

12 August 2009

Mr Chris Brown
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Wholesale Electricity Market
Economic Regulation Authority
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PERTH WA 6000

Dear Chris

System Management submission – Wholesale Electricity Market Report

Thank you for the invitation to comment on the matters raised in the Economic Regulation Authority's discussion paper of 15 July 2009 concerning the annual review of the Wholesale Electricity Market.

System Management has prepared a detailed submission in response, which is appended to this letter.

System Management is a ringfenced entity within Western Power, with particular functions conferred under the Wholesale Electricity Market Rules. Necessarily, given System Management's specific responsibilities, the views contained in this submission reflect the views of System Management, and are not intended to reflect the views of Western Power.

System Management's principal function in the Wholesale Electricity Market is the maintenance of power system security and reliability. Consequently, the comments on the matters raised in the discussion paper are from this perspective.

System Management is happy to further discuss any aspect of our submission with the ERA. Please direct any queries in relation to this submission to Alistair Butcher on 9427 5787.

Yours sincerely

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General Manager, System Management

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System Management

Comments on Economic Regulation Authority's 2009 Wholesale Electricity Market Report to the Minister

Introduction

System Management is a ringfenced entity within Western Power with the functions conferred under clause 2.2 of the *Wholesale Electricity Market Amending Rules (September 2006)* (**Market Rules**).

System Management welcomes the opportunity to contribute to the review of the Western Australian Wholesale Electricity Market. System Management has structured this submission to respond to each particular point raised by the Economic Regulation Authority (**ERA**) in its discussion paper dated 15 July 2009.

The comments below represent the view of System Management, and should not be regarded as the view of Western Power, which has the distinct function of "network operator" under the Market Rules.

Discussion Point 1

The Authority invites comment on whether the Wholesale Electricity Market Objectives are appropriate and the extent to which the Wholesale Electricity Market is effective in meeting these objectives.

System Management: System Management supports the Wholesale Electricity Market Objectives and submits that System Management has contributed to the attainment of these objectives. While there are issues with the functioning of certain aspects of the Market Rules (which will be detailed further in this submission), generally System Management believes that, on the whole, the Wholesale Electricity Market is effective in meeting these objectives.

One factor that may not be effective is in regards to the Dispatch Merit Order (DMO). Operations in off-peak times would seem to indicate that the current Market Rules surrounding the DMO does not support the Market Objective to *promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System (SWIS)*. The dispatch order requires Verve Energy to be dispatched prior to all other facilities. This is therefore not based on price and so may be inefficient, especially for generation reduction overnight.

Another factor that bears consideration regards the governance of the rule change process. Whilst mindful of the potential cost, System Management submits that in many jurisdictions the rule change process is not governed by the same body that is responsible for market operation and administration. This governance regime evidently provides some benefits, and it is submitted that consideration should be given to further investigation of pursuing this model.

Discussion Point 2

The Authority invites comment on the extent to which the risk that a network connection application will not be offered on time impacts on investment incentives, including incentives to invest in new facilities in particular geographic locations of the network.

System Management: No comment is made.

Discussion Point 3

The Authority invites comment on network connection applications. In particular:

- *to what extent would it be appropriate for Western Power to require that a sizeable bond be lodged with an application for network access;*
- *to what extent would it be appropriate for Western Power to discriminate between connection applicants (other than based on their places in the sequence of the relevant queue); and*
- *if other means of discrimination between connection applicants are appropriate, taking into consideration Western Power's queuing guide, what should be the basis for such discrimination.*

System Management: No comment is made.

Discussion Point 4

The Authority invites comment on the application of capital contributions for shared network assets charged by Western Power.

System Management: No comment is made.

Discussion Point 5

The Authority invites comment on the decommitment of thermal plant. In particular:

- *to what extent is the overnight decommitment of thermal plants consistent with the Market Objectives; and*

System Management: The current Market Rules require that Verve Energy facilities be curtailed and decommitted before any IPP facility is curtailed. System Management has recently commissioned a report which identifies that, in future years, low overnight demand growth and increasing penetration of intermittent generation could well result in a situation where Verve Energy thermal facilities are cycled on a daily basis. Indeed, based on forecasts it is probable that IPP thermal facilities will eventually be cycled as well.

