

RESPONSE TO INDUSTRY COMMENTS ON DRAFT DETERMINATION PAPER AND FE'S REVISED REPORT

Stakeholder(s)	Stakeholder Feedback	Response (with attribution)
Issue: Review framework – scope and financial sustainability		
YTL PowerSeraya (Seraya) Senoko Energy (Senoko)	<p>Vesting has not been used to just control market power, but also to promote the uptake of LNG. It is therefore appropriate to use vesting contracts (VCs) to manage issues associated with financial sustainability.</p>	<p>The objective of VC is the mitigation of generator market power to enhance market efficiency. There is no basis for EMA to extend the use of VCs beyond this objective to provide generators with financial support, given that investments in new/repowered generation capacity in Singapore are commercially driven. (EMA)</p>
Senoko	<p>Consideration should be given to other measures outside of the VC regime to preserve key infrastructure of affected businesses and avoid disruption to shareholders and the market. EMA should review the potential for efficient peaking plant to recover their fixed costs with the current market price cap, reflecting Frontier Economics' comments.</p>	<p>The scope of the current review focuses on the mitigation of market power to enhance market efficiency, taking into account dispatch efficiency, generation resource adequacy in the long term, transparency and predictability, as well as the intrusiveness and administrative burden of various options compared to the status quo. The move to the Balanced Market regime will effectively control market power to ensure efficient market outcomes including generation resource adequacy, while avoiding the intrusiveness, administrative burden and the lack of transparency and predictability associated with VCs. (EMA)</p>

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Issue: VC level (VCL) for 2017 and beyond		
Seraya	The VCL should be set at a minimum of 40% up to 2023. The biennial review for setting VCL should continue. This review should determine the VCL for 2017-18 and set an indicative VCL for 2019-20 which could be revised in a review to take place in 2018.	There is no basis to set the VCL at a minimum of 40% up to 2023 as proposed by Seraya. Taking into account the diverse industry comments and adopting a balanced view on the issues involved, EMA will adopt the VCL rollback schedule as set out in the Final Determination Paper to phase out the VC regime and transit to the Balanced Market regime in a clear and predictable manner. (EMA)
Senoko	The VCL should be set in excess of 25% to mitigate the issues associated with financial viability. Senoko acknowledged the limitations in using VCL as a mechanism to provide financial support and suggested having a more gradual reduction to LNG vesting level.	There is no basis to set the VCL in excess of 25% to provide financial support for any generator. Taking into account the diverse industry comments and adopting a balanced view on the issues involved, EMA will adopt the VCL rollback schedule as set out in the Final Determination Paper to phase out the VC regime and transit to the Balanced Market regime in a clear and predictable manner. (EMA)
Keppel Merlimau Cogen (Keppel) PacificLight Power (PacificLight)	<p>Since VCs are not required to manage market power in the short term and the rollback of vesting to LNG vesting is meant to be transitory, a steeper VCL roll down schedule should be adopted.</p> <p>Keppel noted that the market does not need more than 6-9 months to rebalance their portfolios. Propose to set the VCL at 25% for 2017, 20% for 2018, and LNG vesting from 2019 onwards.</p>	EMA is mindful to avoid making sudden changes to the VCL that may disrupt our electricity wholesale and retail market, potentially resulting in unintended adverse consequences. Furthermore, we need to cater for sufficient time to establish the enabling arrangements for prudent hedging of unvested MSSL load in conjunction with the rollback of the VCL. These include developing a robust regulatory framework and governance arrangement, as well as the capabilities, systems and operational processes for prudent hedging and risk management in respect of MSSL load which would become dynamic with full retail competition. Taking into account the diverse industry comments and adopting a balanced view on the issues involved, EMA will adopt the VCL rollback schedule as set out in the Final Determination Paper to phase out the VC

