

SINGLE ELECTRICITY MARKET COMMITTEE

DS3 System Services Market Ruleset

Decision Paper

SEM-18-032

08 June 2018

1 EXECUTIVE SUMMARY

This Paper outlines the SEM Committee's Decision on the DS3 System Services Market Ruleset following the submission of the TSOs' recommendations paper. The Market Ruleset implements the SEM Committee Decision, as set out in SEM-14-108 and SEM-17-080, to determine a provider's system service payments based on the provider's market position, and kept whole where the TSO dispatches the provider from their market position (referred to as the "SEM Committee Decision" in this paper). The DS3 System Services Market Ruleset sets out the rules that will be used for settlement with respect to a unit's market position for providers of DS3 System Services.

The SEM Committee has decided to approve the DS3 System Services Market Ruleset as proposed by the TSOs subject to the following conditions.

- The temporal scarcity scalar will only be applied to payments associated with the market position of providers registered in the I-SEM energy market. For the avoidance of doubt, the temporal scarcity scalar will not apply to constrained units registered in the I-SEM energy or to any additional payments associated with a provider's physical dispatch position where a TSO action increases their available service volume.

Therefore, the first iteration of the DS3 System Services Market Ruleset will contain the following:

- A provider's market position will be determined by their Final Physical Notification (FPN).
- The SEM Committee Decision will be applied on a per System Service basis and per trading period basis.
- Units which are not registered in the I-SEM energy market will be remunerated for System Services based on physical dispatch position only.
- Synchronous units and battery storage units in the I-SEM energy market will be remunerated for System Services based on the market position for the services FFR, POR, SOR, TOR1, TOR2, RRS, RRD, SIR and SSRP. Where a TSO action has resulted in a change to the available volume of service that would have resulted in higher payments compared to a provider's market position, the provider will receive these payments.
- All other providing units will be remunerated for System Services based on physical dispatch position only.
- The services RM1, RM3, RM8, FPFAPR, DRR will be paid based on physical dispatch position only for all providing units
- The temporal scarcity scalar will only be applied to payments associated with the market position of providers registered in the I-SEM energy market. For the avoidance of doubt, the temporal scarcity scalar will not apply to constrained units registered in the I-SEM energy or to any additional payments associated with a provider's physical dispatch position where a TSO action increases their available service volume.
- The temporal scarcity scalar will apply to the actual output of providers that are not registered in the I-SEM energy market, as they do not have a market position. As noted in section 4.4, this approach may be reviewed for the next iteration of the Ruleset.

- No specific remuneration rules will be put in place for units which are 'forced out'. These units will be remunerated in line with the TSOs proposals but will be expected to declare themselves 'forced out' immediately and to change their market position to reflect this as soon as possible

The SEM Committee notes that this is the first iteration of the Market Ruleset and represents the TSOs' view of a pragmatic approach given the timelines and complexities involved and the importance of the Ruleset to enable go-live of the DS3 System Services contracts for 1st May 2018. Subsequent iterations will look to improve the Ruleset by expanding the services and technologies covered, make adjustments where needed to better align with the energy market and address complexities and unintended consequences post I-SEM go-live. The SEM Committee requests that the Regulatory Authorities engage with the TSOs to begin work on the development of the next iteration of the Ruleset in advance of I-SEM go-live (scheduled for 1st October 2018).

2 INTRODUCTION

DS3 stands for Delivering a Secure, Sustainable Electricity System. The aim of the DS3 programme is to meet the challenges of operating the electricity system in a secure manner while achieving the 2020 renewable electricity targets. With increasing amounts of variable renewable generation there is a need to ensure that the power system can be operated securely and sustainably. Through the successful completion of the DS3 Programme the operational limit on non-synchronous generation may be increased to 75%.

System Services is a key work stream within the DS3 Programme. The System Services work stream will improve the technical capability of the generation fleet and the system more generally by incentivising generation valuable to the system and by interacting with the energy trading and capacity markets in order to deliver value to consumers and a secure, sustainable power system.

In December 2014, the SEM Committee published a decision paper on the high-level design for the procurement of DS3 System Services (SEM-14-108)¹. The High Level Design set out the SEM Committee's emerging thinking on many aspects of the detailed design and implementation of the new arrangements. The SEM Committee's High Level Design decided that providers with a system services contract should be paid for the volume of the service that has actually been provided or made available in that trading period to the TSO regardless of requirement for that service. In effect, a unit's available system services volume based on its market position will be used to determine the remuneration for providers, except where TSO actions result in higher payments due to higher available service volumes.

