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Dear Sir or Madam

Thank you for the opportunity to respond to the 'Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control' consultation. Please find below E.ON's response.

Executive summary

E.ON acknowledges that Customer Load Active System Services (CLASS) is a highly innovative and useful source of flexibility. It is also very cheap to install (£18/kW¹) and operate (£0.6/MWh²) giving a levelized cost of energy (LCOE) of <£3/MWh. This compares to >£100/MWh for a new peaking gas unit³ or a new battery. Under a normal commercial market, all participants would be investing heavily in such a market leading technology to the detriment of all other technology options.

However, CLASS cannot be owned or operate by a commercial body as it involves direct upgrade and operation of network assets (such as primary transformers), which are the sole responsibility of the relevant regulated Distribution Network Operator (DNO). Therefore, DNOs currently have a monopoly over this market leading technology. As well as their monopoly position, DNOs do not have to gain customer permission to use CLASS on their network. Other demand side response (DSR) technologies spend large quantities of time and money (~£6/domestic DSR subscriber/year) having to market and 'sell' their service to potential participants⁴, a cost that DNOs are exempt from due to their monopoly status.

Without taking this potential market monopoly into consideration, Ofgem are threatening any investment in commercial flexibility markets from non DNO

¹ Based on £21.8m for 100MW at 3% depreciation across 15 years as per the 2016 Baringa impact assessment. "Assessing the impact of CLASS on the GB Electricity Market", Baringa, May 2016

² Based on £0.5m for 100MW across 8500 hours as per the Baringa impact assessment.

³ Lazard, Levelized cost of energy and storage analysis 2019

⁴ <https://www.theccc.org.uk/wp-content/uploads/2013/12/CCC-infrastructure-DSR-Report-290114.pdf>

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participants. E.ON disagrees with Ofgem that DNOs will not monopolise national flexibility markets (such as the firm frequency responses (FFR) market) through the provision of CLASS. The fact that only <100MW of CLASS is currently participating is due to the regulatory uncertainty in CLASS and not its investment potential. E.ON believes that the theoretical potential of CLASS as identified by Baringa in their 2016 report (>2GW) will quickly be developed by all the other DNOs should CLASS be allowed into the RIIO ED2 price control as per Ofgem's minded to position. This will swamp the current demand for frequency response, pushing out all the other sources of non-mandatory flexibility (existing or new build) due to CLASS's lower costs. The current increase in competitiveness within the FFR market will not prevent this monopolisation as participants are investing to compete against non-network-based technologies (such as batteries and DSR) which have much higher costs than CLASS. Ofgem are also relying on National Grid ESO to use their powers to ensure long term price competitiveness in markets. However, it is not clear that these powers extend to preventing the monopolisation of a market. It is also not clear that ESO is best placed to make such a long-term strategic decision of one flexibility technology over all the other potential flexibility providing technologies.

There is also a question around whether DNOs are lowering the system reliability by using voltage control equipment to participate in commercial markets. Voltage control has traditionally been used as a security measure that consumers pay for through the RIIO framework. Several DNOs have remote controlled on-load tapping change equipment which can be used to lower the networks voltage. However, by participating in commercial markets, the impact this control can have on the network is reduced and hence the security of the network reduced. For example, if the FFR market has accepted bids from a DNO to reduce voltage via CLASS then the tapping setting on the primary substations may have been reduced to their minimum settings. If an incident then occurred on that network (such as a large industrial load tripping off), then the DNO no longer has the option to reduce the voltage to stop customers suffering outages. But customers have paid for this protection through their DUoS charges.

E.ON's preferred solution for CLASS participation in flexibility is to segment the ancillary and flexibility markets into CLASS and non-CLASS groups. This will prevent the total monopolisation of commercial markets by CLASS and encourage continued investment from commercial parties but will also allow consumers to benefit from the lower balancing costs that CLASS provides. If DNOs have a flexibility market size limit applied to them then it is less likely that they will be in a position where they do not have enough voltage control to prevent incidents occurring on their own network.

Q1. Are there other options we should have considered? Please provide the reasons for your suggestion.

