

## Independent Market Operator

### Market Advisory Committee

## Minutes

|                    |  |
|--------------------|--|
| <b>Meeting No.</b> | 21   |
| <b>Location:</b>   | Edison/Tesla room<br>Office of Energy<br>Level 8, Governor Stirling Tower, 197 St Georges Terrace, Perth |
| <b>Date:</b>       | Tuesday 14 July 2009   |
| <b>Time:</b>       | Commencing at 10:00am until 12:00pm  |

| <b>Attendees</b>          |  |                   |
|---------------------------|--|-------------------|
| Allan Dawson              | Independent Market Operator (IMO)        | Chair             |
| Troy Forward              | IMO                                      | Member            |
| Fiona Edmonds             | IMO                                      | Minutes           |
| Ken Brown                 | System Management                        | Member            |
| Andrew Everett            | Verve Energy                             | Member            |
| Corey Dykstra             | Alinta                                   | Member            |
| Geoff Gaston              | Perth Energy                             | Member            |
| Peter Huxtable            | Water Corporation                        | Member            |
| Shane Cremin              | Griffin Power                            | Member            |
| Chris Brown               | Economic Regulation Authority (ERA)      | Member (observer) |
| Matthew Martin            | Office of Energy (OoE)                   | Proxy (observer)  |
| John Rhodes               | Synergy                                  | Proxy             |
| <b>Also in attendance</b> |  |                   |
| Jacinda Papps             | IMO                                      |                   |
| Neil Hay                  | IMO (from 11.30 to 12.05)                |                   |
| Rob Pullella              | ERA (from 10.00 to 10.31)                |                   |
| Jim Truesdale             | Concept Consulting (from 10.57 to 12.05) |                   |
| <b>Apologies</b>          |  |                   |
| Jason Banks               | OoE                                      | Member            |
| Steve Gould               | Landfill Gas and Power (LGP)             | Member            |
| Stephen MacLean           | Synergy                                  | Member            |
| Peter Mattner             | Western Power                            | Member            |

| Item | Subject   | Action |
|------|---|--------|
| 1.   | <b>WELCOME</b><br><br>The Chair opened the meeting at 10:00pm and welcomed members to the 21 <sup>st</sup> meeting of the Market Advisory Committee |        |

| Item | Subject   | Action |
|------|---|--------|
|      | <p>(MAC).</p> <p>The Chair thanked the MAC for agreeing to meet on a revised date (the meeting had originally been scheduled for 8 July 2009) to allow Jim Truesdale to present on whether the current market design can accommodate competitive Balancing.</p> <p>The Chair thanked OoE for providing a meeting room.</p>  |        |
| 2.   | <p><b>MEETING APOLOGIES / ATTENDANCE</b></p> <p>Apologies were received from:</p> <ul style="list-style-type: none"> <li>• Jason Banks (OoE)</li> <li>• Steve Gould (LGP)</li> <li>• Stephen MacLean (Synergy)</li> <li>• Peter Mattner (Western Power)</li> </ul> <p>The following proxies were noted:</p> <ul style="list-style-type: none"> <li>• Matthew Martin (OoE)</li> <li>• John Rhodes (Synergy)</li> </ul>   |        |
| 3.   | <p><b>MINUTES OF PREVIOUS MEETING</b></p> <p>The Minutes of MAC Meeting No. 20, held on 10 June 2009, were circulated prior to this meeting. The Chair invited comments. No comments were received.</p> <p>The minutes were accepted by MAC Members as a true and accurate record of the previous meeting.</p>  |        |
| 4.   | <p><b>ACTIONS ARISING</b></p> <p>All actions arising were either complete or on the meeting agenda. The following exceptions were noted:</p> <ul style="list-style-type: none"> <li>• Item 64: The IMO noted that it had previously asked the MAC to submit any comments on the rule change log for further consideration. The IMO noted that no submissions have been received so far, and extended the offer to the MAC to provide comments on an ongoing basis;</li> <li>• Item 69: The IMO noted that it had met with System Management to discuss possible solutions to the issues raised regarding System Management's pre rule change discussion paper: Tolerances for Compliance Reporting (PRC_2009_22) at the 10 June 2009 MAC meeting. It was noted that as an outcome of that meeting System Management will be updating the proposal to align the</li> </ul> |        |

| Item       | Subject   | Action                   |
|------------|---|--------------------------|
|            | <p>process with similar provisions which exist in the Market Rules for the list of equipment subject to outages and Loss Factors. System Management would make public the tolerances for each Facility and a process for review would be incorporated. The IMO and System Management had agreed that this would provide for governance around the process.</p> <p>Alinta noted that it still considers that the proposed changes are broader than necessary.</p> <p><i>Action:</i> System Management to provide the amended PRC_2009_22 to the MAC for further consideration once the updates have been made.</p> | <b>System Management</b> |
| <b>5a.</b> | <b>STATUS UPDATES: MARKET RULE CHANGES</b>  |                          |
|            | <p><b>(i) OVERVIEW</b></p> <p>The IMO noted that it has been continuing to find minor and typographical issues through the rule change walkthrough and that currently it has one high priority change recorded.</p> <p><i>Action:</i> The IMO to analyse and develop rule changes, if necessary, associated with the one high priority issue currently recorded in the issues log, within the next three to six months.</p>   | <b>IMO</b>               |
|            | <p><b>(ii) MARKET PROCEDURE CHANGE PROCESS TIMELINES [PRC_2009_24]</b></p> <p>The IMO presented the Rule Change Proposal. The objectives of the proposal are to clarify the requirements for the IMO in publishing Procedure Change Proposals and Procedure Change Reports received from System Management to be within five Business Days.</p> <p>The proposal is to be submitted as a fast track rule change as the IMO considers that it is of a procedural nature.</p> <p>The MAC was in unanimous support of the Rule Change Proposal.</p> <p><i>Action:</i> The IMO to formally submit RC_2009_24.</p>      | <b>IMO</b>               |
|            | <p><b>(iii) ALLOWING OFFERS IN STEM BELOW SRMC [PRC_2009_25]</b></p> <p>The IMO presented the Rule Change Proposal noting that it had been developed in response to discussions with Market Participants around behaviour when bidding in the STEM. The objective of the proposal is to clarify that avoidable costs can be included in STEM bids when bidding overnight, by allowing bidding below short run marginal cost (SRMC) in the Market Rules.</p>   |                          |

