

Participation of new generating technologies in the wholesale market

7 May 2019

The issue MDAG has been asked to address

- Are any aspects of the Code adversely affecting economic participation of new generating technologies?
 - Frustrating participation of some technologies?
 - Not properly signalling reliability costs of other technologies?
- Focus is on
 - Utility-scale, not consumer-scale. (IPAG covering consumer-scale)
 - 'Generation' (i.e. injection), not demand-side management
 - Although storage technologies have demand-side characteristics
 - Wholesale market issues, not network access and pricing issues
- The Authority seeks MDAG's advice on:
 - Appropriate first steps to address this issue
 - A prioritised future development plan

Purpose of today

- Brainstorm to identify issues
- Start to think about how to address the issues
- Produce skeleton of workplan

Background: Which wholesale market(s)?

- Wholesale *energy*
 - Spot market
 - Hedge market
- Ancillary services for *reliability*
 - Frequency keeping (FK)
 - Instantaneous Reserves (IR)
 - Over-frequency management (OFM)
 - Voltage support
 - Black start
 - Other services for reliability
 - AUFLS / Extended reserves
 - Ancillary services procurement via mix of
 - Market-based procurement
 - Mandated provision through asset-owner performance obligations (AOPOs)

Session 1: Technology brainstorm

- Identify Code issues affecting new technology participation in the wholesale market(s)
 - What is the nature of the issue?
 - What are the consequences?
 - What might be possible remedies?
- Three sub-groups
- One hour discussion, split into 15-minute time-slots for each technology
 - Solar
 - Wind
 - Storage (batteries, pumped-hydro, plus batteries + solar/wind)
 - Other (hydrogen, wave, tidal, etc.)
- Capture issues on laptop in shared Google Doc

Session 2: Distil brainstorm

- Talk through issues
 - Are there common characteristics of issues that span technologies?
 - What is relative importance of issues?
 - What are possible remedies?
 - What linkages with other Authority workstreams?
- Produce skeleton of workplan