Independent Market Operator

Renewable Energy Generation Working Group

Minutes

Meeting No.	16	
Location:	Media Suite, Perth Convention Exhibition Centre 21 Mounts Bay Road, Perth	
Date:	Thursday, 2 September 2010	
Time:	2:00 pm – 5:00 pm	
Attendees		
Troy Forward	Independent Market Operator (IMO)	Chair
Courtney Roberts	IMO	Minutes
Fiona Edmonds	IMO	
Jenny Laidlaw	IMO	
Greg Ruthven	IMO	
John Vendel	Pacific Hydro	
Matthew Rosser	Pacific Hydro (arrived at 2:24pm)	
Steve Gould	Landfill Gas & Power	
Andrew Woodroffe	Skyfarming	
Taron Brearley	Office of Energy	
Matthew Martin	Office of Energy	
Brooke Eddington	Office of Energy	
Chris Brown	Economic Regulation Authority (arrived at 2:45pm)	
Corey Dykstra	Alinta	
John Rhodes	Synergy	
Tom Pearcy	Western Power	
Rob Rohrlach	Energy Response	
Phil Kelloway	System Management	

Brendan Clarke	System Management	
Anwar Mohammed	SunPower	
Shane Cremin	Griffin Energy	
Wendy Ng	Verve Energy	
Andrew Everett	Verve Energy	
Kyle Jackson	Mid West Energy	
Apologies		
Alistair Craib	Collgar Wind Farm	
Stephen Hurley	Dept. of Premier and Cabinet	
Brad Huppatz	Verve Energy	
Tim Bray	Western Power	
Michael Carr	Tenet Consulting	
Pablo Campillos	DMT Energy	

Item	Subject	Action
1.	**WELCOME** The Chair opened the meeting at 2:02 pm and welcomed all attendees to the Renewable Energy Generation Working Group (REGWG) meeting. The Chair thanked Working Group members for their contribution throughout past years and expressed that this meeting would be the second last, if not the last meeting to conclude the REGWG. The Chair noted that there was a large agenda for today's meeting and a number of large decisions to be made.	
2.	**MEETING APOLOGIES / ATTENDANCE** The apologies were noted as listed above. The Chair welcomed the following IMO staff: • Ms Fiona Edmonds; • Ms Jenny Laidlaw; and • Ms Courtney Roberts.	
3.	**MINUTES OF PREVIOUS MEETING** The minutes of the 12 August 2010 REGWG meeting were	

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	circulated prior to the meeting for review and comment. The following points were raised by Working Group members: • Item 8: Dr Steve Gould clarified that his questions had been around non-discrimination of technologies in the Market Rules. In particular that if the Load for Scheduled Generation (LSG) methodology was to be adopted then this should be consistently applied across the market, including the IRCR. *Action Point: Dr Gould to provide the IMO with suggested replacement text to be adopted in the final minutes.* *Action Point: The IMO to make the proposed amendments and publish minutes from Meeting 15 (12 August 2010) as final.*	**Dr Gould** **IMO**
4.	**ACTIONS ARISING** All action items were either complete or on the agenda for discussion during the meeting. The following exceptions were noted: • **Action Item 23:** A presentation by ROAM on the Work Package 3 results will be made to the Rules Development Implementation Working Group (RDIWG) as part of its wider review of the Balancing mechanism. • **Action Item 50:** Other elements of Ancillary Services will be presented in the REGWG Final Report to the MAC. • **Action Item 52:** Referral of Work Package 4 to the ERA Technical Rules Committee is pending. • **Action Item 54:** Mr Brendan Clarke will provide an update to the Working Group on the issue of conflicting ramp rate restrictions in the Technical Rules and PSOP: Dispatch as part of Agenda Item 5. • **Action Items 56 and 57:** These will be progressed in conjuction with the REGWG Final Report to the MAC. The Chair noted that the response provided by the Minister to the MAC on the procurement of Renewable Energy Certificates (RECs) had been circulated to the Working Group.	
5a	**WORK PACKAGE 3: REVIEW OF RECOMMENDATIONS: PRESENTATION** The Chair introduced Mr Brendan Clarke from System Management to present an update to the Working Group on the issue of conflicting ramp rate restrictions in the Technical Rules and System Management's Power System Operation Procedure (PSOP): Dispatch. A copy of the presentation is provided in Appendix 1 to these minutes.	

