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Andrew Self
Targeted Charging Review, Energy Systems Transition
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Subject: Sembcorp's response to Ofgem's consultation "Targeted charging review: minded to decision and draft impact assessment"

Dear Mr Self,

Please find here Sembcorp's response to Ofgem's consultation¹ published 28th November 2018. Please note the Appendix is confidential and is not to be published.

Context of response

Sembcorp is a major industrial energy, utilities and services provider to major process businesses based in the Teesside area. On the Wilton International Industrial site Sembcorp owns and operates one of the largest and most efficient combined heat and power (CHP) plants in the United Kingdom, with 200MWe of installed capacity, supplying electricity and heat to on-site businesses via the private distribution systems owned and operated by Sembcorp at Wilton.

Sembcorp, through its wholly-owned subsidiary UK Power Reserve, is also the leading provider of secure, flexible, low carbon electricity and services to the UK power market. With a 1GW portfolio of decentralised thermal power generation and battery storage assets, we help keep the country's electricity system balanced and resilient. Our fast-ramping, low-cost and efficient assets are located across England and Wales, improving competition, contributing to security of supply, and delivering better value to consumers. Our assets are, and will continue to be, crucial to delivering a flexible energy system in which a greater proportion of energy is delivered by intermittent, low carbon generators.

Executive Summary

Sembcorp agrees with the principles behind the Targeted Charging Review and agrees that residual charges will be most efficiently recovered from demand only. We are concerned that the impacts of applying a charge to an individual settlement meter on Large Users have not been discussed with BEIS appropriately. We believe that Ofgem's eventual goal of charging all demand assets individually could have unintended consequences, which will affect UK Plc, especially given general uncertainty around Great Britain's industrial future.

¹ <https://www.ofgem.gov.uk/publications-and-updates/targeted-charging-review-minded-decision-and-draft-impact-assessment>



With regards to Embedded Benefits, we agree that the Transmission Generation Residual should be reduced. Retaining compliance with EU regulation 838/2010 will level the playing field between Transmission and Distributed Generation without negatively impacting competitiveness with European Generators. We would prefer that National Grid were not being encouraged to raise a CUSC Modification during the SCR process. Under normal governance procedure, parties are asked to put modifications that overlap with SCRs on hold. The industry will be able to give a more complete opinion once the methodology for calculating charges within the floor and cap is available.

Sembcorp also believes that proposing a minded-to position on BSUoS Embedded Benefits is premature, given the work undertaken by the Balancing Services Task Force. If the Task Force should find that the majority of BSUoS elements are unable to send an appropriate signal, and therefore should be treated as residual, the minded-to proposal of charging Distributed Generation will be partially reversed. The regulatory risk of being potentially charged in one year only for the charges to be removed in following year(s) will discourage Distributed Generation, including Storage. We understand Ofgem will be taking the Balancing Services Task Force report into consideration when making the final judgement, but it would be more coherent and logical to look at BSUoS charges across the network. In this way, any interactions with Access and other Network Charges can be assessed fully.

Question 1: Do you agree that residual charges should be levied on final demand only?

We agree that levying residual charges on final demand simplifies cost recovery and as such, lessens the risk of market distortions. We also agree that bringing residual cost recovery in line with other European countries will reduce distortions between European markets, which will become more important with increased interconnector capacity.

Question 2: Do you agree with how we have assessed the impacts of the changes we have considered against the principles? If you disagree with our assessment, please provide evidence for your reasoning.

Whilst we have some general concerns around how “Fairness” can be quantified, in that fairness should be viewed as a balance between different areas of the industry that provides the greatest long-term benefit to consumers (through supporting the economy, stability and an efficient market), we have no specific concerns to this application of the principles in this document.

Question 3: For each user, residual charges are currently based on the costs of the voltage level of the network to which a user is connected and the higher voltage levels of the network, but not from lower voltage levels below the user’s connection. At this stage, we are not proposing changes to this aspect of the current arrangements. Are there other approaches that would better meet our TCR principles reducing harmful distortions, fairness and proportionality and practical considerations?

For demand users, this is appropriate, as they rely on the higher voltage structures to form a “useful” system. For generation, this is not appropriate: Transmission connected generation relies on low voltage demand to have a customer base. As residual charges are being applied to demand users only, this position is suitable; where residual charges to be applied to all users, it would not necessarily be appropriate.

Question 4: As explained in paragraphs 4.41, 4.43, 4.46, 4.49, 4.80, we think we should prioritise equality within charging segments and equity across all segments. Do you agree that it is fair for all users in the same segment to pay the same charge, and the manner in which we have set the segments? If not, do you know of

another approach with available data which would address this issue? Please provide evidence to support your answer.