In the subsequent DS3 System Services Tariffs and Scalars SEM Committee Decision Paper (SEM-17-080),² the TSOs' views on the complexities associated with the implementation of this decision, particularly in relation to their settlement systems, were noted. However, in order to ensure alignment with I-SEM, and noting industry concerns with the TSOs' proposal to delay implementation, SEM-17-080 required the TSOs to develop and put in place a Market Ruleset, subject to regulatory approval, in advance of contract go-live on the 1st May 2018.

Following this, the TSOs published a consultation paper on the proposed DS3 System Services Market Ruleset on the 15th March 2018. The Regulatory Authorities have reviewed the TSOs consultation paper, the responses to the consultation, the TSOs' recommendation paper on the Ruleset and the output from engagement with the TSOs throughout the process. Following this review, this Decision Paper outlines the decisions taken by the SEM Committee in response to the TSOs' proposals and outlines the next steps as regards subsequent developments of the ruleset.

¹ DS3 System Services High Level Design Decision Paper (SEM-14-108) - <https://www.semcommittee.com/publication/sem-14-108-ds3-system-services-decision-paper>

² DS3 System Services Tariffs and Scalars Decision Paper (SEM-17-080) - <https://www.semcommittee.com/news-centre/ds3-system-services-tariffs-and-scalars-sem-committee-decision>

3 HIGH LEVEL DESIGN DECISION

The effect of the SEM Committee Decision is that providers will determine in each trading period whether to provide system services, and how much of each service, not the TSO. As System Services become more important with increasing levels of non-synchronous generation on the system, the rationale behind the SEM Committee Decision is that the market should provide the necessary services to the TSO and that service providers should not be disadvantaged by a TSO action (e.g. if a unit is dispatched away from its market position). If the TSO consistently has too little or too much of a given service this may suggest that that tariff rate for that service is not appropriate and that it may need to be adjusted to provide the correct signal to the market in order to optimise its provision. As the tariff arrangements allow for regular revision of the tariff rates it will be necessary to monitor the arrangements on an ongoing basis and potentially use this market feedback to adjust the rates of each service to a more appropriate level. Nevertheless, if the market schedule does not provide sufficient services, the TSO may still take non-energy actions as close to real time as possible, however, the intention of paying the higher remuneration based on a unit's market position or physical dispatch is to reduce the need for these TSO interventions as much as possible.

This approach is consistent with the energy market and facilitates alignment between System Services and the Energy Trading Arrangements (ETA) in I-SEM. The effect of the decision to pay the higher remuneration based on a providing unit's market or physical dispatch position for System Services is recognised in the SEM Committee's Decision on Complex Bid Offer Controls in the I-SEM Balancing Market (SEM-17-020)³. This decision notes that when a providing unit knows that it will be recovering DS3 revenue based on the higher of its available volume to provide System Services at the close of the Intra-Day or the Balancing Market, it does not necessarily face foregone DS3 revenue, in which case it should not be incorporating a loss into its complex bid offer data. The SEM Committee recognises the complexity of this issue and notes that there are circumstances where some DS3 products can be considered as foregone revenue and either discounted or added on to a providing unit's complex bid offer data.

³ SEM Committee Decision on Complex Bid Offer Controls in the I-SEM Balancing Market (SEM-17-020 <https://www.semcommittee.com/publication/complex-bid-offer-controls-i-sem-balancing-market-decision-paper-consultation-responses>)

4 OVERVIEW OF TSO PROPOSALS

With regard to the TSOs' proposed DS3 System Services Market Ruleset, and in consideration of the consultation responses received from industry, the SEM Committee wishes to address a number of key areas covered in the TSOs paper

4.1 Service Basis

The TSOs have proposed that the market position approach will be applied on a per System Service basis and per trading period basis in line with their current settlement systems. The SEM Committee notes the support for this approach as reflected in the responses to the TSOs' consultation, and considers this a sensible approach that is consistent with the High Level Design decision (SEM-14-108) and aligns with the I-SEM energy market, therefore allowing units to determine their system service availability in line with the Energy Trading Arrangements.

4.2 Treatment of Providing Units

A key area of consideration is how the SEM Committee Decision will be applied to different technology types and to units registered in the I-SEM energy market. The TSOs' recommendation is that for this iteration of the ruleset the SEM Committee Decision will only be applied to synchronous units and battery storage units registered in the I-SEM energy market. The SEM Committee notes the TSOs' view that the short timeframes involved and complexities with determining the market position of some technologies has limited the number of service providers covered in this first iteration of the Ruleset.