System Management suggests that repeated cycling of thermal facilities can increase risks to Power System Security, will probably result in increased dispatch of liquid-fuelled facilities, and will decrease the plant life for cycled base load plants. These consequences do not appear to be in accordance with the Market Objective *to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System (SWIS).*

Further, as increased penetration of intermittent generation will result in an increased requirement for Load Following, Verve Energy will be required to operate gas turbines in place of thermal facilities to maintain Power System

Security. This would imply that the Market Rules discriminate in favour of intermittent generation facilities as opposed to thermal facilities ie thermal facilities must be curtailed and decommitted to allow intermittent generators to generate at any level. This does not appear to be in accordance with the Market Objective *to avoid discrimination against particular energy options and technologies*.

- *given that System Management will be guided by the Dispatch Merit Order and by system reliability considerations, to what extent is System Management's approach for decommitting plant overnight appropriate, transparent and predictable.*

System Management: System Management's actions in decommitting plant overnight, or at any time, are entirely informed by the applicable dispatch merit order.

Nevertheless, System Management suggests that the current Market Rules provide little, and often conflicting, guidance for operations during low load conditions. System Management will increasingly face decisions as to whether the risks to Power System Security over the next day require the Dispatch Merit Order to be overridden. As discussed above, System Management expects that, in the years to come, thermal facilities will be cycled repeatedly. As thermal facilities have a long and sometimes indeterminate synchronisation time, and as such facilities are not designed to be cycled, such cycling will affect Power System Security by:

- reducing the certainty that a given thermal facility will be available at the required time (the facility may not be available at all on the day in question, or may be late);
- reducing capacity availability during shoulder and winter periods as maintenance for such plants will likely increase;
- reducing the reliability of such facilities generally.

The situation will inevitably require a judgement as to the number of Verve Energy thermal facilities that must remain in operation (ie not be cycled) to ensure Power System Security on the following day. Such a decision is not expressly supported by the Market Rules.

While others are better placed to comment on the economic inefficiency attaching to such a scenario, it should be noted that probable effects on Market outcomes will be:

- increased dispatch of IPP facilities at all times;
- increased dispatch of liquid-fuelled facilities at all times, even during shoulder and winter periods;
- increased balancing prices; and
- increased curtailment of intermittent generation.

While all Power System operations are to some extent unpredictable, as indicated, the current Market Rules do not provide sufficient guidance for System Management, and therefore System Management's actions cannot be fully predictable. As indicated elsewhere in this submission, System Management is acting to improve the predictability of operations, and some of these issues may be improved by better wind farm forecasting and other analysis. However, it is submitted that this issue is of increasing importance

to sound system operation and should be addressed within the Market Rules by participants who are able to bring to the resolution a full knowledge of the commercial outcomes.

Discussion Point 6

The Authority invites comment on issues surrounding the penetration of intermittent generation in the Wholesale Electricity Market. In particular, what approach is required to balance system security and avoid discrimination against any generation technology.

System Management: System Management has provided many comments to the Minister, the ERA, the IMO, and the Market Advisory Committee on the penetration of intermittent generation.

In summary, much analysis is required, which System Management fully supports. As previously indicated, under the existing Market Rules, it is inevitable that increasing penetration of intermittent generation will result in the cycling of thermal facilities, which will inevitably increase balancing costs and may seriously affect Power System Security. This appears to discriminate in favour of intermittent generation facilities at the expense of thermal facilities. While better forecasting of wind output may assist balancing we do not expect it to resolve all issues. System Management submits that one option to alleviate the degree of cycling of thermal generation may be to curtail intermittent generation, but this option is not in accordance with the current Market Rules in all circumstances.

Finally, it is noted that pay-as-bid balancing prices do not appear to reflect SRMC, and are often at the relevant price caps. The ERA may wish to consider whether applying the current SRMC regime for STEM offers to pay-as-bid prices will result in a more economically efficient market, and reduce discrimination towards intermittent generation.