If the purpose of the residual charge is that all similar users should pay a similar amount, then it is appropriate that there is equality within charging segments. All transmission-connected sites, for example, gain the same benefit from the functioning of the transmission grid and therefore should pay the same for it.

Question 5: Do you agree that similar customers with and without on-site generation should pay the same residual charges? Should both types of users face the same residual charge for their Line Loss Factor Class (LLFC)?

On-site generation includes a number of different situations. We agree that small-scale onsite generation, installed for the purpose of lessening consumption, avoiding network costs and increasing green credentials, should pay the same residual as other demand, given that they use the Grid for the same purpose. Most large on-site generation is CHP and is necessary for Energy Intensive Industries to be economic. Users have therefore made a specific investment in on-site generation.

This change, combined with continuing regulatory uncertainty (Ofgem's Network Access project, the upcoming White Paper in 2019, DNO-DSO transition, Brexit) is likely to mean that companies will be unwilling to make similar investments in the future, thus risking GB's transition to efficient and low-carbon energy network. The benefits of CHP allow Energy Intensive Industries, and those that require significant amounts of steam, to operate efficiently from a whole system perspective. Large quantities of steam are an essential requirement for many of the industrial processes that take place on our site. Creation and transportation of steam can be hugely carbon-intensive and expensive, and so CHP is often the only economic solution. Given the long-term goals of increasing efficiency of heat systems, CHP is essential for sustainable development of Energy Intensive Industries. Weakening the case for on-site CHP, generally considered essential for certain sectors, will worsen UK Plc's competitive position.

For sites that already meet a lot of their demand requirements through on-site generation or co-location, this change increases the risk of the site "islanding", as highlighted in Annex 6 of this paper. We feel that paragraphs 4.77 to 4.81 "Issues related to Onsite generation and generation sites with significant demand" are not detailed enough to address this issue and as such, consumers are being asked to comment on an incomplete proposal. This is against the purpose of a "minded to" consultation and could ultimately be harmful to consumers.

If islanding becomes attractive enough to consumers, this BTM generation is likely to be high carbon, low efficiency generation.

If Ofgem's eventual aim is to charge demand assets individually (to avoid private wire or behind the meter arrangements), there will be the incentive to make asset management and metering behind the boundary point so complex so as to force a single charge. Such a position would also create an unfair distortion between sites that are able to place all their demand behind one meter, such as completely new sites or sites under one owner, and those that cannot, through commercial arrangements, existing assets or technological requirements. This will have a direct impact on the development of GB's industry.

This effect was acknowledged in Annex 6 1.37, but not addressed. As well as unintended incentives, the metering required for “final demand” will be catastrophically unfeasible, as even sites with the sole purpose of generation will have multiple parasitic loads which would have to be separated out.

Question 6: Do you know of any reasons why the expected consumer benefits from our leading options might not materialise?

Ofgem’s assumption that investor confidence will not be affected is overly simplistic. At the very least, there will be a “settling in” period whilst investors see how the changes impact the market. It is also not clear if the assumptions around investor confidence include other regulatory change, such as the suspension of the Capacity Market. CHP is vitally important to many types of Energy Intensive Industries, as its main purpose is to provide the steam, with the power produced on-site being used without transportation losses. Without local steam production, many of the industrial customers would be unable to function. CHP is an economic and efficient (when viewed from a whole system perspective) method to meet complementary needs. We are concerned that Ofgem does not understand the benefits of CHP and so will be risking investor confidence. Less development of Energy Intensive Industries in the UK will affect the consumer benefits as modelled.

The economic analysis works on the assumption that suppliers will pass through residual charges directly to consumers. In the domestic market, there is no reason why this will be the case. As the domestic retail market changes, it is possible, perhaps even desirable, that tariffs with standing charges become less common. Certainly, domestic consumers should have the choice between a standing charge or usage-only tariffs. It therefore seems odd that potential supplier tariff changes were not considered.

Question 7: Do you agree that our leading options will be more practical to implement than other options?

Yes, although there should be regular calibration of user groups as the energy industry evolves. We are also concerned that changes to metering data may not be suitably reflected in an annual charge. For example, if a site’s LLFC changes mid-year, we would expect the residual charge to be altered pro-rata.

Question 8: Do you agree with the approaches set out for banding (either LLFC or demanding for agreed capacity)? If not please provide evidence as why different approaches to banding would better facilitate the TCR principles.

The banding approach described strikes a suitable balance between simplicity and difference between network users. More precise bands have the opportunity for sites to manipulate which band they will be charged in, and therefore take measures to avoid residual charges. The definitions of the bands should be clear, to allow users to make appropriate preparations and prevent further loss of investor confidence. “Final demand” should be clearly defined as at the boundary meter. This definition will allow the discussion around access rights and forward-looking charges to avoid unintended consequences when looked at in conjunction with the residual. If the residual and other charges are charged on differing definitions of “final demand user”, it could present opportunities for sites to manipulate their metering in such a way to avoid certain charges.

