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Dear Andreas,

Response to Electricity Balancing Significant Code Review – Draft Proposals

Thank you for the opportunity to respond to the Draft Policy Decision for the Electricity Balancing Significant Code Review (EBSCR). As a provider of innovative flexible generation technology, Wärtsilä has taken an active role throughout the review, and we welcome the proposals as a positive step in the right direction.

In our previous response to the EBSCR Initial Consultation, we supported the general direction of travel towards more 'market-based' and cost reflective electricity balancing arrangements, as it will encourage the required flexibility to come forward. We suggested that the SCR objectives could be better achieved if Ofgem were to depart from the narrow approach and instead pursue new approaches to balancing. We put forward a coherent package of reforms aimed at delivering more fit-for-purpose arrangements in future and in accordance with the European Electricity Balancing Framework Guidelines (EBFG). Our suggested reforms included market splitting, a Balancing Energy Market, a Day-Ahead Reserve Market, and an information imbalance charge.

We understand Ofgem's subsequent decision to pursue the narrow scope approach to the EBSCR, to settle some of its long standing concerns with the cash-out price. However we strongly believe that the wider scope review is still needed to ensure that the trading arrangements remain fit-for-purpose in the future. Therefore we are pleased to see that these wider issues are being taken forward by Ofgem under the Future Trading Arrangements (FTA) Forum, and we are closely engaged in that process. It will be important to set clear objectives and to maintain momentum on the FTA process, such that longer-term reforms can be taken forward as more clarity emerges on the European Electricity Balancing Network Code (EBNC). The draft EBNC contains a number of important reforms related to encouraging flexibility, such as the requirement for balancing energy to be remunerated on a pay-as-cleared basis, standard product definitions, and requirements related to reserve procurement. In addition, as we suggested in our response to the FTA Open Letter, it will be important that a clear picture of the trading arrangements is established in 2014, to enable investors to consider these arrangements ahead of making final investment decisions under EMR.

In our previous response we suggested that under a 'narrow approach' with the current Balancing Mechanism, there may be practical difficulties in implementing more market-based arrangements in line with future system needs and the European direction of travel. Therefore we are pleased to see that Ofgem has determined that these practical difficulties can be overcome, and agree that the evidence gathered presents a compelling case for reform. Our responses to the individual consultation questions are contained in the annex below. To summarise some of the key points:

- We agree that, on the balance of the available evidence, the benefits of more efficient price signals under PAR 1 outweigh the potential risks associated with system pollution and/or a lack of competition among price-setting plant.
- Applying an appropriate cost to demand control actions would ensure that the balancing arrangements are more cost-reflective at times of stress, which would have knock-on impacts to investment incentives.
- We can understand the reasons for adopting a lower administrative VoLL with a CM in place, at least in the initial stages to reduce performance risk for existing capacity. However we would be concerned that setting VoLL at too low a level may dampen incentives for CM providers to choose reliable and flexible capacity to offer into the CM. The level of VoLL should be kept under review to ensure that it continues to provide the right incentives, and we would argue that it should increase over time as the older capacity with the greatest performance risk is retired and/or there is a desire to 'exit' from the CM.
- We would support a move to a more accurate allocation of reserve costs, given the importance of cost-reflective price signals in signalling the value of flexibility. Use of a Reserve Scarcity Pricing (RSP) function appears to be an innovative demand-side approach, with the added advantage of avoiding the potential pitfalls associated with allocation of reserve costs based on actual or expected usage.
- We continue to support the establishment of a single rather than a dual cash-out price, which can enhance cost-reflectivity, drive more sustainable competition in the market and improve near-term liquidity. However we are concerned at the potential distortions created by a combination of single pricing and the current pay-as-bid Balancing Mechanism, and we would anticipate that new approaches such as a pay-as-cleared Balancing Energy Market will be considered under the FTA workstream.

We would welcome the opportunity to discuss our response with you and your team further if this is helpful, and we look forward to the opportunity for further constructive engagement.

Yours sincerely,



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RESPONSE TO SPECIFIC CONSULTATION QUESTIONS

Question 1: Do you agree with our proposal to make cash-out prices more marginal?

Yes, as stated in our previous response we believe that cash-out prices should be fully cost reflective, based on the marginal value of energy in a given settlement period. Marginal imbalance prices ensure accurate signals for investment in the flexibility and peaking capacity required to manage the future system with a high penetration of intermittent generation.