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	Mr John Vendel questioned how the ramping requirement specified in the Technical Rules impacts on the provision of frequency keeping Ancillary Services. In response, Mr Clarke noted that most wind farms are not on governor control. Further, to provide a frequency control service a wind farm would need to run at less than full output most of the time. Mr Clarke expected that most wind farms would prefer to operate at maximum capacity. It was noted that governor action was not covered by these rules. Mr Vendel noted that by limiting the ability of wind farms to provide generation in these situations, the market will need to source this generation from elsewhere. The Chair noted that if wind farms were to be allowed to ramp at a greater rate than that currently specified during times when a frequency response is not required they would at times contribute to the requirement of needing Ancillary Services. The Chair noted that there would be both benefits and disadvantages if wind farms were to be able to ramp at a greater rate. Mr Vendel expressed that he will not agree that the proposed ramp rate limit is appropriate when consultation is sought on the amendments to the Technical Rules. Mr Kyle Jackson noted that solar thermal plant can be much quicker to ramp up or down than wind farms. In response, Mr Phil Kelloway noted the changing demand for Load Following and stated that if a cost reflective regime is developed then these limits on ramping can be reviewed. Mr Forward noted that this was a Technical Rules issue and suggested that it be noted as an observation by the REGWG. Mr Clarke noted the ramp rates applicable to Scheduled Generators. Mr Corey Dykstra noted that in previous discussions between Alinta and System Management it had been agreed that the 6 MW per minute ramping limit could not always be met. Mr Clarke agreed that the limit applied on a best endeavours basis and might not be always achievable on startup. However, Mr Clarke considered that more was expected from scheduled generators once they were in a thermally stable state. The Chair recommended the following be noted in the Work Package 3 recommendations to be provided to the ERA's Technical Rules Committee: • Ramp rates should not be applied to individual intermittent generators. Mr Clarke recommended that the ROAM recommendation should be amended to say that "Ramp Limits should not applied to intermittent generators individually for the purpose of	

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	reducing load following requirements". The Working Group agreed. Mr Vendel questioned if the ramping rate will apply to each individual turbine or the entire wind farm? The Chair agreed clarifying the wording to refer to intermittent wind farms. *Action Point: ROAM Consulting to update the final report to state that "Ramp rates should not be applied to ~~individual~~ intermittent wind ~~turbines~~ generators individually for the purpose of reducing Load Following requirements and therefore the 15% limit should be removed from the Technical Rules if only for this purpose".* *Action Point: The IMO to provide the agreed recommendations for Work Package 3 to the Technical Rules Committee.*	**IMO** **IMO**
5b	**WORK PACKAGE 3: REVIEW OF RECOMMENDATIONS** The Chair advised that the Working Group needs to make a recommendation on Work Package 3 to the MAC. In particular, the Chair requested members to apply their professional judgement in good faith in making a recommendation. The Chair noted that in making a recommendation any dissenting views would be noted and provided to the MAC for consideration. Further consultation on the recommendations would be available through the Rule Change Process. The following points summarise the discussion of the Working Group: • ***Competitive Procurement of Ancillary Services*** (Recommendations 1, 4, 5, 6): The Chair noted System Management's work to develop a market based mechanism for Ancillary Services. The Working Group agreed that System Management should continue its work and present its solution to the RDIWG. • ***Ancillary Services Cost Allocation*** (Recommendation 3, 7, 8): The IMO proposed that the REGWG endorse these recommendations. Mr Vendel noted that recommendation 8 (that Intermittent Generators should pay the marginal cost of load following) did not cover the issue of Scheduled Generators failing to meet their dispatch targets. Mr Vendel suggested that the recommendation be amended to include Scheduled Generators not meeting dispatch targets. The Chair agreed but questioned whether this issue was already addressed via other mechanisms. There was general support for the causer pays principle but some discussion about how this could be applied to Load Following costs for Scheduled Generators, given that data is only available for 30 minute intervals.	

