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Dear Troy

Review of Ancillary Service Requirements, Process and Standards

Please find attached a submission on the Draft Report for the above review.

Should you have any further questions regarding this matter, please do not hesitate to contact Alistair Butcher on 9427 5787.

Yours sincerely



YM Tse
Acting Branch Manager,
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ATTACHMENT 1

System Management Submission: Review of Ancillary Service Requirements, Process and Standards

System Management welcomes the review of Ancillary Services, but would recommend caution in proposing changes to the Market Rules.

At this stage of the Market, less than three years since commencement, the existing methodology for procurement has not been sufficiently tested to determine its effectiveness. In other jurisdictions, changes to Ancillary Services occur many years after the introduction of a Market.

System Management submits that there is no compelling basis to change the Market Rules governing procurement, in the absence of data that demonstrates problems with the current framework.

With this in mind, there are many obstacles with regard to Ancillary Services that are inevitable; not least because of the impacts of the Mandatory Renewable Energy Target (**MRET**) and the Carbon Pollution Reduction Scheme (**CPRS**).

In offering comments on the Draft Report, System Management has endeavoured to avoid detail and has responded on the basis on general issues which may not directly relate to observations or recommendations found in the report.

Procurement

Recommendation 10 is that “a Standard Form Agreement with standard specifications for the provision of each of the Ancillary Services be developed as soon as possible”. System Management supports this recommendation, and has, in fact, been working towards this for the last year.

To put this in context, it would be worth reviewing the current procurement process.

Of the five types of Ancillary Services, three are being actively procured. These are Load Following, Spinning Reserve and System Restart. The other two types do not require procurement at this time. This is because Load Rejection is provided by Verve Energy at zero cost to the Market, and the requirements for Dispatch Support Services are highly specific and therefore cannot be determined in advance, precluding the development of Standard Form arrangements. It should be noted, however, that System Management anticipates the requirement for Load Rejection to increase which may lead to a procurement process.

The current status of procurement for Load Following, Spinning Reserve and System Restart is as follows. As previously indicated, a procurement process for Load Following and Spinning Reserve could not proceed until RC_2008_38 (or an alternative) commenced. System Management has been developing Standard Form agreements for these services on the assumption that RC_2008_38 would proceed, and these are nearing completion. The IMO has recently announced that RC_2008_38 will commence on 1 June 2009.

Standard Form Agreements for System Restart were completed last year, and two procurement processes are near finalisation.

Thus, Recommendation 10 is virtually met.

Determination of Spinning Reserve

We note that SKM recommended that the Market Rules regarding the determination of Load Following should not be varied at this time. Also, SKM recommends that the determination of Spinning Reserve be revisited to reflect “performance-based” criteria in the Technical Rules.

While, in general, System Management supports this view, when revisiting the determination of Spinning Reserve, it may be worthwhile reconsidering the inclusion of Load Following within the determination.

Spinning Reserve is defined in MR 3.9.2, and the determination of Spinning Reserve, defined in MR 3.10.2, includes Load Following as a component (MR 3.10.2 (b)). Thus, if the total amount of Spinning Reserve is set to be 240 MW, the amount of Load Following (currently 60 MW) should be subtracted from this figure. System Management classifies this 180 MW as “Contingency Reserve”. Contingency Reserve, then, is the capacity available to meet the definition of MR 3.9.2. Should capacity from facilities providing Load Following be available, this is added to the Contingency Reserve.

With the current requirements of Load Following, this does not present much of an issue. However, as noted previously, the amount of intermittent generation on the SWIS is expected to dramatically increase in the next several years. As the amount of intermittent generation increases, so does the requirement for Load Following.

The effect is that the level of Contingency Reserve will steadily decrease (or rather steadily decrease in large increments) as the requirement for Load following increases by the same increments.

At any time, the facilities providing Load Following may be providing maximum output due to a fluctuation of intermittent generation combined with demand. This is indicated in Recommendation 5: “with the increase in wind generation on the SWIS, this risk of a concurrent Load Following and Spinning Reserve event will increase.” Were such events to occur at the same time, the Contingency Reserve alone would be required to maintain Power System Security. In this circumstance, there must come a time when the level of Contingency Reserve is insufficient (a threshold level).

