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Ofgem
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By email only

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Subject: Ofgem's minded-to decision on the regulatory treatment of CLASS

Dear Mike and Zak

Shell welcomes the opportunity to respond to Ofgem's consultation on its minded-to decision on the regulatory treatment of Customer Load Active System Services (CLASS). Shell does not fully support the options proposed by Ofgem for the regulatory treatment of CLASS as we do not believe they will deliver the best outcome for GB consumers.

We believe that the best outcome for GB consumers will be delivered by CLASS technology being used by Distribution Network Owners (DNOs) and National Grid Electricity System Operator (NG ESO) to more cost effectively operate the system. This would provide a direct and enduring cost saving for GB consumers, as opposed to being used to provide commercial balancing service sold by DNOs to NG ESO, which will provide an indirect cost saving for GB consumers (through lower BSUoS costs) which we expect will be short lived.

Our favoured approach is a combination of Option 2 and Option 3, with CLASS technology being remunerated through the price control process, and the technology being rolled out and used for solely for system operation purposes, to the extent that it can be demonstrated that this has a positive impact on GB consumers. We encourage Ofgem to explore alternative use cases for CLASS, that DNO trials have already demonstrated have the potential to deliver

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greater and more direct savings to GB consumers and which avoid many of the pitfalls associated with the current proposal.

For example, we understand that one alternative use for CLASS technology has been developed and successfully deployed by Northern Power Grid (NPG) to optimise voltage to provide a direct saving to consumers through lower energy bills. Based on the results of its Boston Spa Energy Efficiency Trial (BEET) NPG estimate that using CLASS technology to deliver such voltage optimisation could provide a **direct** benefit to GB consumers of roughly £20 per annum. This is significantly higher than the potential cost saving Ofgem has identified for CLASS.

The example also goes to the heart of our concern with Ofgem's proposal that using CLASS technology for the provision of commercial or mandatory balancing will deliver the biggest benefit for GB consumers. Network companies benefit consumers by providing sufficient distribution and transmission capacity and managing their networks to ensure that demand can be met by the cheapest available generation (or demand side response where that is cheaper) and by operating networks within defined security standards to provide a high quality and continuity of service to customers.

We strongly believe that using CLASS technology for the provision of mandatory or commercial balancing services to NG ESO will ultimately increase, and not decrease, costs for GB consumers. Our view is primarily driven by three factors:

1. **The DNOs did not produce, and have not contracted to consume, and therefore do not "own" the energy response (measured in MW/GW) that they are selling on a commercial basis to NG ESO.** For the mechanism to be fair, the regulator should require DNOs to compensate both the generator (who produced the energy) and the customer (who contracted to consume the energy) for the costs they have incurred associated with the energy response that DNOs are selling.

In the provision of CLASS services, the DNOs do not have to bear any costs normally associated with producing the energy or response necessary to be able to provide up to 2-3GW of balancing or ancillary service to NG ESO. These costs include: land, planning permission, network connection costs, operating costs - including fuel, maintenance, contracting and trading costs etc.

In the absence of such compensation, CLASS will result in NG ESO not being able to rely on the balancing markets where CLASS is active to procure the necessary level of generation, storage or DSR response it requires for the safe and secure operation of the system.

These technologies will then have to be compensated through alternative balancing markets (where DNOs are not active) or the capacity or wholesale market. If a decrease in BSUoS costs due to DNOs being active in specific balancing markets is

offset by an equal increase in (for example) Capacity Market costs, the overall impact of allowing DNOs to participate in such markets will be to increase costs for GB consumers.

We do not believe that the assessment undertaken to date is sufficient to demonstrate that allowing DNOs to provide balancing services will decrease cost for GB consumers. This is because the costs associated with CLASS on an individual consumer (*the consumer won't notice*) or substation basis (*no evidence of wear and tear*) will be small and hard to quantify. However, even if the costs are small and hard to quantify, they may still, in aggregate, outweigh the modelled benefit of *lower BSUoS* costs.

2. The use of CLASS technology will impact and can marginally increase costs for generators, storage assets and consumers connected to the DNOs network that are seeking to provide an equivalent response to NG ESO at the same time.

