

# BS options

Under current or enhanced hybrid designs (A1/2)

*Supplementary notes for MAC Workshop , 15 June 2010*

# Background

- Perceptions/ concerns of various parties about balancing support arrangements include:
  - Recipients of balancing support face significant costs due to DDAP/UDAP
  - Exposure to a monopoly balancing support provider
  - Cheaper balancing options may be available but not able to employed
  - MCAP does not always reflect balancing costs
  - Overnight de-commitment issues
  - Inability to see/ respond to MCAP forecasts
  - Intermittent supply does not face system costs impacts

# Case for change

- Distorted MCAP coupled with multiplying effect of UDAP/DDAP:
  - Under or overpays relative to true cost =
  - Enforced losses or possibly gains to Verve and/or barrier to participation by IPPs
- Lack of IPPs in balancing =
  - Enforced Verve participation in balancing (not necessarily bad)
  - Loss of opportunity for IPPs (not necessarily bad but probably is)
  - Loss of efficiency to market (bad !)
- Consider options to increase BS participation with DDAP/UDAP removed (and assumed refunds more reflective of prevailing value of capacity)
  - i.e. as A options (alternatives to net or gross dispatch regimes)

# Balancing participation

- Current paradigm:
  - Contract positions can be adjusted/ traded in the day ahead STEM process
  - Thereafter, IPPs are expected/ incentivised to operate to net contract positions
  - SM commits and dispatches Verve resources to balance the system
- Given the uncertainties at the time the relevant submissions are made it is unlikely outcomes will be efficient
  - Verve has to estimate its portfolio cost curve before it sees SM's VE dispatch plan
    - And faces potentially complex/ difficult to predict operating pattern across the day
  - SM commits /dispatches Verve resources independent of Verve's portfolio curve
  - IPPs have no indication of likely balancing requirements or prices when making STEM submissions
  - Incentives to maintain resource plans (notwithstanding feasibility issues) given DDAP/UDAP and capacity refunds – irrespective of balancing costs
- But there will be inherent trade-offs in seeking more generic BS participation:
  - MCAP forecasts and greater IPP flexibility to move off plans may be appealing
  - But benefits need to be balanced against potential system security economic efficiency impacts

# Dropping UDAP/DDAP?

- UDAP/DDAP are financial incentives/disincentive to follow resource plan
- What is so important about staying on resource plan?
  - Especially if movements off plan are “economic” in a particular half hour?
- If all plant is entitled to self dispatch at will:
  - System security implications/ loss of control by SM
  - Economic efficiency implications:
    - All participants make decisions about operations including fuel management and opportunistic maintenance on the basis of (however imperfect) forecast/prediction of other participants supply and demand.
    - Those decisions will be invalidated unless there is a level playing field and some limits are imposed.
    - Without rebidding and rapid turn around forecasts chances of inefficiency are high.

# Implications

- If DDAP/UDAP were to be removed and MCAP formation limited to those participating in balancing:
  - In principle, those causing or contributing to balancing would face cost reflective price
  - In practice, this depends on Verve incentives to submit srmc based bids
  - And its ability to estimate portfolio cost curves
    - Before SM decisions about unit commitments, plant schedules/ fuel implications are known
    - Without knowledge of ancillary service requirements etc
    - However: later day ahead process/ 2<sup>nd</sup> pass may help though?
- But how to enable wider BS participation on the day?
- A number of possibilities have been considered

# Options considered

1. BSCs with Verve
  2. Relax dispatch tolerance levels
  3. Provide for IPPs to seek authorised deviations from resource plans
  4. Enable IPPs to submit increase/decrease offers relative to MCAP (generic version of BSC option discussed previously)
  5. Second STEM
  6. BS auction
- Options 2 to 6 would require MCAP forecasts (but useful in any event)
  - We therefore consider MCAP forecasts first

# Balancing price forecasts?

- Balancing price forecasts could be published when Verve schedules prepared
  - Intersection of Verve balancing cost curve (ex STEM) and scheduled quantity
  - Indicate nominal price forecast with +/- uncertainties (e.g. hi/lo demand)
- SM receives resource plans around 1:30 pm and prepares Verve schedule
  - Schedule = demand forecast less wind forecast less resource plans (loss adjusted and taking account of any system constraints)
  - Schedule horizon to end of next trading day
- SM could prepare schedule mid morning (after STEM process) if participants supplying own load would provide gross generation (currently only available when resource plans submitted)
- Balancing price forecasts could be published when SM prepares/revises Verve schedule:
  - After 10:30 am following STEM; noon (BOM forecast); around 2pm (if changes due to resource plans); new BOM forecasts (4pm, 7pm, 7am); material changes (e.g. IPP outages)