The SEM Committee acknowledges that the TSOs' proposals do not represent a complete implementation of the SEM Committee decision. The SEM Committee notes the concerns of the majority of respondents to the TSOs' consultation in this regard and requests that the Regulatory Authorities engage with the TSOs to ensure that, where possible, subsequent iterations of the Ruleset will seek to expand the number of technologies covered.

4.3 Nature of Services

The TSOs' recommendation is to implement the SEM Committee Decision for the services FFR, POR, SOR, TOR1, TOR2, RRS, RRD, SIR and SSRP for synchronous units and battery storage units registered in the I-SEM energy market only. The SEM Committee appreciates that the 14 System Services are different in nature and notes the TSOs' views and concerns on the complexities and expenditure risks associated with remuneration based on the higher of a service provider's volume based on market position or physical dispatch position for a number of services.

The TSOs have proposed that the ramping services, RM1, RM3 and RM8, will be paid based on a unit's physical dispatch position only at this time. The TSOs' view is that the market position for these services is currently too complex to calculate given the difficulties in factoring in the heat states of units as well as their market position for future trading periods given the different timeframes of each of the services. The TSOs have also proposed that the services, FPFAPR and DRR, will be paid based on a unit's physical dispatch position only at this stage and have noted that these services will not be paid out until SNSP reaches 70%, thus there is time to consider their implementation at a later stage.

The SEM Committee appreciates the concerns of a number of respondents to the TSOs' consultation regarding the proposal to only apply the SEM Committee Decision to a subset of services. The SEM Committee requests that the Regulatory Authorities engage with the TSOs to ensure that, where possible, subsequent iterations of the Ruleset will seek to expand the number of services covered.

4.4 Scalar Framework

The SEM Committee in the DS3 System Services Tariffs and Scalars Decision (SEM-17-080) decided not to apply the temporal scarcity scalar to constrained on units. This was based on the rationale that the arrangements should ensure that units are incentivised to bid efficiently into the energy market and to address the risk that out of merit units, which are subsequently constrained on, could receive higher System Services payments with little incentive to provide an accurate reflection of System Service revenues in their energy market bids.

The TSOs have proposed to apply the temporal scarcity scalar to constrained on units. The SEM Committee notes the TSOs' rationale for this but does not consider that sufficient justification has been provided to alter the SEM Committee decision on this matter. The SEM Committee notes the concerns raised in the consultation responses that these constrained on units are providing system services and should be remunerated in line with other providers who are on in the market. However, the SEM Committee considers that applying the temporal scarcity scalar in these instances would not represent an appropriate application of the decision to pay the provider based on its market position. The intent of the SEM Committee Decision is that service providers themselves will determine in each trading period whether to provide system services and the purpose of the temporal scarcity scalar is to create incentives for providers to make themselves available during periods of scarcity, therefore enhancing the performance of the system when it is most needed. As noted in the TSOs consultation, if units are consistently constrained on or down to provide System Services, this may suggest that the tariffs/scalars are too low and are not providing the right signals to the market for those services. This will be considered in the ongoing monitoring of the effectiveness of the Ruleset following I-SEM go-live. The System Services arrangements should facilitate alignment with the I-SEM energy market by incentivising providers who are in the market to take account of system services revenues in their bidding strategies. Therefore, the SEM Committee decision in this regard remains in place, that is the temporal scarcity scalar will only be applied to payments associated with the market position of providers registered in the I-SEM energy market and not to any additional volumes associated with their physical dispatch position. For example, if a provider is dispatched away from its market position in a way that increases its volume of available services, the temporal scarcity scalar should only apply to its market position and would not apply to the additional volumes associated with its physical dispatch position. Similarly, the temporal scarcity scalar will not be applied to constrained on units registered in the I-SEM energy market. For the avoidance of doubt, where the application of the temporal scarcity scalar to a unit's market position would not have resulted in any payments, similarly no payments will be made for a unit's physical dispatch position. In all other cases, the applicable rate for the service will be paid without the temporal scarcity scalar applied.⁴

⁴ It is noted that regarding the application of the temporal scarcity scalar for FFR, FPFAPR and DRR, it is not intended that there will be any payments at lower levels of SNSP but payment is intended at higher levels of SNSP (as per SEM-17-080)

The SEM Committee notes that some technologies do not currently have a market position and is of the view that these technologies should not be disadvantaged where their remuneration is based on their physical dispatch position only. The SEM Committee considers that this is particularly relevant to emerging technologies that are providing System Services, therefore, the SEM Committee has decided that the temporal scarcity scalar will apply to the actual output of providers that are not registered in the I-SEM energy market. The SEM Committee may review this approach for the next iteration of the Ruleset.