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		regime and transit to the Balanced Market regime in a clear and predictable manner. (EMA)
Tuaspring	The proposed VCL rollback schedule is inconsistent with EMA's September 2014 decision and the consultant's recommendations, benefiting selected Gencos to the detriment of others. The VCL should be reduced to LNG vesting level from 2017.	Frontier Economics' (FE) recommendation is to cater for sufficient time to establish the enabling arrangements for prudent hedging of unvested MSSL load in conjunction with the rollback of the VCL, as well as for market participants to adjust their positions, over two to three years from the status quo to the new arrangements. Taking into account the diverse industry comments and adopting a balanced view on the issues involved, EMA will adopt the VCL rollback schedule as set out in the Final Determination Paper to phase out the VC regime and transit to the Balanced Market regime in a clear and predictable manner. (EMA)
Issue: Reallocation of VCs		
Seraya	It does not make sense to incur the disruption associated with reallocating VCs based on effective capacity given there are no benefits in the management of market power.	<p>We agree and continue to recommend for VCs not to be reallocated under the Balanced Market regime. The efficiency benefit associated with reallocating VCs according to effective capacity primarily relates to the incentives to retire plant or invest in new plant, i.e. dynamic efficiency. Given the lead time associated with making investment decisions we recommended the reallocation in the context of the improved vesting regime, which entrenched VCs in perpetuity. Under the Balanced Market regime, we consider the incremental dynamic efficiency benefit associated with reallocating VCs in the period before they are reduced to LNG vesting is likely to be marginal. (FE)</p> <p>Our modelling shows that the allocation of VCs has limited</p>

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		<p>impact on wholesale market outcomes, and as such we do not see any market power issue related to the allocation of these contracts given they will be rolled down within two to three years. There will clearly be administrative costs associated with the allocation, and we do not see a strong rationale for these costs to be incurred on the basis of the management of market power. (FE)</p>
<p>SembCorp Cogen (Sembcorp)</p>	<p>The current allocation methodology creates inefficiencies and provides an unfair benefit to the big three gencos at the expense of the smaller gencos. VCs are not required to manage market power. If the EMA decides to maintain VCs to manage the transition then these volumes should be allocated in a fair and equitable way. SembCorp doesn't understand why adjusting the allocation of the vesting quantities is impractical.</p>	<p>The current allocation methodology creates inefficiencies in the longer term. The efficiency benefit associated with reallocating VCs according to effective capacity primarily relates to the incentives to retire plant or invest in new plant, i.e. dynamic efficiency. Given the lead time associated with making investment decisions we recommended the reallocation in the context of the improved vesting regime, which entrenched VCs in perpetuity. Under the Balanced Market regime, we consider the incremental dynamic efficiency benefit associated with reallocating VCs in the period before they are reduced to LNG vesting is likely to be marginal. For the near term, our modelling also shows that the allocation of VCs has limited impact on wholesale market outcomes, and as such we do not see any market power issue related to the allocation of these contracts given they will be rolled down within two to three years. There will clearly be administrative costs associated with the allocation, and we do not see a strong rationale for these costs to be incurred on the basis of the management of market power. (FE)</p>

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		<p>We agree with FE's assessment that retaining the current allocation method during the transition period of two to three years would not result in inefficient market outcomes in terms of generation dispatch in the short term. It would also not undermine efficient investments in generation capacity in the longer term. BVQ will be reduced to zero by the start of 2H 2019, after which the current allocation method will effectively be discontinued. It will be disruptive to change the allocation method for the transition. EMA has decided on balance to retain the current allocation method in moving towards the Balanced Market regime. (EMA)</p>

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Keppel	<p>The current allocation is inequitable and inefficient (because it delays plant retirement). Any change in vesting quantities will not change aggregate contract positions in the market, is unlikely to involve significant administrative burden and FE concludes that it will have limited effect on market outcomes. The rollback schedule proposed by the EMA is not a short term transition, and it is possible it will be delayed further in future vesting reviews. The vesting quantities should therefore be reallocated to be fair and equitable to all generators.</p>	<p>The current allocation methodology creates inefficiencies in the longer term. For the near term, our modelling shows that the allocation of BVQ has limited impact on wholesale market outcomes, and as such we do not see any market power issue related to the allocation of these contracts given they will be rolled down within two to three years. There will clearly be administrative costs associated with the allocation, and we do not see a strong rationale for these costs to be incurred on the basis of the management of market power. (FE)</p> <p>We agree with FE's assessment that retaining the current allocation method during the transition period of two to three years would not result in inefficient market outcomes in terms of generation dispatch in the short term. It also would not undermine efficient investments in generation capacity in the longer term. BVQ will be reduced to zero by the start of 2H 2019, after which the current allocation method will effectively be discontinued. It will be disruptive to change the allocation method for the transition. EMA has decided on balance to retain the current allocation method in moving towards the Balanced Market regime. (EMA)</p>
Issue: Capacity cap		
Seraya	<p>Seraya disagrees with the replacement of the existing absolute cap as "the purchase of PowerSeraya was with the understanding that the company and its successors will be allowed to have</p>	<p>The rationale for moving to a capacity market share cap, as opposed to the current MW licenced capacity cap, was to avoid the current arrangements from becoming restrictive as the Singapore Wholesale Electricity Market (SWEM) grows in</p>