| Item | Subject   | Action |
|------|---|--------|
|      | <p>The IMO noted that it has had some discussions with ERA on this proposal. As a result of these discussions the IMO will make amendments to the drafting of clause 6.6.3 of the Market Rules to better reflect that there are no modifications to the upper limit of the bidding requirement being made.</p> <p>It was noted that this proposal is to be submitted as a standard rule change.</p> <p>A MAC member queried whether small generators will be impacted on by this proposal. The IMO noted that there may be greater competition overnight and this may impact prices.</p> <p>One MAC member queried whether the real issue is around the definition of SRMC and whether the ERA's SRMC paper should be updated rather than the Market Rules. In response, the IMO noted that the proposal is not amending the definition of SRMC but is amending the Market Rules to remove any uncertainty around bidding behaviour borne from the current drafting.</p> <p>The ERA noted that bidding below SRMC would not allow for predatory pricing behaviour and its role in monitoring anomalous behaviour is not being amended. Additionally, the IMO noted that the IMO and ERA have current methods for looking at the data to determine whether there is anomalous behaviour. It was reiterated that this proposal would simply clarify that bids below SRMC are allowed.</p> <p>A member questioned whether there is an agreed methodology for determining SRMC. ERA noted that there is a SRMC paper on its website to assist Market Generators in determining their reasonable expectation of SRMC. A member noted that the ERA's paper has not been updated since public submissions were requested in March 2008. ERA considers that the current draft of the SRMC paper adequately represents its views.</p> <p>A member questioned whether this is an opportunity to consider whether the Market Rules should be amended to refer to the misuse of market power. ERA noted that it does not consider that a change is required as its monitoring is undertaken in the context of anomalous behaviour.</p> <p>A MAC member noted that having market power and abusing market power are two separate considerations. It was agreed that consideration of the definition of market power would be separately noted.</p> <p><i>Action:</i> The IMO to add the definition of market power to its issues register.</p> <p><i>Action:</i> The IMO to send the amended drafting (as agreed with ERA) through to MAC members for consideration by 27 July 2009.</p> |        |

| Item | Subject  | Action  |
|------|--|---|
|      |  | <p style="text-align: center;"><b>IMO</b></p> <p style="text-align: center;"><b>IMO</b></p> |
|      | <p><b>(iv) HEADS OF POWER FOR MARKET PROCEDURES [PRC_2009_26]</b></p> <p>The IMO presented the Rule Change Proposal noting that the objective is to create a heads of power for various provisions under the Market Rules where there is currently no specific requirement to have a Market Procedure.</p> <p>The IMO noted that two situations have been uncovered. In particular, Market Procedures which were:</p> <ul style="list-style-type: none"> <li>• approved by the Minister but which have no mandate under the Market Rules to allow the IMO and System Management to make any changes; and</li> <li>• developed by the IMO and System Management which have no heads of power and therefore are not enforceable.</li> </ul> <p>The proposed rule change will create the ability for the IMO and System Management to develop and amend Market Procedures and ensure that they are enforceable.</p> <p>This proposal has been submitted as a fast track rule change as the IMO considers that it is a manifest error.</p> <p>System Management expressed concern that these Market Procedures need to be updated and modified frequently and considers that this may be unnecessary for the Power System Operation Procedures as there is already sufficient guidelines in the Market Rules and Technical Rules.</p> <p>The IMO noted that it is important for Market Procedures to have governance as they are subsidiary legislation to the Market Rules. It was noted that under certain circumstances a review process is needed to ensure that there is sufficient governance over any changes.</p> <p>It was questioned whether the Regulations allow the IMO and System Management to remove and replace the Market Procedures developed by the Minister at market start as there was concern that two procedures could be created if this was not the case. The IMO clarified that this will not occur as the Market Procedures approved by the Minister are the same as those developed under the Market Rules. This means that they can be developed, amended and replaced in accordance with</p> | <p style="text-align: center;"><b>IMO</b></p>   |

