

Capacity Market Modifications Workshop 12

CMC 06 20: Combining Candidate Units into a Capacity Market Unit / Capacity Aggregation Unit

31st March, 2020

Background



- Through the facilitation of renewables & move towards a lower carbon power system, the importance of flexibility on the system is growing & demand side response is seen globally to have a key role in this
- The Flex Tech Initiative looks at removing potential barriers to participation for flexible technologies, one of the work streams within this initiative is Demand Side Participation.
- The subject of this modification has been raised by DRAI as a way to remove one such barrier to flexibility as seen under the Flex Tech Initiative and has been discussed with the TSO/SEMO as such.
- The current Capacity Market Code rules mean that we cannot offer all appropriate flexibility to TSO that we are capable of.
- By allowing capacity units to be aggregated into a Capacity Aggregation Unit, we can take into account the unique characteristics of demand side flexibility

Background – DSUs & AGUs



- Conventional Plant generally have the same set of technical characteristics across all markets.
- Whilst the technical characteristics of DSUs/AGUs are dependent on the technically diverse individual demand / generation sites that are aggregated together to form the unit;
- Further to this, there are different technical requirements across the different markets;
- To register a DSU/AGU the following conflicting parameters need to be considered:
 - Capacity market: De-rating factors and location;
 - 2-hour duration demand response can only be in a DSU with other 2-hour demand response
 - Dublin region generation can only be in a DSU with other Dublin region generation
 - DS3 markets: Speed/duration of response;
 - Different sites with 2-hour duration demand response might respond at different speeds, necessitating further DS3 registrations: 1MW threshold must also be reached
 - Balancing market: PQ pairs & shutdown costs;
 - Different sites have different costs of shutdown and cost of dispatch that can require similar sites to be paired together in a DSU to ensure appropriate dispatch and complex offer data.

