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

Niamh Delaney

EIRGRID SONI

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

Potential solutions examined to date

- **Solution 1: Ideal solution**
  - Create a new dispatch instruction whereby a unit could be instructed to a negative generation level, to consume energy while providing a reactive power service
  - Profile DI in the instruction profiler and allocate energy consumed to imperfections
- Issues identified:
- Complexity with allocating the associated energy correctly in SEM (some work done on manually extracting the relevant energy consumption costs)
- Although not impact assessed, potential high cost of making a change to the instruction profiler and significant time to implementation

EIRGRID SONI

Potential solutions examined to date

- **Solution 2: Metering solution**
  - EirGird MO (Meter Operator) has previously used input signals to energy meters to record meter data on a separate channel. (TSO meters have 12 channels, of which only 6 are typically in use.) If a signal could be sent to the meters via the RTU & EMS, the input could trigger the meter to record in this mode.
  - The energy recorded by the meter, for units when dispatched for the purpose of providing system services, could be mapped to a separate 'TSO supplier' in SEM, for the purposes of collating the energy consumed by units providing system services only. There would need to be some SEM changes but less than in Solution 1.

- <u>Issues identified:</u>
  - DSO meters can cater for more than 4 channels but billing and settlement systems are designed to only accommodate 4 channels.

EIRGRID SONI

Potential solutions examined to date

- **Solution 3: Out of market contracts solution**
  - Set up a Qualification System, whereby units could qualify for a contract whereby they will receive their imported energy costs when instructed to provide reactive power at 0MW
  - Payment for the energy associated with the voltage support would be recouped from imperfections.
- Issues identified:
  - Consultation and regulatory approval would be necessary before establishing the contracts
  - Could be done as an interim solution but ultimately a market solution would be preferable

EIRGRID SONI

Potential solutions examined to date

- **Solution 4: Re-register unit as 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 re-register as 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
  - <u>Issues identified:</u>
  - The MIC would be exceeded leading to overrun charges and would need to be renegotiated.
  - Would need a means to distinguish on-site load being serviced
  - Solution would be faster to implement rather than perfect

EIRGRID SONI

Recommendation

- Have a Working Group to further explore Solution 4 and any other viable solutions