The decision in SEM-17-080 stated that the TSOs should provide ex-ante SNSP forecasts of the operational SNSP to contracted parties for System Services. The TSOs have noted in their consultation paper on the Market Ruleset that these forecasts are currently in development and further details will be communicated to industry in due course. These forecasts are important to allow market participants to more accurately formulate their bidding strategies and potentially position themselves to provide System Services at times of high SNSP in order to receive higher revenues from the application of the relevant scalars.

The SEM Committee notes the responses to the TSOs' consultation regarding locational constraints and the application of the temporal scarcity scalar. In particular, that applying the temporal scarcity scalar to constrained on units recognises the locational value of providers. The SEM Committee considers that where units are consistently constrained on or down to provide system services due to local constraints, this represents a separate issue to the application of the temporal scarcity scalar. The contracts for System Services include a locational scalar whose value is currently set to one, however, the Regulatory Authorities may direct the relevant TSO to adjust the scalar value where a need has been identified in a particular location. This locational scalar can be adjusted to deal with locational issues as and when they arise.

4.5 Ongoing Monitoring

The TSOs have proposed to monitor the effectiveness of the Ruleset on an ongoing basis following I-SEM go-live. This will include monitoring of System Services expenditure in order to identify any particular trends or concerns that may warrant a change to the tariff rates and/or scalar values. In order to promote transparency and confidence in the arrangements, the Regulatory Authorities have requested the TSOs to publish a paper setting out their proposed System Services cost monitoring and control processes. It is important to reiterate that any change to the tariffs rates or scalars will be subject to Regulatory Authority approval.

The effectiveness of the Ruleset will also be monitored by the TSOs in order to ensure that the arrangements are working well and to improve the ruleset by expanding the services and technologies covered under the Market Ruleset. For instance, it may be necessary to make adjustments where needed to better align with the energy market and address complexities and unintended consequences post I-SEM go-live. The SEM Committee notes that any changes to the DS3 System Services Market Ruleset will be subject to Regulatory Authority approval.

5 SEM COMMITTEE DECISION

The SEM Committee has decided to approve the DS3 System Services Market Ruleset as proposed by the TSOs subject to the following conditions.

- The temporal scarcity scalar will only be applied to payments associated with the market position of providers registered in the I-SEM energy market. For the avoidance of doubt, the temporal scarcity scalar will not apply to constrained on units registered in the I-SEM energy or to any additional payments associated with a provider's physical dispatch position where a TSO action increases their available service volume.

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- No specific remuneration rules will be put in place for units which are 'forced out'. These units will be remunerated in line with the TSOs proposals but will be expected to declare themselves 'forced out' immediately and to change their market position to reflect this as soon as possible

6 NEXT STEPS

The TSOs will now publish the first iteration of the DS3 System Services Market Ruleset and the Regulated Arrangements will go-live on the 1st May 2018.

The effectiveness of the Ruleset will be monitored by the TSOs on an ongoing basis following I-SEM go-live. Subsequent iterations will look to improve the ruleset by expanding the services and technologies covered, make adjustments where needed to better align with the energy market and address complexities and unintended consequences post I-SEM go-live. The Regulatory Authorities will continue to examine interactions with the I-SEM energy market to ensure appropriate alignment of incentives. The Regulatory Authorities will engage with the TSOs to begin work on the development of the next iteration of the Ruleset in advance of I-SEM go-live (scheduled for 1st October 2018).

The DS3 System Services Market Ruleset will become effective from the date of I-SEM go-live.. From this date onwards, the TSOs will seek to track and collate all of the relevant information needed to implement the ruleset. The TSOs have proposed in their recommendations paper to conduct a re-settlement exercise (accounting for the impact of the market position) which is expected to occur by June 2019, with resettlement back to the date of I-SEM go-live. In advance of I-SEM go-live, all contracted DS3 System Services parties from the 1st May 2018 will be remunerated based on their physical dispatch position only.

As decided in the DS3 System Services Regulated Arrangements System Services Contractual Arrangements Decision Paper (SEM-17-094)⁵, the governance of the Market Ruleset shall be such that the TSOs may propose changes to the Ruleset once in any three-month period. All proposed changes to the Ruleset will be subject to SEM Committee approval.

⁵ DS3 System Services Regulated Arrangements System Services Contractual Arrangements Decision Paper <https://www.semcommittee.com/sites/semcommittee.com/files/media-files/SEM-17-094%20SEMC%20Decision%20Paper%20on%20Contracts%20for%20Regulated%20Arrangements.pdf>