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	<p>a total generation capacity of 3,100 MW". With the 25% share cap, Seraya could be prevented to repower back to the existing cap of 3,100 MW if there are sufficient retirement of units from Seraya and other players.</p>	<p>future. (FE)</p> <p>It is possible that the capacity market share of a Genco could rise above 25% as a consequence of other Gencos choosing to retire plant. To manage this case, we recommend that no Genco be forced to divest currently held plants. (FE)</p> <p>It is also possible that, via decisions to retire plant across the market, a 25% market share cap may become more restrictive than the cap that applies to current generation licences, implying the loss of currently held opportunities to repower. To manage this case, we recommend that the MW capacity of the three large gencos be restricted to the greater of the 25% capacity market share cap and their respective MW licensed capacity cap under their current generation licences. We discuss this issue in more detail in Section 6.4.1 of our Final Report. (FE)</p> <p>EMA agrees with FE's recommendation to impose the 25% capacity market share cap which will be applied consistently across all generation licensees to prevent structural increases in market concentration/power, while allowing portfolio expansion by each genco as the SWEM grows. In implementing this mechanism, we will not require any genco to divest when its capacity market share exceeds 25% due to the plant retirement decisions of other gencos. With regard to the three large gencos with existing MW licensed capacity cap, we will impose the higher of either the 25% capacity market share cap or their respective MW licensed capacity cap, until the current expiry date of their respective generation licence. Beyond the current</p>

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		<p>expiry dates, their respective MW licensed capacity cap will be terminated and the 25% capacity market share cap will apply. For the avoidance of doubt, each generation licensee is still subject to the condition in its generation licence that it shall not acquire, own, operate or have control over any generating unit, other than those set out in Schedule A of the licence, without the prior written approval of EMA. (EMA)</p>
<p>Tuas Power Generation (Tuas)</p>	<p>As at December 2015 Tuas was 93.1MW short of our licensed capacity cap of 2,670MW, rather than the 224MW identified in the Revised Report. Given that Tuas' capacity is currently well below the 25% capacity cap, the MW capacity cap in the generation licence can be replaced by the 25% market share cap immediately.</p>	<p>Regarding the 93.1MW versus 224MW issue, this is a factual error in our Revised Report and has been addressed in our final report. It does not influence our analysis, conclusions or recommendations. (FE)</p> <p>Regarding the application of the market share cap to Tuas, our recommendation to apply the greater of 25% market share and the currently licenced cap is consistent with Tuas' comments. (FE)</p>

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<p>Senoko</p>	<p>Consideration should be given to the arrangements for the implementation of the capacity cap, for example the form of capacity to be included in the calculation (non-dispatchable generation should be excluded), the potential to prevent decommissioning and repowering (current installed generation capacity should be set as a floor in the calculation), the treatment of prospective capacity and the implications for EMA's merger guidelines.</p>	<p>Our recommendation that the MW capacity of the three large gencos be restricted to the greater of the 25% capacity market share cap and their respective MW licensed capacity cap under their current generation licences addresses Senoko's point with regard to repowering. We discuss this issue in more detail in Section 6.4.1 of our Final Report. (FE)</p> <p>EMA agrees with FE's recommendation to impose the 25% capacity market share cap which will be applied consistently across all generation licensees to prevent structural increases in market concentration/power, while allowing portfolio expansion by each genco as the SWEM grows. In implementing this mechanism, we will not require any genco to divest when its capacity market share exceeds 25% due to the plant retirement decisions of other gencos. With regard to the three large gencos with existing MW licensed capacity cap, we will impose the higher of either the 25% capacity market share cap or their respective MW licensed capacity cap, until the current expiry date of their respective generation licence. Beyond the current expiry dates, their respective MW licensed capacity cap will be terminated and the 25% capacity market share cap will apply. For the avoidance of doubt, each generation licensee is still subject to the condition in its generation licence that it shall not acquire, own, operate or have control over any generating unit, other than those set out in Schedule A of the licence, without the prior written approval of EMA. (EMA)</p>

