as another entity or legally ringfencing 'operation' of the network from Western Power?
6) Will the DSO require a separate network operator licence to 'operate' networks?

7) Does the DSO continue to operate the Western Power distribution network as a 'network operator' under the Electricity Act 1945 and do all obligations of the Electricity (Network Safety) Regulations 2015 continue to apply to the DSO (being the Electricity Networks Corporation t/a Western Power)?

8) Will the DSO have control to operate devices within consumer electrical installations? Will that be confined to control power supply parameters (kW, VAr, V, I, etc) and/or involve controlling and operating of switching devices within the electrical installation?

9) Will disconnection and reconnection of DER take place behind the network point of supply within the consumer's electrical installation using consumer electrical equipment? Is it intended that network service apparatus will be used, under the control of the DSO, for disconnection and reconnection of DER? Is disconnection and reconnection capability confined only to DER devices and not the normal supply point from the distribution network?

10) At which point within the consumers' electrical installation (or network service apparatus if that is intended) is the requirement *"Market Participant will be required to ensure each device is capable of being remotely disconnected from and reconnected to the network."* to be applied and which devices are being remotely switched? Is the disconnection and reconnection an external or integral switching device that opens the electrical connection of the device or only a control signal the ramps/shuts down output of the device?

11) Is the 30kVA limit imposed at the point of supply to Western Power's network or applied at any NMI (meter) in a multiple master metering arrangement? If applied at the NMI then what steps are taken to ensure the consumers installation up to the point of supply and network connection is not overloaded and exceed 30kVA capacity?

12) Do embedded networks and embedded network operators fall under this framework and if so, how do they interact with TPA's, Synergy and DSO from a roles and responsibilities perspective?

Comments:

1) The DSO definition in the EIA assigns that person or body as "operator of the distribution system". This implies, in our understanding, that operational jurisdiction is confined to the distribution network up to the point of connection to consumer electrical installations. It is unclear whether "distribution system" in the EIA means both distribution network and consumer's electrical installations connected to networks. Perhaps this can be clarified with certainty that another person or body (the DSO) legitimately can and will operate aspects

of private electrical installations and electrical equipment if that is indeed the proposed operating model.

2) Provide further insight into the full scope, purpose, and operation of the WEM Procedure as it is unclear, including how it interacts and differs from the BEGCTR and whether it replaces the BEGCTR. Currently the WEM Procedure scope in the exposure draft section 3.25.2 appears to replicate what is already in the BEGCTR.

3) To ensure electrical safety of the network and consumer electrical installations, the WEM Procedure and BEGCTR design and operating requirements must not exceed the capacity of the connection point conductors and equipment, as that can result in overloading, fire, and electric shock.

4) Any dynamic operating envelopes need to ensure that safety limits of the electrical infrastructure are not exceeded and operate with safety margins below safe limits.

5) Export limits on unbalanced single-phase inverters on three-phase connections must be critically assessed and limited due to risk of damaging the service neutral resulting in serious to fatal electric shocks.

6) Some clarification is needed about the end point level of control and role of AEMO and the DSO over a TPA and Synergy recognising the TPA and Synergy are enablers of market participation, yet the AEMO and DSO role is network control, security, reliability, and operations. A role and responsibility chart and relationship diagram and explanation will assist to better understand the boundary limits and any overlaps.

7) If the DSO is responsible for setting the technical requirements, BEGCTR and WEM Procedure, which will expectedly have considered safety limits, then the DSO should be responsible to ensure their technical requirements are upheld. It is unreasonable to ask a Retailer (or Network User) to ensure technical requirements compliance because the retailer's core role is coordinating TPA and market participation and not technical ability, range, compliance and settings of the EPS to operate within dynamic operating envelopes set by the DSO. The Retailer should be responsible for compliance of the inter-operability protocols, its availability and capability to manage control signals and metering for energy settlement.

8) It is unclear how the 30kVA capacity is determined and applied, and whether it is:

    a) the aggregated capacities of all inverters summed at the point of supply to the network; or

b) a 30kVA capacity limit that applies to each inverter behind a single point of supply to the network as the exposure draft section 3.25.1(c) reads "**each Inverter Energy System** in the Energy Producing System, a maximum capacity of 30kVA". In this case there could be multiple 30kVA inverters in an *Energy Producing System*, because an *Inverter Energy System* is defined as one or more inverters.

9) From our current understanding it appears that embedded network sellers, that could also be operating an embedded network, could enter into a contract with Synergy and comply with the WEM procedure and BEGCTR. Although, in reality, an embedded network is likely to exceed the 30kVA capacity limit and therefore would not qualify as a Small User Facility subject to the proposed rules. Perhaps consider providing such clarification for this tranche (pending responses our question 11 and comment 8).

Please consider this feedback in your industry consultation process.

We are happy to meet with EPWA to discuss responses or receiving a written response, which will help us understand and work with the proposed rules.

Regards,

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