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	The Chair suggested putting forward any outstanding questions to ROAM for consideration and including its answers in the final package to the MAC. Ms Wendy Ng agreed, noting that Verve Energy had identified some simplifications to ROAM's equations. Mr Jackson sought clarification on the large variances in the numbers presented in the ROAM report. The Chair explained that ROAM had modelled availability costs using two methods, one in accordance with the current Market Rules and the other based on dispatch modelling (to gain an indication of the actual costs faced by Verve Energy). The second method assumed that Verve Energy remained the sole provider of these services, as is currently the case. The Chair noted that any movements towards competitive procurement of Ancillary Services alter the outcomes of the modelling. The Chair noted that the costs of Ancillary Services were expected to rise due to increases in Verve Energy's gas costs. Mr Vendel noted that the dispatch modelling assumed $9 gas, however the original modelling used a range of prices. Mr Matthew Rosser mentioned that the market needs to be as efficient as possible. Mr Vendel added that if Scheduled Generators are not meeting their obligations, the costs that are incurred should not worn by Intermittent Generators. The Chair noted that there was no disagreement with the concept of causer pays, and suggested that ROAM be asked to further consider the obligations of Scheduled Generators. The Chair also agreed to take on board Ms Ng's suggestions for simplification of the ROAM equations. Ms Ng questioned if ROAM could consider different timeframes for the implementation of the proposed Amending Rules, suggesting that some changes could be made earlier than others. The Chair agreed that the IMO and ROAM would consider the staggered implementation of the Amending Rules. There was further discussion about the allocation of Load Following costs to Scheduled Generators and the potential adoption of a proportioning approach instead of a difference based approach. The Chair offered to instruct ROAM to investigate a proportioning approach and prepare a comparison of both approaches for presentation to the MAC. The Working Group supported this proposal. *Action Point: The IMO to instruct ROAM to:* • *consider how the impact of Scheduled Generator deviations from dispatch targets can be reflected in the allocation of Load Following costs;* • *consider the suggestions made by Verve Energy for the*	

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	simplification and staged implementation of the changes proposed by ROAM to the Market Rules for Work Package 3; • *investigate the use of a proportioning approach and prepare a comparison of this approach and the difference based approach to Load Following cost allocation; and* • *update its Final Report for Work Package 3 to reflect the outcomes of its investigations.* *Action Point: The IMO to present the results of the additional investigations undertaken by ROAM for Work Package 3 to the MAC.* • ***Dispatch Merit Order*** (recommendations 9, 10): The Working Group agreed that the issue of the Dispatch Merit Order and potential wind curtailment should be potentially reviewed by the RDIWG. • ***Technical Rules*** (recommendations 2, 11, 12): The Working Group agreed to ROAM's recommendations, subject to the agreed amendments to recommendation 11 (concerning ramping limits for Intermittent Generators). • ***Wind Correlation*** (recommendation 13): The Working Group agreed that this recommendation regarding Wind Correlation will not be progressed further as previously agreed in Meeting 15.	
6a	**RULE CHANGE PROPOSAL: ADJUSTMENT OF RELEVANT LEVEL FOR INTERMITTENT GENERATION CAPACITY** The Chair introduced Mr Greg Ruthven to discuss Alinta's Rule Change Proposal: Adjustment of Relevant Level for Intermittent Generation Capacity (RC_2010_24). Mr Ruthven noted that the proposal is to remove the effect of Planned Outages, Consequential Outages and Dispatch Instructions from the 3 year average calculation used to determine the level of certification for an Intermittent Generator. Mr Ruthven noted the overlap between the proposal and the work being undertaken for Work Package 2. In particular, Mr Ruthven noted that the proposed amendments would impact on all of the methodologies identified. The Chair noted the progression of the Rule Change Proposal would need to be taken into account in which ever methodology is adopted. Mr Dykstra mentioned that the issue is impacting on Intermittent Generators applying for Reserve Capacity certification and needs to be addressed. Mr Jackson questioned whether the timing of Alinta's proposal will effect the progression of Work package 2. The Chair clarified that no impact was expected. Mr Clarke questioned the reason for the removal of Planned Outages from the calculation. In particular, Mr Clarke expressed concern that it may create an incentive for a greater number of	

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	planned outages to occur at non-peak times. The Chair clarified that currently the calculation uses an averaging approach and so there is no incentive either way. *Action Point: Alinta, System Management and the IMO to discuss the potential impacts on incentives for Planned Outages under RC_2010_24 further offline.* Ms Ng considered that the Rule Change Proposal seemed reasonable but suggested a minor amendment to account for Verve Energy not being issued Dispatch Instructions.	**Alinta, SM and IMO**
6b	**WORK PACKAGE 2: OPTION DECISION** The Chair noted that the Working Group had a number of very important decisions to make today which will result in recommendations being put before the MAC. The Chair noted that while a consensus on the outcomes would be preferable, it was understood that the Working Group may not be able to achieve this. The Chair noted that there had been significant review, analysis and discussion on the issues being decided by the Working Group today. A balance across the various market drivers needs to be achieved and members have had numerous opportunities to provide formal and informal comments of the work. The Chair noted that there are a number of broad options for Work Package 2 which have been put forward for discussion. The Chair noted the following two considerations: • System Management's view based on both opinion and experience that uncertainty exists around on the reliability of intermittent generation and peak demand times; and • Longer term investment signals that are affected by the way Capacity Credits are allocated to Intermittent Generators. In particular, the Chair noted that if capacity is undervalued then from an operational perspective System Management may not have the necessary resources to keep the lights on. On the other hand, over-valuing capacity may lead to oversupply or an overreliance on the capacity supplied specifically by Intermittent Generators. The Chair noted that the IMO is tasked with the responsibility of balancing the objectives of the market as a whole. The Chair also noted the common view that currently the Market Rules do not account for solar and that wind farms are overcompensated. The Chair also noted the work completed by MMA to investigate other options for determining the level of certification for Intermittent Generators.	