| Item       | Subject  | Action     |
|------------|--|------------|
|            | the process outlined in section 2.10 of the Market Rules.<br><i>Action:</i> The IMO to formally submit RC_2009_26.   |            |
| <b>5b.</b> | <b>STATUS UPDATES – WORKING GROUP OVERVIEW AND CURRENT MEMBERSHIP</b>  |            |
|            | <p>The MAC noted the working group overview and agreed with the proposed amendments to the membership within the terms of reference for the Renewable Energy Generation Working Group.</p> <p>The IMO also noted that it is currently out for tender for a project manager who will manage the body of work to be undertaken by the Renewable Energy Generation Working Group.</p> <p>A MAC member noted that the working groups terms of reference state that the working group was to prepare a report for 2008 and questioned whether this should be 2009..</p> <p><i>Action:</i> The IMO to update the Renewable Energy Generation Working Group Terms of Reference.</p>   | <b>IMO</b> |
| <b>5c.</b> | <b>STATUS UPDATES – PROCEDURE CHANGES</b>  |            |
|            | The MAC noted the overview of recent and upcoming IMO and System Management Procedure Change Proposals.  |            |
| <b>6a.</b> | <p><b>CONCEPT PAPER: OVERVIEW</b></p> <p>The IMO noted that:</p> <ul style="list-style-type: none"> <li>the recommendations for the MAC Constitution and Operating Practices Concept Paper (CP_2009_03) are underway. The suite of necessary changes can be expected mid July 2009;</li> <li>the Prudential Security Issues Concept Paper (CP_2009_09) is currently being developed and will be presented at the next MAC meeting; and</li> <li>the Rule Change Process Concept Paper (CP_2009_05) will be subject to the outcomes from the Market Rules Evolution Plan. The IMO noted that it currently has an improvement strategy for its rule change reports which will make them less repetitive.</li> </ul> <p>The MAC noted the Concept Paper overview.</p> |            |
| <b>7.</b>  | <p><b>EVOLUTION PLAN BALLOT RESULTS</b></p> <p>The IMO presented the evolution plan ballot results, noting the there was significant support shown in the ballot results for:</p>  |            |

| Item       | Subject  | Action                              |
|------------|--|-------------------------------------|
|            | <ul style="list-style-type: none"> <li>• improving the balancing mechanism,</li> <li>• reviewing the reserve capacity mechanism, and</li> <li>• reviewing the STEM.</li> </ul> <p>The IMO suggested that there was limited value in looking past the top three or four ranked areas due to resource constraints. The IMO noted that the review of the balancing mechanism and the STEM are likely to be interrelated.</p> <p>One MAC member noted that some of the lower ranked issues may be able to be progressed easily.</p> <p>The IMO noted that the review of the Reserve Capacity Mechanism is likely to require a large body of work and that there might be a number of smaller tasks within the overall review that may be able to be progressed easily (for example the determination of the Weighted Average Cost of Capital).</p> <p>One MAC member queried whether the Balancing mechanism referred to Ancillary Services. The IMO noted that it did not directly refer to Ancillary Services but that it was linked.</p> <p>It was noted that Synergy's non-completion of the table skews the results as a score of zero is a higher priority than one.</p> <p><i>Action:</i> The IMO to resolve the issue of Synergy's non-completed Market Rules Evolution Plan ballot and email the final results to the MAC members.</p> <p><i>Action:</i> The IMO to provide a scoping document to encapsulate what the specific issues to be addressed for the top four issues are and proposed way forward for the Market Rules Evolution Plan by October.</p> | <p><b>IMO</b></p> <p><b>IMO</b></p> |
| <b>8a.</b> | <p><b>IMO OPERATIONAL PLAN – PRESENTATION</b></p> <p>The IMO presented its operational plan, as approved by the Minister (2 July 2009), noting the following:</p> <ul style="list-style-type: none"> <li>• the IMO's focus is on enhancing the professional delivery of its services;</li> <li>• the revised strategic directions and the key deliverables for Market Operations, Market Development, Customer and Stakeholders, Financial Responsibility, and Capacity and Capability;</li> <li>• the IMO's allowable revenue which is projected to be \$28.1 million (2009/10); and</li> <li>• a reduction in the number of KPIs;</li> </ul> <p>The IMO noted that it will take any comments from MAC</p>  |                                     |

| Item       | Subject  | Action         |
|------------|--|----------------|
|            | <p>members out of session.</p> <p><i>Action:</i> MAC members to email any comments on the IMO's Operational Plan by 30 July 2009.</p>  | <b>Members</b> |
| <b>8b.</b> | <p><b>CAN THE CURRENT MARKET DESIGN ACCOMMODATE COMPETITIVE BALANCING? - PRESENTATION</b></p> <p>Jim Truesdale from Concept Consulting presented the results of the analysis on whether the current market design could accommodate competitive Balancing. It was noted that Jim consulted with System Management, Verve Energy and New Gen during the review.</p> <p>The presentation is attached as Appendix one.</p> <p>Members made the following comments:</p> <ul style="list-style-type: none"> <li>○ Stakeholders should be consulted to determine their specific interests with regard to shortening up commitment timeframes and opening up Balancing market arrangements. The IMO noted that it is likely that Market Participants will have differing motivations; and</li> <li>○ A member noted that from an efficiency perspective competitive Balancing is a logical option in the longer term. It was noted that the IMO needs to be cognisant of how much effort is appropriate for this market, suggesting that maybe changes to improve competition should be progressively implemented into the Balancing market;</li> </ul> <p>Verve Energy noted that it is currently costing money to perform its role in the Balancing market noting that this needs to be fixed. One step towards this is the current rule change to remove negative MCAP, however to make it attractive for others to supply there is a need to find an alternative.</p> <p><i>Action:</i> IMO to circulate the Balancing presentation to MAC members.</p> | <b>IMO</b>     |
| <b>9.</b>  | <p><b>OTHER MATTERS</b></p> <p><b>RC_2008_27 and RC_2008_34:</b> Alinta noted that with the IMO's decision to reject RC_2008_34 the market is currently left with a situation where if a Facility decides to reduce its Capacity Credits then customers are left exposed with no ability to manage the risk. It was noted that this is not a desirable scenario and that the funding of Supplementary Capacity Contracts still needs to be resolved.</p> <p>The IMO noted the discussion at the RC_2008_34 workshop around the use of Reserve Capacity Refunds and pooling these to fund the costs of Supplementary Capacity Contracts in the</p>  |                |



