

Independent Market Operator

Renewable Energy Generation Working Group

Minutes

Meeting No.	10	
Location:	Edison / Tesla Rooms, Office of Energy Level 8, Governor Stirling Tower, 197 St Georges Terrace, Perth	
Date:	Thursday, 25 February 2010	
Time:	1:30 pm – 4:30 pm	
Attendees		
Troy Forward	Independent Market Operator (IMO)	Chair
Monica Tedeschi	IMO	Minutes
Wal James	Curtin University	Presenter
John Libby	New World Energy	
Steve Gould	Landfill Gas & Power	
John Rhodes	Synergy	
Phil Kelloway	System Management	
Chris Brown	Economic Regulation Authority (ERA)	
Matthew Rosser	Pacific Hydro	
Kyle Jackson	Mid West Energy	
Matthew Fairclough	System Management	
Brooke Eddington	Office of Energy (OOE)	
Ian McCullough	OOE	
Rob Rohrlach	Energy Response	
Michael Carr	Tenet Consulting	
Shane Cremin	Griffin Energy	
Tom Percy	Western Power	
Anwar Mohammed	SunPower	

Apologies		
Tim Bray	Western Power	
Mark Headland	Investec	
John Vendel	Pacific Hydro	
David Murphy	Department of Treasury and Finance (DTF)	
Greg Allen	Carnegie Wave Energy	
Stephen Hurley	Department of the Premier and Cabinet (DPC)	
Corey Dykstra	Alinta	

Item	Subject	Action
1.	<p>WELCOME</p> <p>The Chair opened the meeting at 1:35 pm and welcomed all attendees to the Renewable Energy Generation Working Group (REGWG) meeting.</p>	
2.	<p>MEETING APOLOGIES / ATTENDANCE</p> <p>Apologies were received from:</p> <ul style="list-style-type: none"> • Tim Bray (Wester Power); • Greg Allen (Carnegie Wave Energy); • Mark Headland (Investec); • John Vendel (Pacific Hydro); • David Murphy (DTF); • Stephen Hurley (DPC); • Corey Dykstra (Alinta); and • Andrew Everett (Verve Energy)¹. <p>The Chair also introduced Monica Tedeschi from the IMO noting that she has been employed as part of the inaugural IMO Graduate Program.</p>	
3.	<p>MINUTES OF PREVIOUS MEETING</p> <p>The minutes of the 28 January 2010 REGWG meeting were circulated to members for review and comment.</p> <p>No comments were received on the minutes.</p>	

¹ Apology received after the meeting.

Item	Subject	Action
	<i>Action: The IMO to publish the minutes of the 28 January 2010 Meeting as final.</i>	IMO
4.	<p>ACTIONS ARISING</p> <p>The actions arising were either complete or on the meeting agenda. The following exceptions were noted:</p> <p><u>Action 9</u>: IMO to request data from OoE and Investec to feed into the WP3 modelling:</p> <ul style="list-style-type: none"> • This action is still outstanding. <p><u>Action 10</u>: ROAM to investigate separating the load contribution from the intermittent generation contribution in its modelling for WP3:</p> <ul style="list-style-type: none"> • Modelling for WP3 is underway. 	
5.	<p>IMPACT OF ELECTRIC VEHICLES ON THE SWIS (PRESENTATION)</p> <p>The Chair welcomed Walter James from Curtin University to present to the REGWG on the Impacts of Electric Vehicles on the South West interconnected system (SWIS). The presentation is attached as appendix 1.</p> <p>At the conclusion of the presentation Mr James opened the floor for any questions. The following questions were asked:</p> <ul style="list-style-type: none"> • Griffin questioned where lithium is found and whether the manufacturing process is intensive. <p>Mr James replied that lithium batteries are recyclable and are produced in high volumes. There is approximately \$6 billion lithium batteries manufactured in China and the United States. Resources are found in South America, China, some areas in Australia and the United States. Investment is currently increasing by the large manufacturers.</p> <ul style="list-style-type: none"> • System Management commented that smart grids are important for proper management of storage. In particular, System Management queried if there were any observations of overseas trends in creating the right environment for smart grids to have the greatest potential impact. It was noted that the challenge for Western Australia will be to try to enable smart grids to be used effectively to take advantage of the potential benefits. <p>Mr James stated there have been studies but the impacts are not evident.</p>	