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	Mr Vendel noted that another body of work had also been completed by Senergy Econnect. The Chair stated that this had been based on the same data as that undertaken by MMA and so it was expected that the outcomes would be correlated. The Chair noted that it came down to over the balance between a probabilistic outcome vs. operational experience, stating that both rationales had limited data. Mr Kelloway noted that System Management has experienced total system shut down and other events which have left them feeling uncomfortable. System Management noted that the decision being made by the Working Group will have far-reaching implications and that the market is not risk-free. A reasonable compromise needs to be reached between the level of risk and investment implications. Mr Kelloway noted that System Management would favour Option 3 as it recognises periods when capacity is most needed. Mr Kelloway noted that Table 3.3 of MMA's report shows this is the most conservative methodology available. Mr Kelloway noted that the unique characteristics of the WEM associated with getting the balance between the capacity mechanism and the capacity that is actually delivered need to be taken into account. The Chair noted that Option 3 is the most conservative option and noted that the other preferences of Working Group members would be around Option 2(a). Mr Jackson noted that Option 2(a) uses 750 Trading Intervals in the calculation which makes it more conservative than the 250 Trading Intervals method that had been considered by MMA. Mr Vendel noted that Option 3 creates an element of investment risk which will change over time. It is important to get the right signals to investors. In particular, Mr Vendel noted the unexpected finding that wind is correlated well with demand. This needs to be taken into account in recommending an option to be adopted. Mr Vendel clarified that investors want certainty of market behaviour and that this is achieved through transparency. As a result it is important to get the right message going forward. The Chair agreed, noting that this doesn't cover all potential situations but rather encourages reliable capacity. The Chair noted that to ensure there are sufficient levels of reliable capacity, mechanisms such as Reserve Capacity testing and refunds have been incorporated into the market design. Mr Vendel suggested that the current reliability standards require review. The Chair clarified that a wider review of the Reserve Capacity Mechanism is planned. Mr Vendel considered that this would achieve some of the requirements under Option 3. Mr Kelloway noted that the correlation between peak periods and wind farm outputs also has a large variability as a result of	

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	the contributions of wind farms varying considerably. Mr Kelloway considered that it is too early to place too much weight on these results until such time as a one in ten year load situation is experienced. The Chair suggested that there may be merit in proceeding with caution until more evidence is available. The Chair suggested Option 1 as a compromise. Mr John Rhodes from Synergy suggested that the summary presented in Table 3.3 of the MMA report would provide a good context for the discussion. Mr Jackson mentioned that the REGWG had engaged a consultant to provide advice on these outcomes. The OoE and System Management put forward their alternative methodologies, others were not invited. The Chair noted that they did ask Senergy for a proposal but they couldn't find one. Mr Cremin suggested that Options 2a and 2b deliver the highest valuations and noted that currently there is no need for conservatism because of the excess capacity in the market. The Chair noted that the Working Group should not consider the current supply position of the market in making its decision. The Chair noted the merit in Option 1 due to its consistencies with the payment for capacity (IRCR) adopted in the market. In particular, payment for capacity is based on a small number of peak intervals. Dr Gould raised the point that a fleet POE is used then expand the average amount for wind farms. Mr Taron Brearley stated that a fleet outcome could provide a diversity benefit for Intermittent Generators. Further Mr Brearley stated Option 1 would provide a valuation that was very certain and focuses on intervals where the system is most at risk. The Chair questioned if System Management had considered Option 1 as a point of balance. Mr Clarke responded that there is concern that a large amount of data would be required to get enough data points. If there was a large amount of historical data relating to extreme events then this would be workable. Mr Brearley noted that the proposal requires 8 years of information to be provided. The challenge would be around determining data if only 2/3 years of information is available. Mr Jackson stated that determination of certification levels based on 12 Trading Intervals could introduce greater volatility as these values move around a lot. Mr Brearley noted that if you are a ~~generally~~ genuinely variable generator then you are equally likely to be available in peak intervals as you are to not be available. Mr Dykstra noted Option 1 (Table 3.2 of the MMA report) is a volatile series. Mr Ruthven mentioned that this method used data from 2001 onwards, so the early values rely on a small amount of data. The later values exhibit greater stability as the volume of data increases, therefore future valuations would be	