| Item   | Subject   | Action                |
|--|---|-----------------------|
|  | first instance.<br><i>Action:</i> The IMO to discuss the funding of SRC issue with Alinta to determine options for going forward. | <b>Alinta and IMO</b> |
| <b>10.</b>   | <b>NEXT MEETING</b><br>Scheduled for 9 September 2009.  |                       |
| <b>CLOSED</b><br>The Chair declared the meeting closed at 12:30pm, apologising for the meeting running overtime. |   |                       |

# **SWIS Balancing Arrangements – Issues and Options**

**Presentation to MAC**

**14 July 2009**



# Introduction

- **Brief:**

- Asked to consider competitive balancing market issues and options
  - within current regulatory arrangements (e.g. capacity based market design)
  - whilst ensuring security requirements are able to be managed

- **Today's purpose:**

- Test observations and ideas with participants and seek feedback

# Some observations – market arrangements

- **Capacity + srmc paradigm**

- Origins in investment market/ Verve dominance?
- Most electricity is traded bilaterally
- Ability to adjust position in STEM and/ or rely on balancing market

- **Balancing arrangements:**

|          | Verve                | Scheduled IPPs             | Unscheduled    |
|----------|----------------------|----------------------------|----------------|
| Support  | Underwrites          | Limited                    | No             |
| Rely on  | Yes                  | Yes                        | Yes            |
| Payments | Balancing Qty @ MCAP | Balancing Qty @ pay-as-bid | All Qty @ MCAP |

- **Because balancing dispatch order is internalised and IPPs generally manage own commitments:**

- Arrangements can be simpler than in competitive energy markets
- *Merit order* dispatch - blind to prices; economic dispatch & pricing model not needed
- Less dispatch rigour than in competitive spot markets => greater SM flexibility; less stringent market systems

- **Implications for opening up balancing arrangements?**

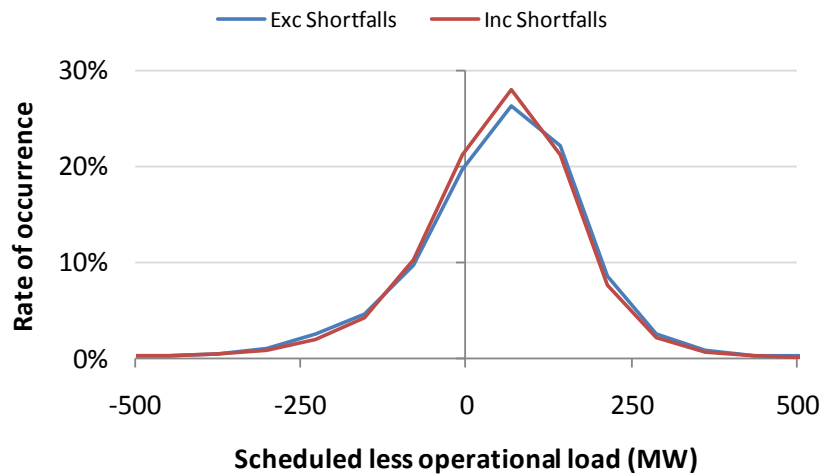
- e.g. how to form a balancing merit order? by facility? MCAP formation?
- Greater transparency would be sought by participants

# Some observations – balancing demand

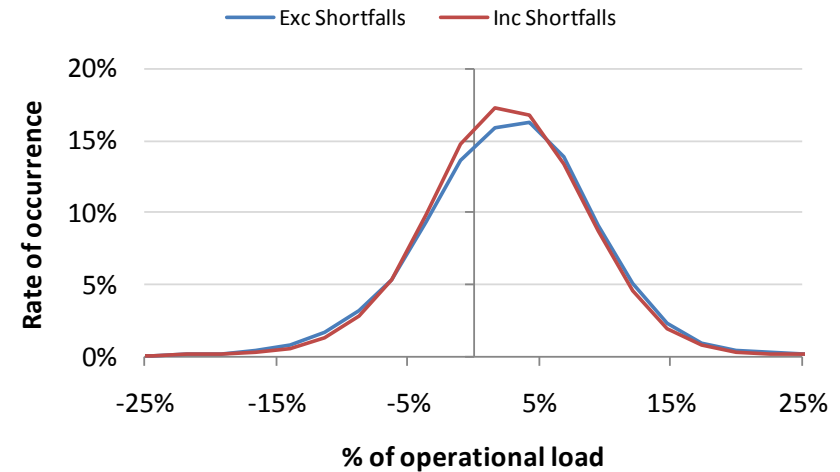
- **Actual load vs scheduled load provides some insights**

- *Scheduled load  $\approx \Sigma$  loss adjusted NCPs*

↓ **Scheduled vs actual load statistics (Sep 2006 - Mar 2009)**



↓ **Re-expressed as percentage of system load at the time**



- **Demand for balancing service is significant**

- Unscheduled generation? Likely to grow?
- Demand uncertainty?
- Outages/ fuel constraints?