# (Option 1) BSCs with Verve Energy

- Rules already provide for this (including wrt MCAP formation?)
- Apparent contracting impediments would need to be overcome
- Contracting with competitor (VE) would need to be seen to be at arms length and commercially sensible
- Verve would insert BSCs into its dispatch guidelines (used by SM)
  - SM would thus see and dispatch IPP plant under BSC in same manner as Verve portfolio
- SM may be able to fill facilitation role (along lines of alternative BSC options discussed later)

# (Option 2) Relax dispatch tolerances

- Allow IPPs to self dispatch above or below their resource plans (based on evaluation of MCAP forecasts)?
- Unfettered flexibility to deviate would have:
  - System security implications/ loss of control by SM
  - Economic efficiency implications - impacting decisions about operations including fuel management and opportunistic maintenance made on the basis of (however imperfect) forecast/prediction of other participants supply and demand (potentially increasing balancing requirements)
- Security implications could be addressed by requiring SM authorisation for deviations (against security criteria)
- Absent a level playing field with rebidding opportunities, it is impractical to mitigate potential economic efficiency implications
- Participants would also need to accept risk of MCAP settling at a different level due to deviations (theirs and others) invalidating their decision

# (Option 3) Seek authorised deviations

- Building on the previous option, could limits/ criteria be developed against which SM would authorise requests for deviations from plans?
- The SM dispatch (security) criteria in the rules could be applied to address potential security concerns
  - Authorisations would need to become firm commitments (not options unless at SM discretion)
- What about economic efficiency impacts?
  - Should requests that would affect commitment decisions be declined?
  - Or provide for Verve to resubmit its cost curve if materially impacted? (e.g. decommitment or commitment changes)
  - IPPs could in principle mitigate impacts on them by requesting deviations
- IPPs would make requests on the basis of MCAP forecasts but have to accept risk that MCAP may settle at a different level

# (Option 4) Generic BSCs

- Previously discussed BSC options for bottom end (minimum load/ decommitment) and top end (GTs) of the balancing merit order
- Consider a more generic approach through the full balancing merit order:
  - IPPs would submit raise offers and/or lower bids by facility (amounts they are prepared to be dispatched off resource plan by SM at specified prices)
  - Offers that are likely to be economic given MCAP forecasts would become BSCs – options which SM could dispatch if the MCAP exceeds/falls below
  - SM would monitor MCAP (based on actual quantities) and dispatch BSCs accordingly
  - A dispatched BSC would set MCAP (if it was the marginal balancer) to ensure appropriate compensation
- In principle this would allow IPPs to participate in balancing/ MCAP price formation.....and make IPPs more comfortable about limiting MCAP formation to participants involved in physical balancing

# (Option 4) Generic BSCs *cont'd*

- In practice, some potentially complex issues would need to be resolved including:
  - How to assess multiple offers/bids? Over different timeframes? Inter-temporal constraints on competing offers? And how to adjust MCAP?
    - Limiting offers/ bids to options able to be called on a half hourly basis would make assessments and dispatch decisions more practical
      - Recall the turn down or up tranche concepts discussed previously (compared to the decommitment tranches/ minimum downtime multi-period offers)
  - Impacts on existing commitment decisions?
    - As before, should Verve be able to resubmit its cost curve (if resource plans alter materially)?
    - Increased uncertainty/ scope for disconnects between VE guidelines and offer curve
- Factors support focusing on problem / maximum exposure areas at top and bottom of merit order (initially on turn down/up tranches)
  - Within broader package (e.g. fix BS price/ ensure signals get through, reduce DDAP/UDAP distortions, provide BS price forecasts)

# (Option 5) Second STEM

- Second STEM run would provide an opportunity to respond to MCAP forecast (following initial STEM and resource plan submissions)
- In effect contractual alternative to physical balancing
- Price certainty, although locked in a day ahead, and avoids physical balancing merit order/ dispatch issues
  - May reduce requirement for/ dependence on balancing?
- Could be combined with other BS options
- A2 feature – relatively costly to implement

# (Option 6) Incremental STEM/BS auction

- An incremental STEM style process following full STEM could be considered
- Would be conceptually similar to net dispatch
  - i.e. incremental/ decremental offers/ bids relative to NCP
- But a pre-dispatch contractual balancing mechanism rather than a balancing option in real time
  - Balancing price forecast would be published following full STEM
  - Participants could submit raise or lower bids (relative to NCPs) into a BS auction
- Significant implications/ costs for settlement systems?
- But if Option A2 were to be advanced, might it be preferable to second STEM?
- More generalised approach but may be too far ahead of real time?
  - cf – multiple rebidding opportunities under B/C compared to 2 option