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Issue: Hedging of unvested MSSL load		
Seraya	Hedging of unvested MSSL load should not be via a tender. Tendering out a portion of allocated vesting quantities at a discount to vesting price is inconsistent with a sustainable, non-discriminatory market.	<p>We agree that there is likely to be some benefit to allowing flexibility in the instruments to be used to hedge unvested MSSL load, rather than relying exclusively on tender arrangements. (FE)</p> <p>EMA will separately review and develop the hedging framework including the optimal combination of instruments for prudent hedging of unvested MSSL load. (EMA)</p>
Keppel	A robust framework, methodology and procedures need to be developed and subject to industry consultation prior to hedging unvested MSSL load. Unvested MSSL load should be contracted on a bilateral basis with generators based on their CCGT capacity.	EMA will separately review and develop the hedging framework including the optimal combination of instruments for prudent hedging of unvested MSSL load. (EMA)
Issue: Price separation		
Keppel	There is a significant negative financial impact for constrained gencos as a result of localised market power at the time of transmission constraints. In the period until these constraints are removed, constrained generators should be paid a weighted average MNN price.	While we note Keppel's comments we do not concur that there is a material issue of localised market power. This conclusion is informed by our historical analysis, our forward modelling and our understanding that major transmission constraints are likely to be built out in a timely fashion. We do however note that at times of transmission constraint there are financial implications for participants. There may be merit in considering the pricing arrangements at times of constraint as part of a wider review of congestion management beyond the scope of this review. However, we note that the EMC has recently considered a

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		number of options in this area (RCP Paper No. EMC/RCP/85/2016/CP61). (FE)
Issue: Peak period weighting factor		
PacificLight, Senoko	Peak period weighting factors were introduced to manage market power. Given that VCs are not required to manage market power, the peak period weighting factor should be removed.	The peak period weighting factor has no bearing on market power during the transition to the Balanced Market regime. The current allocation method and the peak period weighting factor will effectively be phased out as part of the wider reduction of BVQ to zero by the start of 2H 2019. It will be disruptive to change these for the transition. EMA has decided on balance to retain them in moving towards the Balanced Market regime. (EMA)
Issue: Modelling approach and results		
Senoko	The modelling analysis has not been demonstrated to be based on reasonable assumptions. For example, retail contract levels should be treated as dynamic as the VCL evolves and the base and bidding sensitivities underestimate the likely offer of peaking plant. We suggest the bidding sensitivity assumptions be adopted as the base case.	Retail market outcomes are important and will primarily influence pool price outcomes to the extent retail load is hedged or exposed to the spot price, and secondly in terms of the allocation of retail customers to particular participants. We believe the former effect to be dominant and have investigated this through the treatment of MSSL load. Accordingly our recommendation regarding scope to reduce VCL is contingent on that load being hedged. While the second factor is important for the purposes of our analysis, we have assumed historical retail market share will persist into the future. We agree actual retail market share in the future is uncertain and dynamic and will be a function of vesting and other factors. However, the relationship between aggregate contract cover to aggregate

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		<p>demand remains the most important influence in this context. (FE)</p> <p>We note Senoko's comments relating to bidding assumptions. We would also note that, contingent on the unvested MSSL being hedged, our forecast pool prices in the bidding sensitivity case are significantly lower than the comparator long run marginal cost (LRMC). If the bidding sensitivity case was redefined as the base case, then our conclusions would be unchanged. Whilst there are many combinations of input assumptions that could lead to higher forecast prices, we maintain that our modelling assumptions and sensitivities were developed to reflect a range of potential outcomes and remain robust. (FE)</p>