Ofgem's own initial analysis demonstrated quite clearly the extent of mispricing in peak periods under a PAR 500 methodology, and this has been confirmed in the latest set of analysis contained in the EBSCR Impact Assessment. This clear dampening of price signals under the current arrangements will materially affect the value of flexibility from all sources, including supply-side, DSR, storage and interconnection. Logically, the extent of 'peakiness' in cash-out and balancing prices will flow through to investment decisions in these flexible solutions, so we fully support a move towards more marginal cash-out prices as part of the EBSCR.

Question 2: Do you agree with our rationale for going to PAR1 rather than PAR50? Are you concerned with potential flagging errors, and would you welcome introduction of a process to address them ex - post?

In our previous response, we recognised the potential obstacles to moving towards fully marginal cash-out under the current balancing arrangements. We suggested that the residual uncertainty inherent in the system action flagging methodology (and the potential residual misallocation of reserve costs) may make it difficult to justify moving to PAR 1.

We argued that the fundamental issue at hand is whether the multiple 'products' currently included within the Balancing Mechanism (BM) can be separated, such that a marginal energy-only cash-out price can be calculated. Given that there appeared to be an element of subjectivity in the system action flagging process and the reserve cost allocation methodologies (at least those put forward at the time), we suggested that it may be difficult to justify moving to PAR 1. We suggested instead that new approaches to balancing may be required that can structurally separate the various products currently procured through the BM. We proposed a combination of market splitting, a DAH reserve market and a Balancing Energy Market (BEM) at gate closure. We maintain that, irrespective of the potential improvements that can be made within the confines of the current BM, these new approaches to balancing are still worth considering in a longer-term context. Therefore we are pleased to see that consideration of these alternative mechanisms is still being taken forward under the wider Future Trading Arrangements (FTA) process.

In the context of this reduced scope EBSCR, we are encouraged that Ofgem has been able to establish that the barriers to moving to PAR 1 can be overcome. As Ofgem states in its draft decision, there is a balance to be struck in the selection of PAR (p.17):

"Given the nature of the balancing arrangements and the way in which the SO balances the system, it is impossible to fully separate system from energy balancing actions. Hence system pollution is an inherent risk in the calculation of prices. The choice of PAR entails the trade-off between the benefits of more efficient price signals and the risk of system pollution."

We agree that, based on the reasons outlined in the draft decision, the flagging process is likely to err on the conservative side thus mitigating the risk of system pollution in a marginal cash-out price. NG's historic analysis suggests that the P217a reforms have indeed been successful in removing the

vast majority of system actions from the cash-out price, which serves as a good basis for moving to a more marginal price.¹ We understand industry concerns around the small residual risk of mis-pricing under PAR 1, so we agree it would be sensible to keep this under review. If there is clear evidence of mis-pricing after the event, then it would seem sensible to have a correction mechanism in place.

In sum, we agree with Ofgem that, on the balance of the available evidence, the benefits of more efficient price signals under PAR 1 outweigh any potential risks associated with system pollution.

Question 3: Do you agree with our proposals for pricing of voltage reduction and disconnections, including the staggered approach?

Yes, this reform fills a clear gap in the current arrangements. Applying an appropriate cost to these actions would ensure that the balancing arrangements are more cost-reflective at times of stress, which would have knock-on impacts to investment incentives. As the example from 11 February 2012 illustrates (Appendix 3 of the IA), applying a cost to voltage reduction and firm load disconnections would have a material impact on cash-out prices at these times. Given that these are precisely the type of events that the balancing arrangements should be designed to avoid, it is critical that prices provide the appropriate signals. We would discount arguments that VoLL could act as a 'target' price for market participants (i.e. hold back volumes from the forward market to try and capture VoLL price spikes). Holding back significant volumes from the forward market would imply a very risky trading strategy, so we would expect participants to trade forward as they do today.

We note that the approach taken by London Economics to estimate electricity VoLL is similar to that applied as part of the Gas SCR. On the basis of this methodology, an average VoLL of £17,000/MWh has been selected as the relevant benchmark.² Assuming that this is an accurate estimate of the compensation that consumers would need to receive in the event of demand control, setting a market-wide administrative VoLL at this level would send strong security of supply signals to the market as well as provide incentives both for I&C customers and domestic/SME customers (on average) to enter into interruptible contracts.

Despite some concerns related to encouraging flexibility (see response to Question 4 below), we can understand the reasons for adopting a lower administrative VoLL with a CM in place, at least in the initial stages to reduce performance risk for existing capacity. The level of VoLL should be kept under review to ensure that it continues to provide the right incentives (e.g. keep a watching brief on VoLL-setting in key interconnected markets such as France), and we would argue it should increase over time as the older capacity with the greatest performance risk is retired.