The determination of the threshold level can only be determined by system simulations. While a “performance-based” criteria for Spinning Reserve may overcome this issue, another alternative that may be considered in parallel is to revise the determination of Spinning Reserve so as not to include Load following.

Determination of Load Following

One further issue that should be discussed in the determination of Load Following is that the determination is backward-looking.

Load Following (MR 3.10.1) is the greater of:

- i. 30 MW; and
- ii. the capacity sufficient to cover 99.9% of the short term fluctuations in load and output of Non-Scheduled Generators and uninstructed output fluctuations from Scheduled Generators, measured as the variance of 1 minute average readings around a thirty minute rolling average.

A strict interpretation of the above clause would require the maximum level of Load Following to be the level to cover 99.9% of fluctuations that have occurred.

This would preclude provision of Load Following to meet an expected increase in variation. For example, one determination of Spinning Reserve is 70% of the total output, including parasitic load, of the generation unit synchronised to the SWIS with the highest total output at that time. With this definition, should a new facility be commissioned that is larger than existing facilities, the amount of Spinning Reserve automatically increases. This allows System Management to plan appropriately.

However, this would not seem to be the case with Load Following. Based on the definition, System Management has no ability to predict the variation resulting from the commissioning of a new intermittent generation facility. This could result in insufficient Load Following should a new facility be large (as is anticipated). A step-change in the degree of variation would not be covered.

Although System Management has the ability to revise Load Following amount at any time, each revision would only concern the variation achieved in the recent past, and every revision would require approval by the IMO. This creates two issues. The first is that the adjustment to load following may not keep up with the fluctuations caused. The second is that significant administrative time and effort, for both System Management and the IMO will be required.

System Management suggests that the determination of Load Following include a forward-looking component.

Requirement for Load Following

System Management would also wish to reiterate that the requirements for Load Following are expected to increase dramatically in the next few years. This is due to several factors including the MRET and the CPRS.

System Management has currently commissioned studies of the impacts of the MRET and CPRS, which will form part of the Scope of Works of the impact of intermittent generation¹. Preliminary results indicate the 1600 MW of additional intermittent generation which will be required to meet the 2020 MRET target, will result in significant additional requirement of Load Following. The facilities to provide this Load Following would be fast-responding gas or liquid turbines (or equivalent).

Technical Standards for Ancillary Services

In response to Recommendation 6 regarding the implementation of a technical standard for generators providing Spinning Reserve and Load rejection Reserve services, System Management wishes to note that such a standard has been undergoing development this past year and is nearing completion.

Verve dominance in Ancillary Services

In regard to Recommendation 7, the “dominance” of Verve Energy in the Ancillary Services market may in fact be an outcome of Verve Energy’s obligation to provide

¹ For more information please refer to:

http://www.imowa.com.au/Attachments/RuleChange/SKM_ScopeOfWorkImpactsOf_IntermittentGeneration.pdf.

all Ancillary Services, the short life of the Market, and the difficulty in procurement (which is being addressed by RC_2008_38).

In the absence of a workable procurement process, dominance would appear inevitable. However, it is submitted it is too early to suggest changes to reduce any perceived “dominance” of Verve Energy in the Market.

Real-time Market for Ancillary Services

System Management supports Recommendation 8 that a real-time market for Ancillary Services is not implemented at this time. In addition to the evidence that such a market would result in sub-optimal outcomes, there is a method for procurement specified in the Market Rules, and this is yet to be fully tested.

Penalties for non-provision of Ancillary Services

Recommendation 11 suggests implementation of a penalty regime for failure to provide a declared Ancillary Service.

System Management does not support any change; as a penalty regime is already established. Penalties for failure to provide an Ancillary Service are best dealt with contractually (in fact, existing contracts for provision of Spinning Reserve already including penalty arrangements). In addition, Verve Energy already faces a penalty regime by virtue of MR 7.6A.4.