# Some observations – context for competitive balancing?

- IPP facilities would compete with Verve's facilities @ srmc
- To the extent IPPs could compete, overall balancing costs (exposures) should reduce
- Overall objective? *Reduce balancing costs/ use resources effectively/ support efficient investment?*

## ➤ Need to explore/ understand motivations wrt balancing e.g.



- Managing electricity & fuel positions given STEM timeframes?
- Concern over transparency/ balancing price formation etc?
- IPP flexibility/ desire to participate in balancing per se?

## ➤ Answers could influence development strategy and options to consider. e.g.



- Balancing support contracts
- Conditionally increase resource plan tolerances for pre-certified IPPs
- Shorten STEM timeframes/ reduce balancing role
- Provide opportunities to adjust STEM commitments
- Open up balancing to all participants
- Variants and combinations of the above

## • Any option(s) will require investigation/ resolution of practical issues

- Need to be cognisant of time & effort vs benefits (and risks of solving wrong problem)!

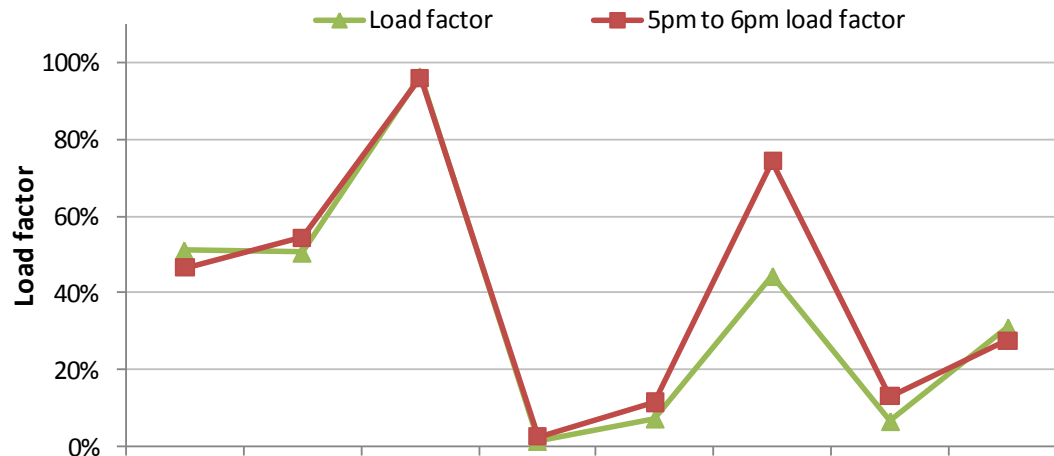
# Alternatives to Verve balancing resources

- Difficult to assess extent to which IPP facilities could currently compete with Verve for balancing

- **Relevant factors include:**

- Plant specific factors (e.g. fuel supply, commitment times etc)
- Available operating ranges (e.g. technical min-max MW; commercial positions) and plant flexibility
- Marginal cost of IPPs relative to Verve resources and MCAP levels

↓ Load factors for controllable IPP facilities during February 2009

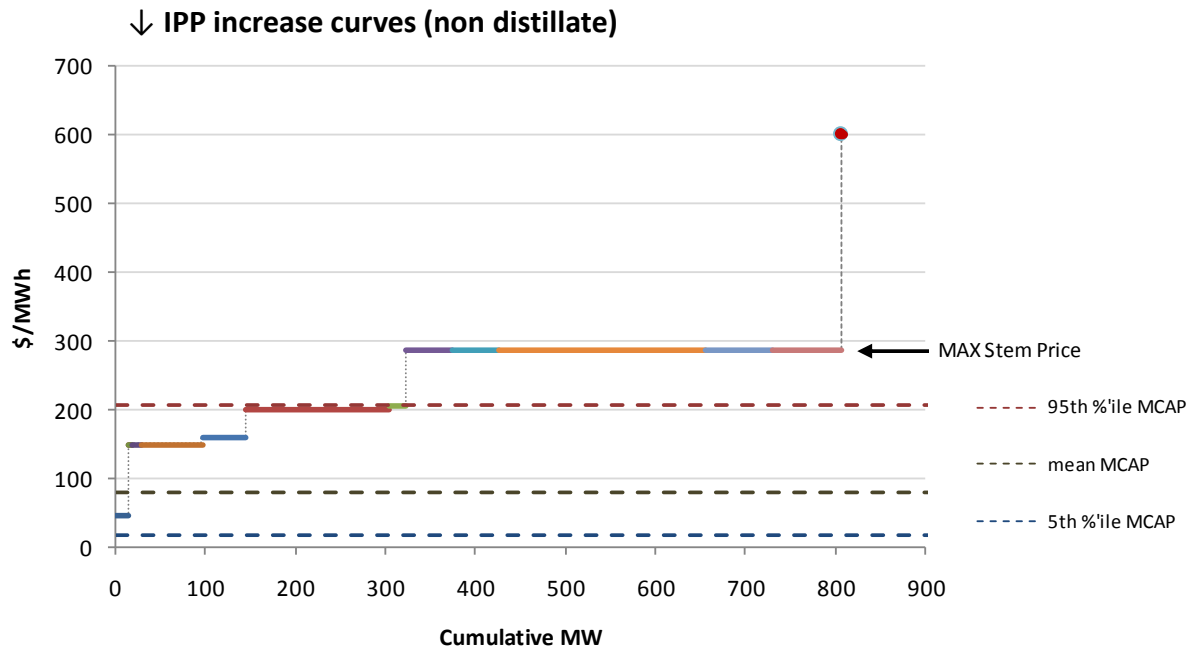


- Unused IPP capacity was available (≈ 500 MW during peak demand periods)