Given uncertainty regarding the behaviour of the assets connected to the distribution network, the use of CLASS for provision of balancing services may negatively affect the network balance and customers connected to the network. For example, if the voltage is lowered and industrial/commercial assets react by increasing the current, the power demand also increases, not only by the change of current but also by the increase in resistance on the cables due to lower voltage and higher current increasing the temperature of the copper (higher losses).

Because of uncertainty regarding asset behaviour to voltage reduction, the overall effect on the grid balance is difficult to predict. To mitigate this and ensure that voltage reduction will be beneficial, also considering the impact on customers and generators, DNOs would need to understand how all assets connected to their network are going to react to voltage reduction, which is a nearly impossible task.

Some parties connected to the DNOs network may be involved in Demand Side Response (DSR). These customers may be contracted to turn down power, which would provide an equivalent response to that provided by CLASS technology and is also a more efficient way of providing response as it doesn't have the downside of energy losses associated with lowering network voltage.

A lot of equipment of those DSR customers has thresholds built in that would stop motors, VSDs, etc. If the equipment doesn't stop because of a fault trigger at low voltage, the process to provide DSR would still be affected by either increased power and current consumption or reduced output/production if the equipment doesn't adjust to the lower voltage. These parameters would have been agreed in advance to be able to offer grid balancing services with the required voltage but would not be able to work to contracted volume with voltage change.

In other words, in a situation where a DNO is actively reducing the voltage on its network to provide response to NG ESO, that reduction in voltage will result in DSR being less effective, as the DSR turn down power would be less. This in turn means that a customer providing the DSR would underperform, or face higher costs, and end up being penalised as a result.

3. Allowing network companies to offer balancing services on a for profit basis introduces a conflict of interest that may be harmful to competition, and which will be hard for Ofgem to adequately police.

Due to their monopoly position network companies have, and can derive further, competitive advantage over network users where they are competing in the provision of the same or similar services. Where possible Ofgem should avoid creating a regulatory framework that provides an incentive for network companies to restrict competition to maximise profits.

It is difficult and costly to effectively regulate or police such conflicts of interest, and years of experience has demonstrated that the optimal regulatory response is to ensure that there is no conflict of interest in the first place¹.

One clear example is the question of whether there is any possibility that a DNO may be able to cross-subsidise between its regulated activities (which are already paid for by GB consumers) and the competitive provision of response to NG ESO using CLASS technology. Setting aside the question of where the DNOs are getting the 2-3GW of potential response from in the first place.

If there is any cross-subsidy with a DNOs regulated activities, then the true cost of providing CLASS will not be reflected in DNOs offers to NG ESO – or in Ofgem’s impact assessment. We welcome the additional effort that Ofgem has gone to in its impact assessment to identify whether there is an observable cost or cross-subsidy. However, as with the potential for CLASS to have a negative impact on consumers, even a small and difficult to observe cross-subsidy, can result in a significant distortion and mean that the overall impact of CLASS is to increase costs for GB consumers.

Finally, on the point of potential conflicts of interest, the recent acquisition by National Grid Group of Western Power Distribution would mean that implementing Ofgem’s minded-to decision will result in one part of National Grid Group selling a service to another part of National Grid Group for profit.

In conclusion we agree with Ofgem that the ability of DNOs to use CLASS technology to provide up to 2-3GW of response to NG ESO in one or more balancing services will reduce

the cost to NG ESO in the procurement of those balancing services, which will in turn reduce the cost of BSUoS for consumers. We also understand that DNOs will be required split profits with consumers, which would go some way to ensure that consumers are appropriately compensated.

However, we do not consider that Ofgem has fully reflected all costs associated with this use of CLASS technology in its impact assessment, and do not believe that allowing DNOs to provide balancing services to NG ESO will reduce overall costs for GB consumers.

In addition, we note that DNOs have identified at least one alternative use case for CLASS technology (the NPG proposal set out above) which would provide a larger and more direct benefit to GB consumers and avoid many of the potential costs associated with CLASS technology being used to provide balancing services. We consider that Ofgem would best serve consumers interests by encouraging DNOs to identify alternative use cases that provide a less debatable benefit.

Given the materiality of the proposed minded-to decision, we would welcome the opportunity to meet with you to explain our concerns.

Yours sincerely,

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