Discussion Point 7

The Authority invites comment on the adequacy of plant outage information in light of:

- *the potential benefits and costs of wider dissemination of outage information; and*
 - *the IMO's analysis of outage information dissemination in relation to the proposed Rule change RC_2009_05 Confidentiality of Accepted Outages.*
- System Management: System Management does not see a need for further dissemination of outage information given the outcome of the recent rule change process (RC_2009_05), but also notes that we do not oppose any such measure. Depending on the approach, further dissemination of outage information may require changes to System Management's IT systems.

Discussion Point 8

The Authority invites comment on what factors may inhibit a generator from participating in the competitive procurement of ancillary services.

System Management: The outcome of foreshadowed Ancillary Service procurement processes will indicate whether the pricing structure indicated in the Market Rules is sufficiently attractive to encourage competitive supply. It is submitted that it is too early to form a conclusive view, at this time.

In response to a comment in the Discussion Paper, System Management understands that, at present, negative MCAP prices result in a situation where Verve Energy must pay the market for provision of Ancillary Services, and that RC_2009_21 is designed to alleviate such a situation. System Management intends to include a similar provision in any contract for provision of Ancillary Services. That is, if MCAP is less than zero, the payment for availability will be zero.

Discussion Point 9

The Authority invites comment on any concerns in respect of the provisions of location signals to new generation and how these concerns may be addressed within the context of the Market Rules.

System Management: No comment is made.

Discussion Point 10

The Authority invites comment on the key benefits and costs of installing revenue-quality meters at Verve Energy's plants in place of relying on System Management's Supervisory Control and Data Acquisition (SCADA) data.

The Authority also invites comment on the key benefits and costs of using estimated meter readings for the first round of settlement instead of waiting for all interval meters to be read by the metering data agent.

System Management: System Management makes no comment on the costs associated with installation of revenue-quality meters. However with the installation the quality of data should improve significantly, which will remove operational issues for System Management in using SCADA data for market settlement.

Discussion Point 11

The Authority invites comment on competitive balancing. In particular, ahead of the introduction of competitive balancing, to what extent is it appropriate to:

- *require the equivalent of a Resource Plan from Verve Energy;*

System Management: There are many forms of competitive balancing eg contract or semi-real-time. Some of these would require Resource Plans for Verve Energy facilities, however other forms may not require this. Any such changes would be substantial variations to the existing Market design, and would require significant consultation to ensure the large scale change to the Market Rules is appropriate, practical and is implemented efficiently. System Management makes no comment as to the appropriateness of such a change at this time.

- *enhance reporting in respect of outages by unit, and fuel usage changes from plan; and*

System Management: The ERA has advised System Management that the term "unit" is synonymous with "facility", and therefore System Management believes that this item may be the result of a misunderstanding of the Market

Rules on the behalf of the stakeholder. The current Market Rules provide that all outage information relates specifically to a given facility, and Market Rule 10.6.1 (b) provides for the publication of that information through the Market Web-site. In addition, the System Management Market IT System (**SMMITS**) provides further details. Also, all fuel declarations on the Trading Day are reported to the IMO in accordance with the Market Rules.

- *make any other operational changes.*

System Management: As indicated, substantial operating changes would be required for a move to any form of competitive balancing. System Management makes no comment as to the appropriateness of such a change at this time, and cannot comment further on required operational changes without a more specific model of the form of competitive balancing envisaged.

Discussion Point 12

The Authority invites comment on the Rule change process. In particular, given the potential for the more active Market Participants to be better placed to argue their position on Rule change proposals, the Authority invites comment on:

- *whether there is sufficient balance in the Market Participant classes represented on the Market Advisory Committee; and*
- *whether a better resourced Independent Market Operator could address concerns relating to the self-interested positions taken by Market Participants.*

System Management: No comment is made.

Discussion Point 13

The Authority invites comment on:

- *the extent to which the Rule change process could be reasonably delineated to separate operational from more strategic matters; and*
- *whether a different assessment process should apply to strategic Rule changes.*

System Management: System Management considers that the applicable rule change process should not be dependent on a potentially arbitrary decision as to whether a particular change is “strategic” or not. Introducing a different assessment process inevitably produces an additional and unnecessary layer of complexity which is not supported.

System Management reiterates that, in its view, strategic matters are best dealt with within the policy-making sphere, and not through the existing rule change process.

Discussion Point 14

The Authority invites comment on the effectiveness of the Independent Market Operator, System Management and the Economic Regulation Authority.

