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Independent Market Operator
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Dear Kate

2014 ANCILLARY SERVICES STANDARDS AND REQUIREMENTS STUDY – INVITATION FOR SUBMISSIONS

Thank you for the opportunity to comment on the 2014 Ancillary Services Standards and Requirements Study prepared by the Independent Market Operator (IMO) and its consultant ROAM Consulting (ROAM).

Ancillary Services are essential for maintaining security and reliability of supply in power systems and as such, Synergy recognises the importance of setting appropriate standards and requirements. Synergy considers that the market is mature enough to warrant a review of these standards and requirements and supports amendments where a sufficient case for change is demonstrated.

Overall Synergy congratulates the IMO and ROAM on the production of a generally well-balanced report that addresses areas where the treatment of Ancillary Services could be revised to meet the Wholesale Electricity Market (WEM) Objectives (Market Objectives). However, Synergy notes that when assessing appropriate standards and requirements for Ancillary Services, care needs to be taken to strike the appropriate balance between secure and reliable supply of electricity and minimising the long term cost of electricity supplied.

Synergy notes that at present there can be ambiguity between the Market Rules, Western Power's Technical Rules and the Power System Operation Procedures that are used to govern Ancillary Services. As such, Synergy supports alignment and clarification of these governance documents.

Synergy has reviewed the report and wishes to make the following comments/suggestions:

Ref.	Statement/Recommendation	Synergy comment/suggestion
Pg. 4	<p><i>"The ERA determined the current cost of LRR to be zero "because it did not have information demonstrating that the Load Rejection Reserve Ancillary service is provided at a particular (unremunerated) cost to any market participant"</i></p>	<p>Synergy disagrees with this statement.</p> <p>Synergy notes that, while there is no "direct" remuneration for Load Rejection Reserve (LRR) in the WEM (as would be determined under the Cost_LR parameter outlined in the Market Rules), the requirement for LRR is a primary criteria that System Management use to determine if it needs to de-commit large thermal generators overnight and substitute with (usually) a gas turbine at a higher Short Run Marginal Cost (SRMC).</p> <p>Further, having shut down the low SRMC generator the resultant start-up costs represent a significant disincentive to restart the machine to service load unless the expected run time is material.</p> <p>As such, LRR requirements lead to increased cycling of thermal plant (and the associated de-commitment and cycling costs) as well as increasing prevalence of negative pricing in the market.</p>
Pg. 7	<p>Recommendation 15: Increase minimum capacity of Black Start units</p> <p>Recommendation 16: Add energization capability for 330 kV connected Black Start units</p>	<p>Synergy considers that these recommendations need to be very carefully considered, and at the very least the required minimum capacity of Black Start units should be so that a Frame 6 could provide those services.</p> <p>Further, Synergy disagrees with the report that states "since 20MW is likely not sufficient to start a large gas turbine, such as one of the Pinjar, Kwinana HEGT or Kemerton units". Synergy notes that a frame 9 GT has a 1.2MW starter motor plus approximately 400kW of "other" auxiliaries. As such, Synergy considers that a 20 MW machine is more than adequate to start a frame 9 GT. The HEGT's need even less than this due to them being lighter aeroderivative machines.</p> <p>Synergy notes that increasing the minimum capacity of Black Start units would potentially lead to an increase in the contract costs for this service. Given smaller units can provide the service, Synergy questions whether there is a clear need for change.</p>

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		Synergy is happy to discuss these recommendations and the assumption regarding 20MW units further with the IMO and its consultant in the development of the final report.
Pg. 7	Recommendation 19: Procure additional Black Start providers in the South Country sub-network	Synergy is very supportive of this recommendation, and considers that this is long overdue.
Pg. 9	<i>Section 2.1.3 – Governor Response - "In the WEM, a generator will not normally have to contribute governor response for long unless they are providing Spinning Reserve of Load Rejection Reserve Service"</i>	Synergy notes that not all machines are on AGC in Western Australia and, at times when severe wind events are occurring, it is not unusual for governor action to be controlling frequency in response to movements in wind farm output - not regulation service.
Pg. 11	Recommendation 13: Factor dynamically forecast load relief into the Spinning Reserve Service requirement	<p>Synergy considers that this recommendation needs to be very carefully considered. Synergy notes that it is important to balance the risk of Under Frequency Load Shedding (UFLS) events versus the cost of avoiding UFLS in order to achieve the most appropriate outcome.</p> <p>Synergy is happy to discuss this recommendation further with the IMO and its consultant in the development of the final report.</p>
Pg. 26 & 27	Section 4.2.3 and recommendation 2	<p>Synergy notes that in a small system such as the WEM it is important that all running generators contribute to correction of a disturbance - it could not be assigned to a single machine or two. Essentially you are deciding that you will provide this service by either thermal machines or GT's.</p> <p>Synergy notes that the "emerging technologies" (Batteries) will not reach any form of material penetration within this review period.</p> <p>Given the rapidly emerging disparity between coal and gas prices, Synergy considers that least cost provision of SR/LRR will need to come preferentially from thermal machines rather than artificially dispatching GTs for this purpose. However, the only way this can happen is if governors are enabled on all units.</p>
Pg. 30	<i>Section 4.2.5 - Provision of SR/LRR by IPP Providers of LFAS - "Furthermore,</i>	Synergy considers that the Market Rules requirement results in perverse outcomes.