# Alternatives to Verve balancing resources *cont'd*

- **Historical MCAP levels vs IPP supply increase price curves for controllable non-distillate facilities**

- Derived from IPP standing balancing data
- Facility minimum dispatchable MW to nameplate MW levels

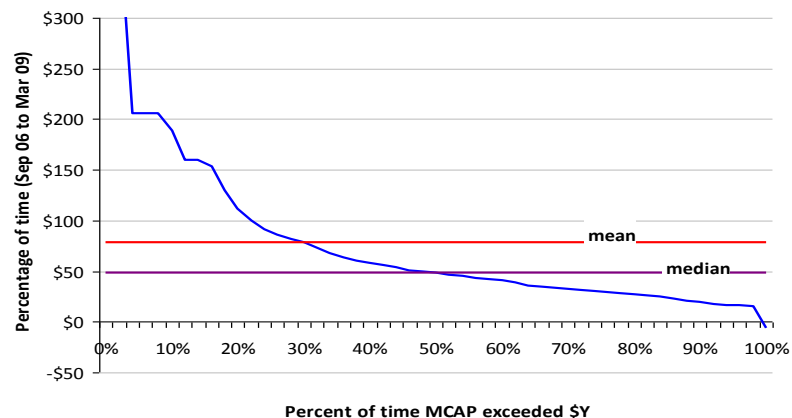


- If balancing data prices reflect *srmc*, IPPs would generally find balancing unprofitable at MCAP prices
- Balancing data prices are generally at Max or Min STEM price limits so probably not reflective of *srmc*?



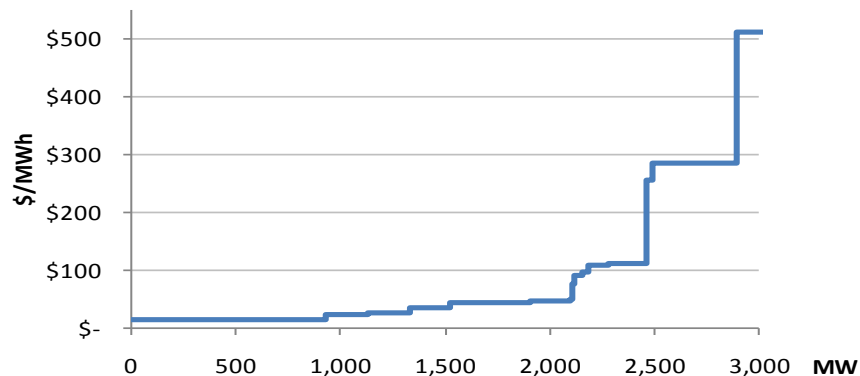
# Alternatives to Verve balancing resources *cont'd*

## ↓ MCAP statistics - September 2006 to March 2009



- Mean MCAP  $\approx$  \$78/MWh & median MCAP just under \$50/ MWh
- MCAP at times reached high levels, and occasionally very high levels (off chart)
- IPPs relying on balancing have exposure to these prices – or could profitably contribute to balancing (and reduce exposures)?

## ↓ Verve's STEM supply curve (5pm 4 February 2009)



- Rules specify srmc based submissions
- Implies >2,000 MW of Verve capacity below median MCAP level
- But significant capacity above median & mean STEM levels

# An ideal balancing regime?

- **In an ideal world, assuming the current overall market design (capacity/ STEM/ srmc balancing):**
  - Commitment timeframes would be less (minimising balancing/ allowing participants to better manage positions)
  - All participants could elect to compete with Verve's facilities for balancing
  - System balancing prices would reflect the price of the actual marginal facility
  - Those causing deviations would pay actual balancing costs
  - *Assets & resources would be used efficiently and the cost of balancing support would be minimised*

# An ideal balancing regime?

- **But such an ideal ignores market size/ transaction costs... and would involve significant changes:**

1. Verve would also submit resource plans, by facility
2. Participants (in the balancing market, inc Verve) would submit facility based balancing offers to the IMO
3. IMO would prepare a unified dispatch merit order (Verve & IPP balancing services)
  - Linked to facilities - currently STEM offers are portfolio based
  - Otherwise, how would SM dispatch competing balancing resources consistently, relative to each other?
4. SM would dispatch balancing services above/ below plans in accordance with unified merit order
5. Balancing prices would be set at the price of the marginal balancer
  - Rather than from ex ante portfolio curves submitted 1 to 2 days before dispatch
  - Would still need SM discretion/ flexibility and associated constrained on/ off balancing payments

- **Given practical issues/ likely effort, it is worth exploring :**

- Simpler options consistent with long term efficiency objectives?
- Transitional steps that can be taken?