Due to its unique monopoly provision of CLASS, E.ON believes that the market share of any DNOs in flexibility markets should be constrained to prevent monopolisation of those markets. This protects different flexibility technologies

from being priced out of markets and ensures that DNOs do not extend their monopolies into commercial flexibility markets. Whilst CLASS is a lower cost service today, there will not be any innovation or investment in different sources of flexibility if commercial markets have been monopolised by one technology which cannot be owned or operated by any other party.

This market share cap should also apply to local flexibility markets run by Distribution System Operators (DSOs).

Q2. Do you agree that market-based mechanisms can provide the most efficient incentive for CLASS participation in balancing services?

Market based mechanisms will incentivise CLASS participation due to the unprecedented high returns that DNOs will be able to make. The 2016 Baringa report suggests payback in <1 year if using shadow marginal pricing i.e. pricing just below the displaced providers. All installations of CLASS will be much lower in cost than other sources of flexibility (high opex cost for existing storage and DG, higher levels of aggregation required for DSR driving up marketing costs) ensuring all CLASS bids will be accepted even when following a high return pricing strategy. Under a high pricing strategy, DNOs also receive the bulk of the financial benefit (~70%) with customers only receiving ~30% as demonstrated in the Baringa report commissioned by ENWL⁵. There will be no reason for DNOs to not follow a revenue maximising strategy that prices CLASS just under the marginal non-CLASS unit price.

Q3. What is your view on DNOs' sharing profits with consumers, even if this means consumers are also exposed to DNOs' losses (including how this might affect DNOs' competitive behaviour noting this is different to other providers of balancing services)?

It is E.ON's view that customers are highly unlikely to be exposed to losses (as the long run marginal costs of CLASS is much smaller than current FFR prices allowing DNOs to follow revenue maximising, shadow marginal pricing strategies). According to the 2016 Baringa report commissioned by ENWL, if CLASS is priced using shadow marginal pricing (which ENWL appears to be using i.e. just undercutting the displaced FFR provider) then payback is in less than a year (so no risk of losses), but the bulk of the benefit is also attributed to the DNO (~70% of the NPV) with the customer only receiving ~30% of the benefit.

Q4. How might limits on charges to the ESO in DRSg affect investment and utilisation signals for CLASS?

Under DRSg, DNOs would be constrained to price any CLASS bid at LPMC plus a reasonable return. It is unlikely that this will affect DNOs appetite to invest in CLASS as returns will be broadly in line with other investment opportunities open to DNOs with much lower risks. At fixed low prices, all flexibility markets that

⁵ "Assessing the impact of CLASS on the GB Electricity Market", Baringa, May 2016

CLASS participate in will cease to be commercial markets (due to the much lower costs and desired returns) and instead become regulated monopoly markets. E.ON believes that this is not part of Ofgem's Decarbonisation Action Plan (which looks to support flexibility through competitive commercial markets).

Q5. Do you agree that requiring CLASS in the price control would not promote efficient investment signals in CLASS and could distort competitive outcomes?

Putting CLASS into the RII ED2 price control (and thereby mandating DNOs to participate) would have a similar impact as to putting CLASS into the DRS9 category and that markets would quickly be monopolised by the large quantities of cheap flexibility available to the DNOs. This would massively distort markets and competitive outcomes

Q6. Do you have evidence CLASS could affect the likelihood of system reliability issues?

Whilst Ofgem notes in this consultation that '*CLASS does not and shall not undermine the ability of DNOs to deliver their Grid Code obligations*' it is self-evident that some level of distribution security that customers have paid for through DUoS charges are being removed to use for commercial purposes. Allowing CLASS to participate in FFR/FR/reactive power markets could mean that voltage control measures that could prevent a reliability incident occurring on the distribution network (and could be the only protection for that area) are instead being used in the national ancillary markets where there might not be balancing issues (and if there are, will have a wider market of options to select from).

For example, if a DNO is using CLASS to provide FFR to the ESO, they might drop the voltage on their network, taking the transformer to the lowest tapping setting. Voltage remains within the security range as defined by ESO requirements under normal circumstances but if an incident now occurs on the DNO network (i.e. a lightning strike tripping off a large industrial load) then ENWL can no longer drop their transformer tapplings to deal with the situation. Therefore, a security measure paid for by the customer is no longer able to benefit the customer.

E.ON appreciates that the ESO requirement does not specify the manner in which a DNO maintains its voltage level, but as customers have paid for remote controlled voltage control equipment, they should be benefitting from the protection it provides.