We agree that a 'staggered approach' to implementation seems sensible to allow market participants time to adjust. If the CM does not materialise in its current form we would agree that VoLL should be gradually increased to the full £17,000/MWh, such that it provides efficient signals both from a performance and an investment perspective. Further, it is important to acknowledge that, at least in theory, the adoption of a lower than 'true' VoLL implies that an explicit missing money element is to be inserted into the energy-only market. In theory, this gap will be met by the CM while it remains in place. However if there is to be an 'exit strategy' from the CM, as is implied by DECC, then over time

¹ Looking ahead, one issue that requires further consideration is the potential for mis-pricing due to a lack of competition among renewable generators when the system is long (i.e. with subsidised renewables at the margin). We would anticipate that extreme negative bidding not reflective of opportunity costs will be subject to scrutiny under the Market Power Licence Condition (MPLC).

² This corresponds to the load weighted-average VoLL estimation for domestic and small business consumers and for winter, peak, weekday disconnections.

the VoLL parameter will need to increase such that when the time is right the energy-only market can once again take over as the key investment driver.

Finally, we agree that under the current BM it would not be feasible for an ex-ante warning mechanism to be in place ahead of a VoLL pricing period. In any case, we believe that the ex-ante warning system proposed as part of the CM design (from 2018-19) should allow the market to respond in periods of tightness to minimise the possibility of demand control actions.

Question 4: Do you agree with our assessment of the interactions with the CM and its impact on setting prices for Demand Control actions?

As Ofgem identifies, one of the main functions of the CM is to cover an element of the 'missing money' in the energy-only market. On this basis, it seems to be assumed that the main benefit of including VoLL in cash-out arrangements would be to provide a performance incentive to market participants to respond with flexibility in times of system stress. This implies that VoLL is not seen as providing an investment incentive if a CM is in place, which is not necessarily true. The level of VoLL applying at times of demand control will affect the type of capacity that comes forward under the CM – i.e. a higher VoLL would be expected to drive greater reliability and flexibility and vice versa. Therefore we would argue that the level of VoLL does indeed provide an important investment signal, irrespective of whether a CM is in place.

As a flexibility provider, we would be concerned that setting VoLL at too low a level may dampen incentives for CM providers to choose flexible capacity to offer into the CM.³ In setting VoLL, there is therefore an important balance to be struck between limiting performance risk on the one hand, and on the other hand ensuring that the wholesale market arrangements as a package promote an efficient mix of flexibility on the system.

Question 5: Do you agree that payments of £5/hr of outage for the provision of involuntary DSR services to the SO should be made to non-half-hourly metered (NHH) consumers, and for £10/hr for NHH business consumers?

It makes economic sense to compensate consumers who have been involuntarily disconnected, as these disconnections impose real costs. As Ofgem notes, consumers are effectively providing an involuntary DSR service to the SO in these periods, therefore they should be appropriately remunerated. This approach is also consistent with that under the Gas SCR, in which firm customers receive compensation in the event of curtailment during a gas supply emergency.

We have not reviewed the London Economics VoLL report in detail so we cannot comment in detail on the levels of compensation proposed. However we would assume that the compensation levels are broadly commensurate with an administrative VoLL of £6,000/MWh.

³ We acknowledge that this is mitigated to an extent by the 'delivered energy' CM design, which imposes CM penalties for non-delivery at times of system scarcity (defined 4 hours ahead of real-time).

Question 6: Do you agree with the introduction of the Reserve Scarcity Pricing function and its high-level design? Explain your answer.

We would support a move to a more accurate allocation of reserve costs, given the importance of cost-reflective price signals in signalling the value of flexibility. As Ofgem acknowledges, the current methodology (allocation based on past usage) is unlikely to accurately allocate reserve availability fees into the periods in which reserve is used. This dampens cash-out price signals in periods of scarcity and/or system stress.

In our previous response, we proposed that an uplift based on expected usage may be the best option, but acknowledged that there may still be significant residual inaccuracy. We argued that the primary issue here is that, within the confines of the current BM (a 'narrow approach'), we are attempting to layer on the cost of one product (reserve) into the price of another (energy). This may produce sub-optimal results, and therefore we suggested that instead a new approach could be considered that seeks to price the two products on a separate and transparent basis (e.g. through introduction of a DAH reserve market).

We have reviewed the proposed Reserve Scarcity Pricing (RSP) function, and agree that this could provide a more accurate signal of the value of reserves in the cash-out price. Provided that it is robust, introduction of the RSP function can lead to sharper and more cost-reflective cash-out prices. In turn, this would be expected to drive a more efficient balance between SO and market provision of reserves. Given that the RSP approach is derived from the demand-side, it has the advantage of avoiding the potential pitfalls associated with allocation of reserve costs based on actual or expected usage. However, as Ofgem suggests, there are a number of design issues that would still need to be worked through to ensure the accuracy of the RSP in signalling scarcity. In particular, the Loss of Load Probability (LOLP) parameter should be defined dynamically and as close to real-time as possible, to reflect the best forecasts of demand and generation availability (in particular, wind generation availability). The suggestion to calculate the RSP uplift four hours ahead appears reasonable on balance, as it will reflect close to real-time forecasts whilst also allowing market participants to respond ahead of gate closure.