# BS contracts?

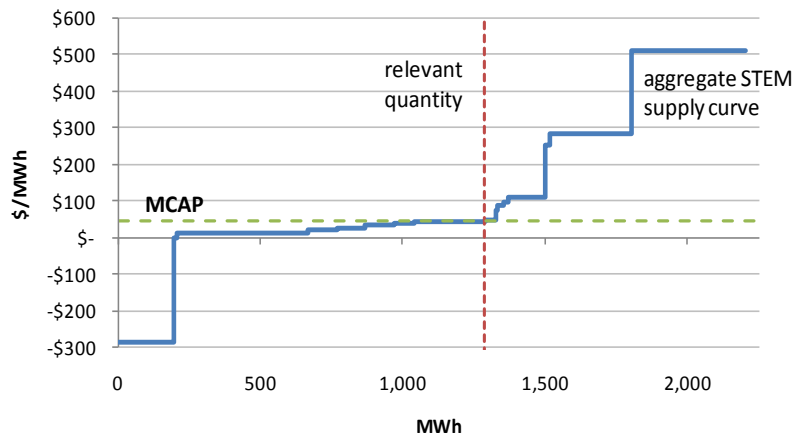
- Rules provide for SM and Verve to enter contracts with IPPs for the provision of balancing support services
  - “...one that allows SM to call upon the participant facilities to assist SM and Verve in meeting their dispatch obligations” - may be arguable as to what that means?
- Assuming Verve and SM support, a number of issues would need to be worked through. For example:
  - Would require support of both Verve and SM support to develop
  - On what basis would SM dispatch a BS contract relative to Verve resources?
    - Verve currently supplies a dispatch merit order to SM (not costs or prices)
    - Without relative costs/ prices, how would SM include BS contracts within the dispatch merit order?
    - Verve could submit STEM offers to IMO on a facility basis (currently portfolio basis) or provide facility srmcs
    - IMO could provide SM a balancing dispatch merit order (to rank Verve facilities & balancing support contracts)
  - How should BS contracts be accounted for in MCAP formation?
  - Likely to involve rule changes to be effective? Multiple BS contracts?

# Conditional relaxation of resource plan deviation tolerances?

- **Controlled expansion of dispatch tolerance for “pre-certified balancing capable” IPPs?**
  - In principle, would enable IPPs to contribute to balancing at MCAP prices
- **Uncontrolled IPP deviations above & below resource plans could be problematic:**
  - For other participants in managing NCPs
  - For SM (uncontrolled/ unplanned deviations could hinder balancing the system/ pose security risks)
  - For dispatch and pricing efficiency
    - e.g. were an IPP were to displace lower cost resource or MCAP clear below IPP balancing cost
- **In some respects, unscheduled generation poses similar risks (and spills into balancing market at MCAP)**
- **But *schedulable* generation can be “planned” in advance of dispatch**
  - And, if necessary, SM can exercise discretion to dispatch/ not dispatch for security reasons
  - This, & greater transparency about market conditions and likely MCAP, could mitigate risks somewhat

# Conditional relaxation of resource plan deviation tolerances?

- Could ex ante supply curve & relevant quantity (or MCAP) estimates be available to participants?

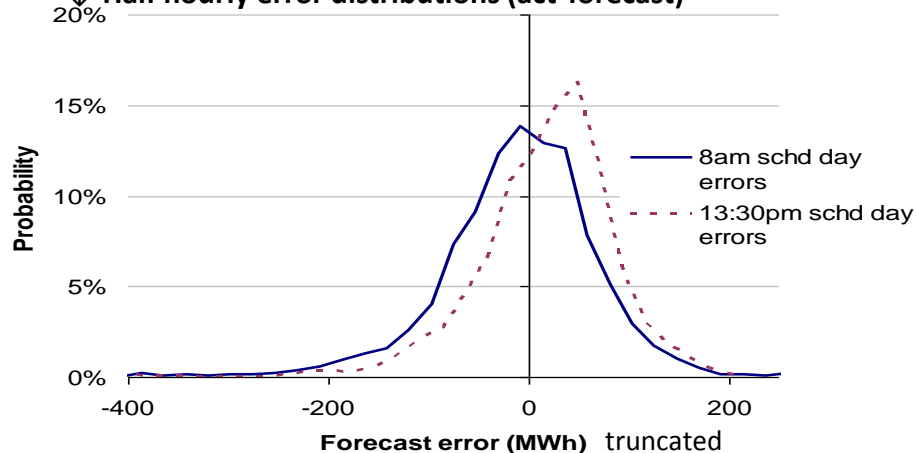


- Would that enable certified IPPs to:
  - Anticipate likely MCAP levels?
  - Advise, subject to SM requirements, deviations from resource plans (within pre-agreed limits) in advance of real time
- Less than ideal but in a controlled manner might provide a step towards a competitive balancing market?
  - Participants may face pricing risk (markets normally dispatch on price to avoid such risk)

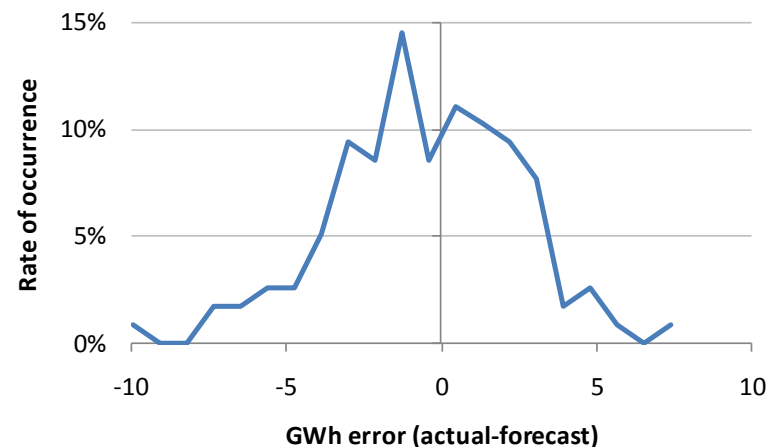
# Reduce STEM timeframes/ balancing requirements?