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	more stable. The Chair suggested that maybe Option 1 could be based on 24 Trading Intervals to reduce volatility in the fleet assessment. Mr Dykstra stated that it would not make sense to contemplate a change in methodology that would result in suboptimal change in the capacity allocated. The Chair noted that there is currently not enough data available to make a decision. Mr Dykstra noted that there is a risk in making amendments simply because they have been presented to the Working Group. The Chair noted that the counter argument is doing nothing and simply accepting the risk that a one in ten year event occurs. Dr Gould noted that the Working Group is making a recommendation and that if the proposal is defective, it will not be accepted by the IMO. Dr Gould noted that all the options available are potentially defective as there is not enough data available. Dr Gould suggested that a compromise is required which could be achieved by amending Option 1 to improve payments. In particular Dr Gould suggested that an amendment from LSG to peak periods would trigger increased payments as identified in table 3.4 of the MMA report. Dr Gould advocated that System Management consider what compromises could be made to make the option more acceptable to wind farms. Mr Kelloway responded that averaging a large number of intervals gave a very stable result but was risky, and that none of the proposals was perfect. Looking at the three methodologies, Mr Kelloway considered that Option 1 would be acceptable to System Management, with a slight uplift (up to about 18%), available by using peak demand rather than LSG. Mr Cremin suggested that if a more conservative approach is to be applied then existing plants needed to be subject to grandfathering provisions. The Chair suggested that the MAC consider whether grandfathering provisions would be appropriate. Mr Jackson suggested that a range of technologies needs to be encouraged. The Chair noted that the fleet options would encourage this diversity. The Chair acknowledged that the decision is a value judgement and noted that the drivers should be for a good outcome from a reliability and investment perspective. The Chair suggested that Option P1P could represent the most balanced potential outcome. Mr Rhodes noted MMA's recommendation against using peak periods to overcome conservation. Mr Rhodes considered that if Option 1 or 3 was adopted then there would be a need for NEM-like grandfathering. The Chair suggested that Mr Rhodes' comments needed to be considered but were not a matter for the Working Group.	

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	Mr Dysktra stated that even with grandfathering the true value to the market is not captured. The Chair agreed that grandfathering is problematic from a regulatory point of view. Mr Cremin noted that regulatory risk is encountered by Market Participants all the time. Mr Cremin stated that he had an issue with introducing greater regulatory risk into the market without hard justification. Mr Brearley suggested the IMO move forward and develop details on these options, through capturing the positive and negative attributes associated with each. The Chair noted that there are serious concerns around the amount of data which has been used. Ms Ng mentioned that the operational experience presented by System Management should be taken into account. Mr Dykstra noted that there is not sufficient evidence to make a decision either way and bridge the philosophical differences. The Chair recommended that one option be adopted until such time as further information is available. Mr Jackson noted that if the status quo is adopted then solar facilities will not be financially viable. The Chair agreed that it is important to send the right signals to investors around the value of solar facilities. Dr Gould agreed with the Chair's idea to put Option P1P on the table. Dr Gould asked System Management whether it would support a fleet probability of exceedence of 90% rather than 95% and increasing the number of Trading Intervals from 12 to 175. Mr Kelloway noted that it is an averaging technique and stated that System Management's preference would be for the Trading Intervals to remain at 12. The Chair questioned whether Option P1A (LSG with 90%) was acceptable to System Management. Mr Kelloway noted that System Management would be uncomfortable going above 20%. Mr Dykstra suggested that a policy decision needed to be made. Mr Cremin suggested reporting to the MAC that the REGWG could not reach a decision. It was agreed that the IMO would report to the MAC that the REGWG could not reach a compromise or consensus decision and that it had been agreed by all members that the REGWG entrusts the IMO to recommend a solution to the MAC for consideration. The Chair agreed that the IMO will prepare a final report to capture all points raised throughout the REGWG meetings to be presented to the REGWG at a final meeting. *Action Point: The IMO prepare a proposal to present to the MAC.*	
7.	**GENERAL BUSINESS** There was no other business raised.	

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8.	**NEXT MEETING** It was agreed that a final REGWG meeting would be held to finalise the Working Group's recommendations. *Action Point: The IMO to notify members of the time and date for the final Working Group meeting.*	**IMO**
CLOSED The Chair declared the meeting closed at 5.10 pm.		