Proposal: Allow DSU/AGUs to Combine CUs

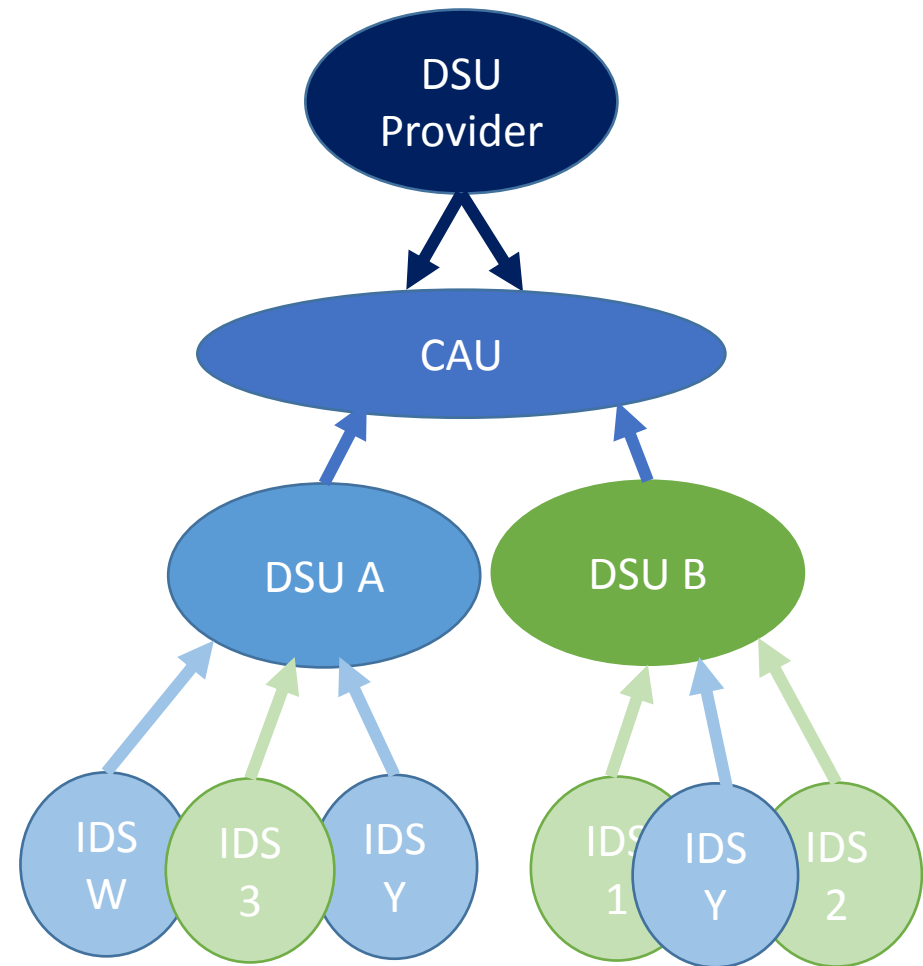
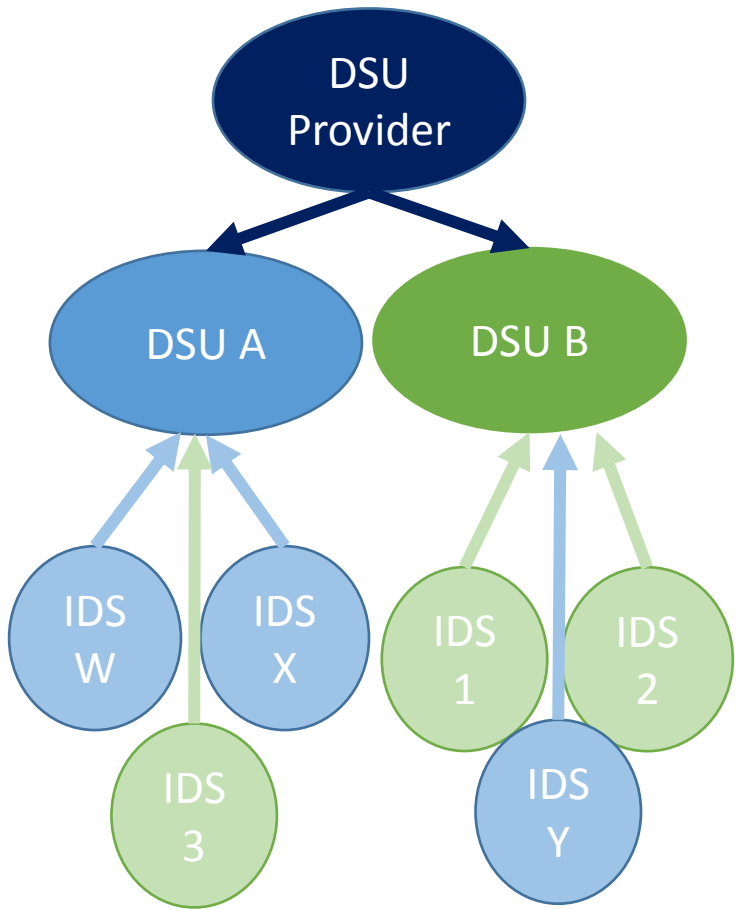
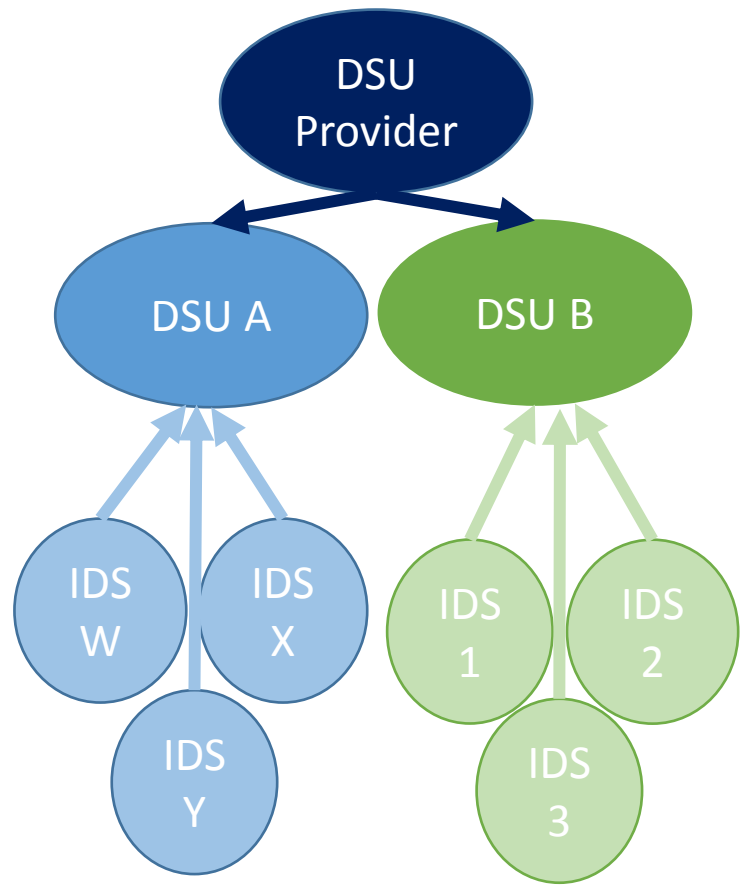
- Combining capacity units into a Capacity Aggregation Unit (CAU) will allow aggregators to optimally assign individual demand / generation sites within Demand Side Units based on the individual technical characteristics of the sites.
- This will allow the DSU/AGU to deliver the best declared flexibility to TSO whilst not introducing unnecessary risk;
- Current Requirements to combine candidate units:
 - Below De-minimus limit (<10MW)
 - Variable Generators
- One Additional Line of Text Required
 - DSUs & AGUs

Proposal: Allow DSU/AGUs to Combine CUs

RO 10 MW
Not optimal setup for DS3.
RO can be delivered

RO 10 MW
Optimal setup for DS3. RO cannot be delivered
as IDS Y & IDS 3 cannot be considered.

RO 10 MW
Optimal setup for DS3 & RO
can be delivered



Legal drafting change (E.7.6)



- **E.7.6: Requirements for Combining Candidate Units into a Capacity Market Unit**

- E.7.6.1 Subject to paragraph E.7.6.3, the System Operators shall reject an Application for Qualification for a Capacity Year for a proposed Capacity Market Unit comprising a combination of individual Candidate Units unless:
 - (i) each of the Candidate Units is either:
 - (i) a unit with a Registered Capacity ~~(or in the case of a Demand Side Unit, a DSU MW Capacity)~~, whether based on Existing Capacity or a combined Existing and New Capacity, below the De Minimis Threshold; or
 - (ii) a Variable Generator Unit; or
 - (iii) a Demand Side Unit or Aggregated Generator Unit.

Justification



- Increase flexibility and capability of demand response provision as delivery of system services not linked to delivery of RO
- Remove a barrier to maximising the full flexibility of demand response by optimising the unique characteristics of individual sites.
- Can mitigate against increased costs to the end customer resulting from more costly flexibility solutions.

Consequences of Not Accepting Modification

- AGU / DSU has to choose between Optimal Capacity and Optimal DS3 Services provision
- Demand Response Services are not being delivered efficiently for the interests of consumers;
- The TSO may not be receiving the full flexibility from Demand Response providers that could be used for the facilitation of renewables.