Question 7: Do you agree with our rationale for a move to a single price, and in particular that it could make the system more efficient and help reduce balancing costs? Please explain your answer.

We continue to support the establishment of a single rather than a dual cash-out price.

As Ofgem recognises in its draft decision, different imbalances do not place different costs on the SO to resolve (as is implied by the dual pricing structure). Participants who are out of balance in one direction tend to offset the SO's costs, and should have essentially the same price as market participants that are out of balance in the other direction. As dual pricing leads to imbalance costs for some parties in excess of the costs that they are imposing on the system, they are likely to go to great lengths to avoid these costs, which is inefficient. The spread between cash-out prices under dual pricing may drive inefficient balancing outcomes, which may become increasingly significant as wind penetration increases. Moving to a single cash-out price would be expected to improve the cost-reflectivity of the balancing arrangements and enhance incentives for market participants to balance efficiently.

As noted in our previous response, we also consider that a single cash-out price could drive improvements in near-term liquidity (as the asymmetric risk created by dual prices is more efficiently managed within a portfolio). Improvements in liquidity could reduce the barriers to entry for small and independent players into the GB market. In addition, as the quantitative analysis in Ofgem's IA

indicates, for small and independent players (with less ability to balance) the benefits of removing the dual price spreads could more than offset the costs associated with more marginal cash-out prices. The adoption of single pricing would therefore appear to overcome one of the predominant concerns from industry with respect to marginal cash-out pricing (i.e. that sharper cash-out would impose undue costs on small, independent and intermittent market participants).

We note the potential risk identified around the potential for parties to 'chase the system length' and spill into the BM to receive a sharper price. However, this would effectively imply a merchant trading strategy, which would be a risky strategy for market participants to adopt given the difficulties in forecasting NIV sufficiently far in advance to deploy a plant. Thus we agree that forward trading is likely to remain the dominant and most rational strategy in a system with single cash-out pricing. We also note the risk that parties may deviate from their FPNs after gate closure as the single price presents an opportunity. We do not see how this incentive is materially different under single pricing than under the current arrangements, and agree that existing Grid Code requirements around FPN accuracy are adequate (unless evidence emerges that suggests this is becoming a significant problem).

As Ofgem recognises, there is a potential distortion created if single pricing is implemented in the current pay-as-bid BM. For example, assuming that the single marginal cash-out price is higher than an individual market participant's offer, that participant may gain more by spilling than offering into the BM. Ofgem suggests that this distortion may be immaterial for the same reasons as above – that the uncertainty in NIV forecasts will likely limit the ability of market participants to spill. While we can see the logic here, we would suggest there is more potential for spilling as an alternative to offering into the BM, given that this decision can be taken at gate closure with few regrets.⁴ This is distinct from the decision to sell forward or spill into the BM to capture the single price (as discussed above), which would need to be taken ahead of gate closure. We suggested in our previous response that a pay-as-cleared Balancing Energy Market (BEM) could resolve this potential distortion, whilst ensuring that balancing energy is remunerated appropriately at the marginal value of energy. We therefore look forward to the issue of pay-as-cleared v pay-as-bid being an important element for consideration as part of Ofgem's Future Trading Arrangements (FTA) project.

Question 8: Do you have any other comments on this consultation, including on the considerations where we did not propose any changes?

As Ofgem recognises, the arrangements will need to be reviewed again once the European Network Code on Electricity Balancing (EBNC) is finalised in 2014. The final EBNC may require reforms covering areas such as gate closure, settlement period duration, balancing energy procurement and pricing, and reserve procurement (among others). The ongoing FTA project will thus be an important mechanism to take forward any required reforms coming out of EBNC, as well as any other reforms deemed necessary in a broader sense to meet future needs. Nonetheless, we believe that these proposed EBSCR reforms represent an important step in making GB balancing arrangements more 'market-based', consistent with the direction of travel emerging under the EBNC. Therefore, despite the remaining uncertainty as to the requirements of the final EBNC, it is anticipated that these EBSCR reforms will be able to proceed on a least-regrets basis.

⁴ However we note that, by spilling, the party may help to reduce NIV. If many parties did the same the system may become long, and all those spilling would forsake the opportunity to have a premium BM offer accepted.