- **Participants make commitment decisions approximately 24 to 48 hours ahead of actual dispatch**
  - Significant changes in supply and demand conditions (and MCP) can occur over that timeframe
    - Forced outages, fuel supply constraints, variations in demand & unscheduled supply etc
  - Someone (retailers and/ or generators) ultimately bears demand uncertainty / balancing costs....

↓ Half hourly error distributions (act-forecast)



↓ In daily energy terms



- **Do current commitment timeframes reflect business hours rather than participant needs?**
  - Could reducing commitment times have similar effect (or initially be preferable?) to opening up balancing per se?

# Reduce STEM timeframes – reduce balancing requirements

- **Verve indicated some concerns about long commitment timeframes/ uncertainty/ flexibility**
  - e.g. distillate burn to manage gas position later in the day
    - In such circumstances, the real cost of balancing is high - with opportunities for alternative lower cost resources to come into play (unless subject to same gas constraints?)
- **IPPs are also likely to be concerned about making commitment decisions so far ahead of real time**
  - Newgen indicated previous day's gas use/ current position not known when it makes STEM submissions
  - IPPs without portfolio benefits find commitment lead times difficult if outages and/ or fuel constraints occur
- **Could/ should STEM timeline be shortened?**
  - e.g. submissions and auction late in the day or early next day
  - Same process – but would benefits exceed extra transactions costs (why is trading day 8am to 8am?)
- **Alternatively, could consider introducing a secondary STEM process (rolling or at set times)**



# Secondary STEM process?

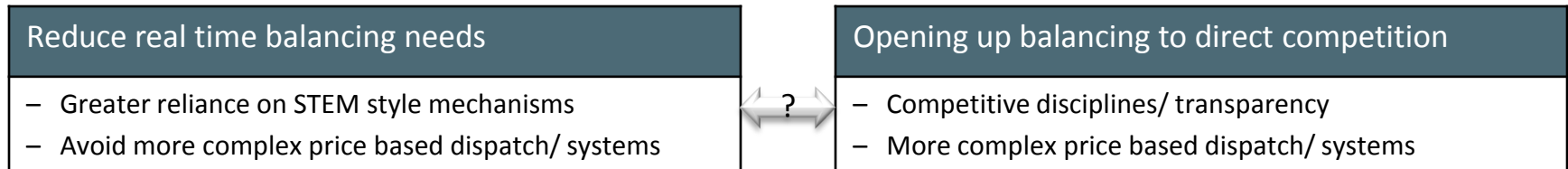
- **Could consider introducing a secondary STEM process**
  - e.g. leave current process intact and/ or shorten timeframe (low cost means of adjusting positions)
- **Provide further opportunity to adjust bilateral positions through secondary STEM process**
  - e.g. at fixed time each day or rolling gate closure (e.g. 4 or 8 hours ahead of dispatch)
- **Could be a more formal way of increasing flexibility/ relaxing resource plan tolerance?**
  - i.e. formalised basis for resource plan changes closer to real time
- **Could increase IPP involvement in balancing/ reduce Verve role**
- **But not directly introduce competitive disciplines and transparency into balancing market**
- **That would require efforts to be focused on opening up the balancing regime itself**
  - Along the lines discussed earlier

# Opening up balancing market....

- **In theory, a fully competitive balancing market with rolling gate closure could be sufficient support for bilateral regime**
  - e.g. UK market = Bilateral regime + balancing ( with no STEM process)
    - Rolling 1 hour gate closure
    - Participants declare availability to National Grid in advance
    - NG enters warming contracts with plants with start times > 1 hour
      - So they can offer into balancing and be ready if dispatched
- **Relying on such a balancing market would probably be excessive in SWIS context**
  - Increased transaction costs
  - STEM has low transaction costs, intended to counter market concentration?
- **Ultimately, focussing on an open balancing market probably gets closest to ideal arrangements**
  - But may be significant effort/ changes to move to full price based dispatch merit order

# Conclusions

- **No insurmountable technical impediments to increasing IPP participation in balancing arrangements**
  - But how much effort it is worth expending...and where to focus efforts
- **A number of options could be considered but generally within two themes:**



- **Participants should be consulted to determine interests/ preferences with regard to shortening up commitment timeframes and/ or opening up balancing market arrangements to IPPs**
  - Verve has expressed an interest in shorter timeframes (or greater flexibility)
  - Informally Newgen has as well
  - Only limited informal discussion of issues rather than options has been possible though
  - The views of retailers and other generators will also be relevant
- **Subject to the above, and any alternative suggestions, straw men designs could be developed for increased STEM flexibility and opening up balancing per se**
  - Would enable assessment of feasibility and relative costs and benefits and inform preferred option(s) including transitional steps