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	<ul style="list-style-type: none"> • Griffin commented that the introduction of electric vehicles will require a low overnight load. Mr James stated that there would have to be a shift in load from daytime to night. • Pacific Hydro queried if there will be an impact on increased capacity by the grid if vehicles begin drawing their energy from the grid. Mr James replied in most cases in the United States there has been no increase in grid capacity required. • System Management commented that there was a media article about grid infrastructure in Sydney. It was queried whether appropriate infrastructure is required before consumers purchase electric vehicles. Mr James stated that infrastructure is not required immediately. Currently there are hybrid plug-in vehicles which don't need specific infrastructure to be connected to the grid in order to operate. Electric vehicles in comparison will have to be connected. In this case, there is a possibility of having a charger in the city that charges 85% of a batteries life in 20 minutes (currently exists in Tokyo). • System Management stated electric vehicles, on mass, will have a significant impact on the network. The challenge is to manage the energy and avoid overloads at peak times. One issue for System Management is how to manage everything, including frequency control. It was asked if micro models exist elsewhere in the world, to give insight to the Western Australian market. Mr James stated there are some academic texts available but it is very difficult to create a micro model. • The ERA questioned when electric vehicles will be introduced in Western Australian. Mr James noted that the electric vehicle, Volt, will be released in November 2010 but won't be available to use until 2011/2012. • The ERA commented that consumers will hopefully charge electric vehicle batteries at night and not during the day. This is a problem for consumers without smart meters. The ERA notes that there is a need for adequate information to be disseminated to the public. • System Management noted that it considers that flat tariffs will need to be changed to ensure that consumers benefit from time of use charging. 	

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	<p>The Chair thanked Mr James, stating it was a very interesting area of development.</p>	
6.	<p>WORK PACKAGE 1: FINAL REPORT</p> <p><u>Response to REGWG</u></p> <p>The Chair requested the approval of the REGWG of the final report for Work Package 1. The Chair noted that prior to approving the report the REGWG needed to review whether an adequate response has been given by ROAM to any issues raised by members. It was noted that any additional comments will be taken into account. The Chair noted that if necessary a second round of consultation with ROAM could be undertaken.</p> <p>The Chair asked the REGWG if ROAM's responses to member's comments on the draft report were adequate. The following comments were made:</p> <ul style="list-style-type: none"> • Energy Response noted the title needs to be changed. <p style="padding-left: 40px;">In response, the Chair explained the reasoning behind the current title was to include a set of scenarios for subsequent models and a policy perspective without pre-empting policy; The OoE agreed. The Chair agreed to a change in title and asked for any suggestions.</p> <ul style="list-style-type: none"> • Pacific Hydro suggested that "scenarios" should be in the title. • REGWG attendees agreed on a new title: Scenarios for Modelling Renewable Generation in the SWIS. <p><i>Action: The IMO to instruct ROAM to amend the title of the report to "Scenarios for Modelling Renewable Generation in the SWIS".</i></p> <ul style="list-style-type: none"> • Energy Response stated it was happy with ROAM's responses to its comments. It was also noted that the last sentence in the report recommends the REGWG undertake more work. <p>The Chair noted that it may be appropriate for the REGWG to revisit the report. Additionally, the Chair noted that ROAM may need to refine the report contingent on the outcomes of Work Package 3.</p> <p>The Chair suggested the report be an interim report rather than final so the REGWG can move forward and revisit if necessary.</p> <ul style="list-style-type: none"> • Landfill Gas and Power noted that the style of the report could be improved but provides its endorsement for the 	<p style="text-align: center;">IMO</p>