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	<i>non-Synergy providers of LFAS are currently expected to act like other IPP units and quickly act to restore their output to their setpoints after a governor response, if such a response is actually provided. These units may not therefore be providing the required SR/LRR, even if they are technically capable."</i>	Synergy considers that consideration should be given to a methodology to allow IPPs to remain away from a set point to continue to assist in a contingency event, rather than requiring an IPP to immediately return to a setpoint, which can in fact exacerbate a contingency event.
Pg. 35	<i>Section 4.3 - Secondary Response in the WEM: Provision "For an under-frequency event, starting up fast-start generators, such as gas turbines. <u>All such turbines are currently owned by Synergy.</u> This includes capacity that System Management must ensure is available under the Ready Reserve Standard"</i>	Synergy does not agree that all fast start generators are currently owned by Synergy. Synergy considers that there are many other IPP facilities that are capable of fast starts, including ERM Neerabup, Alinta Wagerup, Perth Energy Kwinana and the Tesla Diesels.
Pg. 71	<i>Section 9.1 - Causes of LFAS: "Synergy is not currently compensated for any additional LFAS provision or for any adjustments made to account for unintended fluctuations of individual Balancing Portfolio units. <u>Therefore, if the Balancing Portfolio was to be dispatched on an individual facility basis (i.e. the same as for IPP facilities), then the amount of LFAS usage in the WEM may increase, at least in the short term"</u></i>	Synergy agrees that it is a likely scenario that if the Balancing Portfolio was to be dispatched on an individual facility basis (i.e. the same as for IPP facilities), then the amount of LFAS usage in the WEM would increase – as noted by the IMO's consultant.
Pg. 105	<i>Section 12.2 – System Restart Technologies: "Trip to House Load (TTHL): Immediately following a trip from the grid, TTHL schemes are designed to reduce the loading on a generating unit from supplying full capacity to supplying the auxiliary load of the power station. This process is performed by complex control systems that rapidly reduce fuel combustion, feed water and air systems in response to turbine output. TTHL enables large thermal stations to 'float' off-grid, where they are readily available to re-energise the network and reconnect loads [72]. <u>System Management informed ROAM that the coal and cogeneration power stations in the WEM are not suitable to act in this manner for system restart purposes."</u></i>	Synergy does not agree with System Management's assessment that the coal and cogeneration power stations in the WEM are not suitable to act in this manner for system restart purposes. Synergy considers that whilst newer plants like Collie and Bluewaters could not sustain, plants like Muja A, B, C, and D do have the ability to TTHL, with some control system work. Synergy notes that the new governors at Muja CD in particular have demonstrated the ability to withstand a 100% load rejection without overspeed.
Pg.119	<i>Section 12.4.3- New Technical Requirements for BSS Units: "[Black Start] Generators connected at</i>	Synergy notes that "allowing generator excitation to commence whilst its generator circuit breaker is closed" is a highly non-

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	<i>330kV must be capable of energising a 330kV line section and 330/132kV 490MVA transformer to enable load connection. <u>This should be achieved by allowing generator excitation to commence whilst its generator circuit breaker is closed.</u></i>	standard requirement for any GT. Synergy notes that the IMO needs to be cognisant that such a requirement would come at additional cost to the market. Further, Synergy considers that there is a real risk here that the level of customisation required could discourage participation by any existing generators.

Thank you again for the opportunity to comment. Should you require any additional information or would like to meet with Synergy to discuss this submission further please contact me by email at: andrew.everett@synergy.net.au or by phone on: (08) 9424 1836.

Yours sincerely



ANDREW EVERETT
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