Q7. Do you have evidence competition is currently being distorted or impeded by the participation of CLASS? Do you agree with our assessment that it is unlikely DNOs have or would have market power in future, and the reasons we have provided in Appendix 2?

Due to the low levels of CLASS currently participating in the ancillary markets (75MW out of a demand for secondary response of 890MW) the market is currently not being distorted. However, the technical capacity for CLASS is estimated to be

1.75GW⁶ which if all brought on line will swamp the current need for frequency response.

Ofgem appear to have assumed that the low levels of CLASS investment to date has been due to the lack of positive financial cases for investment. However, anecdotal conversations with other DNOs has suggested that it is due to the uncertainty in the regulatory situation around CLASS with other DNOs waiting for it to be clarified before investigating their own investment. Given the large potential benefits identified by Baringa, it is hard to see all the DNOs not participating in this new revenue stream to the full potential of their networks.

Ofgem also appear to be relying on the growing competitiveness of the FFR and FR markets (as identified by the increase in new entrants). This growth in competitiveness has been due to equal access to new technologies (such as storage). However, none of these flexibility providers (or new entrants) will be able to compete against the low cost of CLASS (and cannot invest in or make use of CLASS technology themselves). Therefore, this is not protection against the monopolisation of these markets by the DNOs.

The final reason that Ofgem outline as evidence against the DNOs gaining significant market power is the powers of the ESO to promote the long-term competitiveness of balancing services. If the ESO believes that in the long-term customers will be harmed by the DNOs monopolising the FFR market, then they can take this into account. However, there is no clear mention of market dominance in these guidelines with more of a focus on development of new markets/lowering barriers to entry. It is also unclear whether the ESO would be happy to defend a long-term view of the market if challenged by a CLASS provider.

E.ON would like to see Ofgem provide firmer guidance to the ESO to prevent any party gaining significant market power (such as dividing the market between participants).

Q8. What information could the DNO have privileged access to that that could offer it an unfair advantage in balancing services provision? How might this change in future if the DNO and ESO increasingly coordinate?

As DNOs are starting to transition to DSOs, they are increasingly required to balance their own networks. This is currently being done through local flexibility auctions. Flexibility providers currently must stack revenues across multiple balancing services in order to make an investment case work. This means that DNOs could be in receipt of commercially sensitive information about a flexibility providers asset and bidding strategy from a local flexibility auction that the DNO can use to inform their own bidding strategy against the flexibility provider in a national balancing service such as FFR. If this occurred, it would be incredibly difficult to prove.

⁶ "Assessing the impact of CLASS on the GB Electricity Market", Baringa, May 2016

E.ON has called for the legal separation of DNOs and DSOs to prevent this sort of abuse happening. Whilst we welcome the Open Network Project's conflicts of interest tracker, we believe that there is little that can be done to mitigate this issue other than separation.

Q9. What measures would you consider effective and proportionate to ensure that privileged information the DNO has access to is not used inappropriately to benefit the commercial performance of CLASS?

See response to Q8

Q10. In what other ways do you think DNOs could take advantage of their DNO role in the context of providing balancing services with CLASS?

E.ON does think that current protections are likely to be enough to tackle the issue of DNOs excluding or limiting a flexibility providers connection.

Q11. How far do you think existing safeguards (including licence obligations and competition law) against DNOs taking advantage of their DNO role in the context of participating in the balancing markets with CLASS are sufficient?

E.ON believes that competition law and license obligations are currently insufficient to prevent market abuse by dominant market participants. Whilst DNOs are not currently the dominant party in the balancing services market, E.ON believes that this could soon be the case if constraints are not placed on their participation. Evidence for the insufficiency of competition law and license obligations was seen in 2016 when two generators were able to inflate the cost of Black Start services by 500% due to their dominant position in the market i.e., they were the only participants. If DNOs become the only participants in the FFR market, there does not appear to be any legal recourse to stopping them charging at a level that keeps out other participants but that is much higher than their LRMC to the detriment of consumers.

Q12. What additional measures would be effective and proportionate to address actual or perceived risks of DNOs taking advantage of their DNO role?

See response to Q1

Q13. Are there other specific effects to competition that are relevant to our decision? What effects would these have on consumers?

E.ON is currently unaware of any other specific effects to competition that are relevant.