Mod_13_19 Payment for Energy Consumption in SEM for non-energy Services Dispatch

Meeting 103 February 11th 2021

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Background to Proposal

- Not all generator modes are modelled in SEM
- The TSOs may need to dispatch a unit for system support reasons, for example into synchronous compensator mode to provide increased voltage support or dispatch a wind farm which can provide reactive power at 0MW
- When operating in such modes, units consume energy, which is not accounted for in SEM
- If the TSOs are able to use this capability, it will help to reduce Imperfections Costs

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Solution Proposed

- Following extensive discussion within the TSOs, four possible solutions were identified and explored
- Version 2 of the modification was proposed based on Solution 4 – an interim solution which could be implemented in the shorter term to access this capability
- A Working Group was convened on December 10th 2020
  - Participant feedback was sought in advance of the WG by means of a survey

Solution 4

- **Recap of Solution 4: Unit as part of a TSSU**
  - Proposed in the context of windfarms – could also be applied to other units
  - Energy being drawn while the unit is providing reactive power at 0MW could be treated as negative generation
  - Unit could be reassigned to be part of a TSSU (rather than an ASU)
  - A flag could be sent to settlement to denote the period where the unit has been instructed to provide reactive power at 0MW, where the demand on the site was not related to the site load, but provision of services on the site

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Some potential issues/discussion points that have been examined

- All relevant charges need to be considered (e.g.TuOS and PSO levy charges)
  - Preference not to expose service providers to such charges, but for a medium term solution the answer to this may not be perfect.
- Question raised as to how this energy will be accounted for
  - Further consideration between the TSO and MO concluded that it will appear in the residual error by default.
  - This will probably be captured as a separate line item in Imperfections reporting.
- Solution will not allow a distinction between energy used to service house load and load consumed to provide a service.
  - This is balanced against the fact that service providers may be exposed to the charges outlined in first point.

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Issues examined cont'd

- Question as to whether there is any issue where multiple units are registered under the same Trading site (such units will be needed to be split out).
  - No issues raised by Participants (survey invited views).
- The MIC will need to be renegotiated to avoid units incurring overrun charges.
  - There is a process in both jurisdictions for renegotiating MICs/seeking modified connection agreements.
- TSOs needed to check if generating and sending a flag from system services settlement is feasible (daily ex-post).
  - While not formally impact assessed, the SOs have looked at a solution and think that it should be possible. An EMS alarm could be used when a unit is dispatched to enter the mode in which it is providing reactive power at 0MW.
- Consideration whether the tolerance on the current scalar for Wattless Vars needs to be reviewed, as a limited number of units currently qualify for it in a limited number of periods.

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Other Issues raised

- How will the solution apply to a battery? Is there an incentive for a battery to oversize its MIC?
  - In the first instance the solution proposed will not cover batteries. It was agreed at the Working Group that there needs to be more operational experience of batteries before a similar solution could be applied to them and that should be developed as a longer term action.
- Start costs for synchronous compensator if not started in the market are not accounted for.
- How does this work for multiple Generator Units behind a single connection point?
  - There us is a separate controller for active power for each windfarm in this scenario, but a single voltage controller at the connection point. We both assess the capability for the provision of reactive power and contract for the service at the connection point.
- WG asked for legal drafting updates to ensure that:
  - DSUs and Autoproducers are not included in the treatment for service provision
  - there is a clear definition on the meaning of a system service flag of one and zero
  - default value of the system service flag is clear, whether it applies to all TSSUs or only a subset and clarification in definitions regarding the application of the flag to a TSSU based on the status of associated Generator Units

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Minor Legal Drafting changes proposed by Participant

- **F.2.8.1 Subject to F.2.8.3, each System Operator shall submit to the Market Operator, in accordance with the Settlement Calendar, in respect of each Trading Site Supplier Unit which is registered in a Trading Site with a DS3 System Service Providing Unit contracted with the respective System Operator under the DS3 System Services Arrangements to provide DS3 System Services at zero MW exported energy, a flag with a value of 1 ~~representing the~~ for each imbalance settlement period~~s~~ where the DS3 System Services Providing Unit is dispatched ~~so as~~ to provide DS3 System Services to the System Operator.**

- **F.2.8.5 The Market Operator shall set the DS3 System Services Provider Flag (SSPFvγ) to zero unless a value of one has been submitted by the System Operator for a Trading Site Supplier Unit, v, which is on Trading Site, s, in Imbalance Settlement Period, γ, in accordance with F.2.8.1.**

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