Question 9: Do you agree that LLFCs are a sensible way to segment residual charges? If not, are there other existing classifications that should be considered in more detail?

LLFCs are consistent across different geographical areas and industry is familiar with them. We believe the residual needs to distinguish between industrial/commercial and domestic sites, in order to protect smaller users. Transmission-connected customers are paying only for the transmission grid, therefore it is appropriate they are treated equally in the residual calculation.

Question 10: Do you agree with the conclusions we have drawn from our assessment of the following?

- a) distributional modelling
- b) the distributional impacts of the options
- c) our wider system modelling
- d) how we have interpreted the wider system modelling?

Please be specific which assessment you agree/disagree with.

We agree with everything generally although c) should take security of supply into consideration. There is also only a very high-level decarbonisation impact assessment. It is telling that the analysis is compared primarily to Slow Progression, which is not a scenario that achieves carbon budgets. These changes hurt BTM solar and renewables, making the low carbon FES less likely.

Question 11: Do you agree with our proposed approach to the reform of the remaining non-locational Embedded Benefits?

Whilst we agree in principle with the reduction of the TGR to £0, it is unclear how that will be achieved without breaking the cap and collar regulation of 838/2010. There has been discussion of an “adjustment” mechanism, to keep compliance, which is a Transmission Generation Residual by another name. This adjustment mechanism was brought forward in an Ofgem webinar and not part of the main SCR, which creates a lot of uncertainty. This should have been addressed more completely in the TCR. Another option, put forward by National Grid at TCMF (12th December 2019), was recalculation of which costs come under the €2.50 cap, which does not address the €0 floor and does not guarantee a robust solution for the future. Without a confirmed mechanism, it is difficult for industry to comment.

Without clear guidance from Ofgem into the CUSC modification, the industry risks going through the arguments behind CMP261 again. We are also alarmed that National Grid are considering launching a modification to achieve the proposed solution, without waiting for the full SCR process. The proposed timeline for implementation is possibly why National Grid feel pressured to act prematurely. Whilst we agree with the principle, the method by which this change has been brought to the industry – with a modification that would normally be put on hold as it is within scope of the SCR – sets a precedent of poor regulatory practice.

The industry has been arguing for years that the volatility of BSUoS charges is of greater impact (CMP250 etc) than who pays it.

UKPR does not believe that Embedded Generation should pay BSUoS. In our discussions with National Grid ESO, the justification is that Embedded Generation coming online “appears” identical to demand falling off. However, demand that do not import as forecast do not get penalised. It does not seem fair that the same effect penalises one party but not another. If Embedded Generation causes balancing events, and so should be liable for BSUoS, it is because the ESO does not forecast effectively. As GSP Groups are not regularly



exporting, the flow of power is still predominantly from the Transmission Network down, so it seems disproportionate to make distribution-connected generation pay for a higher level.

Charging BSUoS to Embedded Generation will hurt a significant proportion of renewables. Other fast reacting Embedded Generation, such as small gas generation, whilst high carbon, is necessary for flexibility provision. We believe more analysis should be provided, to answer whether the cost to renewable expansion and potentially loss of flexibility is justified by the reduction of any perceived distortion. Considering that Ofgem's analysis finds the benefit to consumers is £0.7bn but whole system costs are the same, it seems plausible that the damage to renewables, including cancellation of projects, is not appropriate.

We are also concerned that paragraph 6.22 is incorrect. In particular the statement that savings are "partially offset by increases in CM clearing prices and payments to generators supported by CfDs". There are no CfD auctions for new renewable projects, meaning there will be no CfD prices representative of this change and the future of the Capacity Market is currently unclear. Whilst less CM entrants and no high CfD prices may well lead to savings for consumers, it will be at the cost of decarbonisation and potentially security of supply. The industry has expressed its desire to continue developing CMP308, in co-operation with the ESO-led Balancing Services Task Force. It seems counterintuitive, and will hurt investor confidence further, if Ofgem decide to expand BSUoS to all generators only for a modification to remove it from all generators. Most European markets do not charge the equivalent of BSUoS to generation, and as such, BSUoS currently represents a market distortion across Europe. Charging BSUoS to Distributed Generation will smear this distribution across all generators, not minimise it.

Part of the reasoning behind CMP308, is that BSUoS (at least partly) is for cost recovery and any parts identified as similar to a residual by the Task Force, should follow the logic behind the Residual part of this SCR. There is inconsistency between Ofgem's argument in the letter re CMP308 and the proposal to extend BSUoS onto more generation.