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	<p>presented to the MAC, subject to any additional changes by ROAM, as agreed during this meeting.</p> <p><i>Action: The IMO to submit the Work Package 1 report to the March MAC meeting, as endorsed by the REGWG, subject to any changes by ROAM.</i></p>	IMO
7.	<p>WORK PACKAGE 2: PROGRESS UPDATE</p> <p><u>MMA Modelling</u></p> <p>It was noted that MMA delivered a draft report outlining its analysis in late December 2009. However, the release of the draft report to the REGWG has been delayed as there were some unexpected results.</p> <p>As a result of this the IMO facilitated meetings with System Management, Verve Energy, the Oates Review Implementation Committee and the OoE. These meetings were to allow MMA to present the methodology and the results directly with these stakeholders. The aim was to ensure that the data, the model and the conceptual issues regarding this analysis were well tested and understood.</p> <p>These stakeholders were given a copy of MMA's report to review and provide comment on. Responses were due with the IMO by 5 March 2010.</p> <p>Griffin disagreed with the draft report being distributed to a select group before the REGWG. Griffin considers the REGWG should have access to the report as it initiated the process.</p> <p>The Chair noted that certain parties had publically expressed that wind farms are currently over compensated and the reason it was released to a subset of stakeholders was to allow those parties the right to respond.</p> <p>Pacific Hydro queried if the draft report will have tracked changes.</p> <p>The Chair responded that visibility of the changes could be useful.</p> <p><i>Action: The IMO to provide the drafts of the Work Package 2 report to the REGWG.</i></p> <p>Pacific Hydro and Mid West Energy enquired when the REGWG will have access to the report.</p> <p>The Chair agreed that the REGWG will be provided the draft report once MMA makes any necessary changes resulting from the stakeholder feedback process already underway. It is anticipated that an updated report will be provided to the REGWG at the March 2010 meeting.</p> <p>System Management, in assuming MMA was conducting a</p>	IMO

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	<p>thorough analysis of the peak, queried whether there was any benefit of releasing that information earlier so that participants may compare with their data.</p> <p>The Chair commented that there is an excel spreadsheet with data that participants may use to put in personalised data for comparison.</p>	
8.	<p>WORK PACKAGE 3: PROGRESS UPDATE</p> <p>Tenet Consulting noted ROAM had finalised the model and are satisfied with its calibration against actual SWIS frequency excursions. ROAM should have initial modelling results finalised this week.</p> <p>It was noted that Sinclair Knight Merz (SKM) is meeting with ROAM in Brisbane on 5 March 2010 to discuss common issues between Work Packages 3 and 4.</p> <p>ROAM has spoken with Brendan Clarke from Western Power regarding problems with checking the model against actual frequency deviations in the SWIS. This has been resolved and ROAM is currently generating the outputs from its model. However, it was noted that this is approximately a week behind schedule.</p> <p>It is expected that the draft report will be provided to the REGWG at the March 2010 meeting.</p>	
9.	<p>WORK PACKAGE 4: PROGRESS UPDATE</p> <p>SKM has completed its preliminary investigative work on other jurisdictions and has commenced stakeholder interviews.</p> <p>The development of SKM's model is underway, but is dependent on the preliminary results of Work Package 3. SKM and ROAM have been working together to ensure that any overlaps between Work Packages 3 and 4 are managed appropriately.</p> <p>It is expected that the report will be finalised by the end of March 2010.</p> <p>System Management questioned if SKM's modelling was dependant on Work Package 3 and if so, does SKM have to put its analysis on hold.</p> <p>Tenet Consulting commented that generation scenarios are an issue. However, SKM doesn't need ROAM to finalise Work Package 3 and therefore it can proceed with Work Package 4.</p>	
10.	<p>GENERAL BUSINESS</p> <p>Tenet Consulting questioned whether the modelling work</p>	

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	<p>conducted by Synergy on Work Package 3 was accessible. The Chair noted that the analysis contained in Synergy's report was undertaken by Frontier. Both the MAC and the REGWG have requested access to this information in the past. However, Synergy has indicated that this work will not be released.</p>	
<p>11.</p>	<p>NEXT MEETING</p> <p>The next meetings are scheduled for 1.30pm – 4.30pm on 25 March and 21 April 2010.</p>	
<p>CLOSED The Chair declared the meeting closed at 3.10 pm.</p>		