System Management: System Management makes no comment on the effectiveness of the IMO or the ERA.

In response to the comment regarding web-services in the discussion paper, System Management would like to mention that a mechanism to reduce human input into the outage submission process (ie to automate the submission of outages) already exists, although this is not a web-service.

System Management's view is that, due to the requirements for decision-making in the outage approval process, as opposed to a process of submitting and receiving data (eg bidding into the STEM), the benefits of a web-service are minimised and therefore do not outweigh the costs.

Discussion Point 15

The Authority invites comment on options for promoting efficiency in network planning and investment that are consistent with the Reserve Capacity Mechanism requirements.

System Management: System Management makes no comment other than that a constrained planning approach will require an automated dispatch system based on complex transmission constraint equations over a full trading day due to fuel constraints on the system. Such a change will have large ramifications.

As noted in the Western Power submission to the AEMC *Review of Energy Market Frameworks in Light of Climate Change Policies*, this would have significant impact on the operations of System Management and the Power System. For example, this would increase the overlap and complexity between transmission and generation operation and control as well as increase the complexity of operations and outage planning generally.

Discussion Point 16

The Authority invites comment on the gate closure timing in the Short Term Energy Market (STEM). In particular, given that the issue of STEM gate closure timing will be considered as a part of the proposed road map process, the Authority invites comment on:

- *leaving the STEM gate closure as it is; or*
- *moving STEM gate closure closer to the start of the trading day.*

System Management: In itself, gate closures closer to real time would place additional pressure on System Management. This is because of the scheduling of coal-fired generators (operating on 12 hour forward plans) and a lack of fluidity in gas markets to respond to reduce options. Such a change could mean greater costs associated with curtailment and unscheduled changes required for Power System Security.

Discussion Point 17

The Authority invites comment on the benefits provided by the Short Term Energy Market (STEM).

System Management: No comment is made.

Discussion Point 18

The Authority invites comment on the appropriateness of the price caps and bidding rules in the Wholesale Electricity Market.

System Management: No comment is made.

Discussion Point 19

The Authority invites comment on the appropriateness of the Reserve Capacity Mechanism for determining the Reserve Capacity Price. In particular:

- *is there any evidence demonstrating that overall pricing signals provided in the Wholesale Electricity Market (for capacity and energy) are encouraging an inappropriate mix of plant; and*
- *are there alternative mechanisms, or changes to the Reserve Capacity Mechanism, that could better achieve the Market Objective of promoting the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System.*

System Management: System Management has made many comments on this subject in past submissions to the ERA. No further comments are made at this time.

Discussion Point 20

The Authority invites comment on the merits of moving the Reserve Capacity Mechanism to more than 2 years in advance of the relevant Capacity Year, and the extent to which such a change could assist in resolving network access application problems.

System Management: No comment is made.

Discussion Point 21

The Authority invites comment on the extent to which changes to the Reserve Capacity refund mechanism can better promote the Market Objectives.

System Management: A refund regime which takes into account the importance of a forced outage on the available system margin may increase the effectiveness of the Market Objectives. The current mechanism uses a calendar approach to determining the amount of the refund, which generally indicates that in peak summer periods the refund is at maximum. However, a shortage in capacity can occur at any time. An improved mechanism that relates the refund to the available margin would increase the effectiveness of the Market Objectives.

Another important item is that the Reserve Capacity refund mechanism may provide an incentive for Participants to shield unplanned outages. This may result in System Management not being able to take appropriate measures because of the assumption that the facility is, in fact, available. An improved mechanism that reduces the incentive to shield would promote Power System Security and therefore improve the effectiveness of the Market Objectives.

Discussion Point 22

The Authority invites comment on whether the Reserve Capacity refund mechanism should be included for consideration as part of the road map proposed in the Authority's 2008 review of the market.

System Management: No comment is made.

Discussion Point 23

The Authority invites comment on the extent to which the regulatory arrangements surrounding the incentives for parties to engage in Demand Side Management are appropriate.

System Management: No comment is made.

Discussion Point 24

The Authority invites comment in respect of the impact of structural issues on the effectiveness of the market and achievement of the Market Objectives.

System Management: No comment is made.