Lack of consistency in Ofgem's reasoning is creating more regulatory uncertainty, as it increases perception that these questions will need to be re-opened in the near future, as well as leaving decisions vulnerable to legal challenge. We believe that the decision on BSUoS Embedded Benefits should be delayed until the BSUoS charge and mechanism can be looked at more completely. If the Task Force recommends that elements of BSUoS are cost-recovery, as Ofgem has stated in the past², they should be removed from Embedded Generation (and all generation) in line with the principles in this TCR.

Question 12: Do you agree with our proposal not to address any other remaining Embedded Benefits at this stage? Which of the embedded benefits do you think should be removed as outlined in xx? Please state your reasoning and provide evidence to support your answer.

We agree that RCRC and AAHEDC are of low value and so do not cause significant distortion. The Small Generator Benefit can be treated as a separate issue, although we agree with the observation bought at TCMF (12th December 2019), that the calculation should no longer be tied to the Transmission Residual, as the Embedded Benefit it was designed to compensate for is no longer based on the Transmission Residual as a result of CMP264 & CMP265.

² Ofgem "BSUoS is largely a cost recovery mechanism"
https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter_-_charging_arrangements_for_embedded_generation.pdf

Question 13: Are there any reasons we have not included that mean that the remaining Embedded Benefits should be maintained?

There is significant and complicated industry change going on which, combined with the suspension of the Capacity Market, is placing large strain on smaller generators who do not have the resources to address everything to an appropriate depth. Unless an urgent distortion is found, it will be challenging to gain suitably balanced engagement with the industry.

Question 14: Do you agree with our proposed approach to transitional arrangements for reforms to:

- a) transmission and distribution residual charges
- b) non-locational Embedded Benefits?

Please provide evidence to indicate why different arrangements would be more appropriate.

With regards to transmission and distribution residual charges

Given the current high levels of uncertainty in the industry and more generally with regards to the European market, a phased implementation will allow the market to adjust, avoiding sudden step changes, whilst still starting to realise improvements for customers. Investments and business predictions require a level of predictability and the difference in consumer cost savings between 2021 and a phased 2021-23 implementation is small.

The ambiguity in paragraphs 4.77 – 4.81 means that the exact impact of this SCR will not be known until the mode modifications are being developed. In this case, it would be irresponsible to put in an aggressive timeline without understanding its effects on consumers.

The code modification to reduce the TGR to £0 but remain compliant with 838/2010 has the potential to be quite complex, with thorough discussion required. We therefore believe 2021 is the earliest feasible implementation date. It would be preferable, however, if implementation is considered with the next T-4 Capacity Market auction. Asking generators to enter the auction without knowing the state of the residual will create a risk premia and thus limit the savings to consumers should the change come earlier. Phased implementation of the reduction in TGR will be more complex, but given the nature of the modification required, it seems unlikely to delay the modification development significantly.

Question 15: Do you agree with our minded to decision set out? If not please state your reasoning and provide evidence to support your answer.

We agree largely with the principles behind the change to the residual charge but would prefer clarification on “final demand user”. We do not believe that BSUoS should be charged on a gross basis at a GSP level, as this is contrary to previous indications by Ofgem and seemingly at odds with the questions that have been posed to the BSUoS Task Force. It therefore risks creating conflicting regulatory signals and making a change which will need to be reversed shortly after.

Question 16: For our preferred option do you think there are practical consideration or difficulties that we have not taken account of? Please provide evidence to support your answer.

We are note that Ofgem’s eventual aim stated in 4.77 to place the residual on “final demand” In the case of large-scale transmission connected sites, we assume “final demand” means the demand at the connection to the transmission system as measured by the relevant Balancing Mechanism Unit (BMU) settlement meter or meters for such sites and would be grateful if Ofgem could clarify this as soon as possible.





Our reason for seeking this clarification is because large industrial sites may consist of one large-user (which the TCR appears to assume is the case) or multiple users. Either arrangement may have multiple sub-meters behind the main settlement meter. If Ofgem were to seek to drill down behind the settlement meters and determine “final demand” based on the number of users or sub-meters we believe that this could create serious inequities in the allocation of the residual. For example, a site with a 50MW connection agreement and multiple users could end up paying significantly more than a site with a 50MW connection agreement and only one user despite both sites placing the same demands on the network. We therefore believe that the most equitable means of determining final demand is by reference to the number of settlement meters, as these meters reflect the actual demands placed on the network by a site.

If the residual is to be placed on demand measured separately behind the settlement meter, this will be overly complex and require new metering systems, so should be fully developed with a cost benefit analysis before policy statements are made. There could be significant cost to consumers if overly detailed metering solutions are enforced behind the boundary meter, as well as increasing complexity and disadvantaging large users. Whether multiple customers are on site, or a single customer, the effect on the grid is the same, and therefore costs should be equitable for similar network use, in line with the principle of Fairness.

If you have any questions, or wish to discuss anything in more detail, please contact me.

Regards,

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