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Dear Frances,

OPEN LETTER: CHARGING ARRANGEMENTS FOR EMBEDDED GENERATION

Thank you for providing the opportunity to respond to your "Open letter: Charging arrangements for embedded generation" published on 29 July 2016. Within this response letter we set out our position as Highlands and Islands Enterprise (HIE).

HIE along with its local partners - the democratically elected local authorities covering the north of Scotland and the islands; Shetland Islands Council, Orkney Islands Council, Comhairle nan Eilean Siar, Highlands Council and Argyll & Bute Council, make representations to key participants on behalf of industry to influence the way in which regulation of the electricity industry is managed in order to ensure the needs and interests of the Highlands and Islands are understood and taken into consideration. HIE also works closely with Scottish Government in relation to regulatory matters.

Covering more than half of Scotland's land mass, the Highlands and Islands is a region that contributes significantly to national economic growth, being rich in opportunities founded on natural and created resources, the skills and talent of its people, a diverse and dynamic business base, culture and creativity, and an active community spirit particularly in rural mainland and island areas. Renewable energy represents a significant opportunity for the region, and embedded intermittent renewable generation features significantly within our communities and key to sustainable economic growth.

HIE welcomes Ofgem's open letter, which presents a succinct overview of the network charging challenges currently faced by the generation industry, as it reflects a growing concern within the GB electricity sector regarding the disjointed and imbalanced network charging arrangements. However, we are concerned about the potential consequences of the proposed changes currently being developed through the CUSC and BSC modifications process. We are concerned that the scope of these piecemeal modification proposals cannot encompass the full suite of implications of changes and unlikely to result in balanced, well-considered solutions. Especially so as the CUSC modifications are being fast-tracked.

We strongly support Ofgem's focus on total system flexibility, moving towards a decentralised energy system, with DNOs actively managing networks and procuring

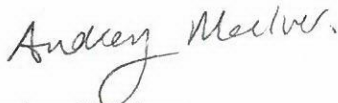
local balancing services. Therefore, the future charging arrangements must be fit for purpose, in this context.

We consider that it should be of utmost importance to properly consider charging issues in the round, covering the whole energy system and the value to the consumer rather than narrow fixes to address perceived issues with particular market frameworks (like the outcome of the capacity market). Therefore, we urge Ofgem to reconsider its decision not to address embedded benefits through a Significant Code Review.

Further, we urge Ofgem to complete a full Impact Assessment upon generators and consumers of the proposed changes to TNUoS demand residual payments, with a particular focus on storage and embedded intermittent generation, given the pivotal role of both in the desired low carbon, decentralised energy system.

Further detailed comments are found in Appendix 1. We hope that this response is helpful to Ofgem in its future deliberations.

Yours sincerely



Audrey MacIver
Head of Energy

In partnership with:-
Shetland Islands Council
Orkney Islands Council
Comhairle nan Eilean Siar
Highland Council
Argyll & Bute Council

APPENDIX 1

OPEN LETTER: CHARGING ARRANGEMENTS FOR EMBEDDED GENERATION

Treatment of demand residual TNUoS in isolation

As stated in the letter, the immediate priority for Ofgem is considering the extent to which the Transmission Network Use of System (TNUoS) demand residual payments as it is considered to be distorting investment and dispatch decisions and the outcome of the Capacity Market.

Although the issues within the current charging arrangements are clear, we consider that simply targeting one element of the charging arrangements (demand residual TNUoS tariff) for one type of network user (embedded generation, below 100M) is likely to result in further market distortion, compounded by weakened investor confidence.

Further, HIE does not see strong evidence for retaining locational tariffs only for embedded generation. There is no evidence provided which supports this approach to indicate that it is more cost reflective and fair. Applying one element of the TNUoS charge to one group of system users is further discrimination – as no other system users are exposed to only the locational element of transmission charges.

There is a particular impact on generators in Scotland from this specific proposed change as the locational demand charge is heavily negative in both the north and south of Scotland. Therefore, removing the residual element (but maintaining liability for the locational element) would not only remove a potential value stream from generators but would introduce a significant additional charge, over and above the distribution use of system charges faced by these projects. This would therefore provide a perverse incentive to generators in these areas to minimise output (and perhaps maximise demand) during triad periods – this is a potentially dangerous consequence of piecemeal approach currently being pursued through industry processes.

Rationalisation of distribution and transmission system charging

The methodology and rationale of use of system charges faced by generators at transmission and distribution are fundamentally different. Ofgem has failed within its letter to recognise this fact. Embedded generators are exposed to significant connection costs (per MW capacity) compared to transmission connected projects. At transmission connection charges are very shallow – limited to assets that can only be used by an individual user. However, at distribution the charging arrangements are much deeper – with new connectees exposed to the entire cost of new infrastructure and shared costs of network upgrades (as well as DNO transmission connection charges). These differences immediately result in a charging disparity between distribution and transmission.

The letter also does not recognise that the route to market for both transmission and distribution generators is the same – and both users implicitly rely on the transmission and distribution networks. And yet transmission connected parties are not exposed to charges for utilising the distribution systems.

Impact on consumers

HIE considers that greater clarity over the potential level of efficiency and consumer savings to be derived from changes in embedded benefit arrangements is required. The extent to which consumers are exposed to the costs incurred by suppliers through the payment of triad avoidance to embedded generators is unclear as is the potential impact that increased uncertainty from regulatory change could have on overall cost savings to consumers (for instance due increased financing costs for projects). Further, the extent to which embedded benefits payments are made from suppliers, to generators is not clear.

It is therefore imperative that a careful, systematic approach is taken, including a robust impact assessment to understand the market-wide impacts of the proposed changes on generators and consumers. Greater clarity is also needed on the long-term impact of the changes to ensure that charging arrangements are fit for purpose and lead to describable outcomes for the future energy system.

Impact on embedded wind generation

A primary concern for HIE is that while dispatchable generators can capture triad avoidance benefit more readily than intermittent generators, triad avoidance benefit represents an important revenue stream for embedded renewable energy projects. Due consideration must be given to the potential impact new charging arrangements could have upon these generators.

We note that the impact on intermittent generators is likely to be significant. National Grid forecast that the average output from embedded wind during the triads is 10% of installed capacity. Based on the installed capacity of wind during the winter of 2015/16, this related to approximately 227MW of average output during the triad periods in the north of Scotland. In turn, the total value of negative demand tariff is likely to be approximately £5.33M. Although power purchase agreements vary from site to site, a significant proportion of this value stream was realised by the generators – and relied upon when making investment decisions.

The proposed changes to the charging regime must also be considered in the wider context of charging arrangements – HIE is concerned that such significant changes to the charging regime would, at this time of ongoing wider uncertainty within the energy industry, further undermine investor confidence – leading to delays on new generation projects, reduced capacity margins and security of supply, increased marginal costs for wholesale electricity and higher financing costs – all of which will results in higher costs for consumers.

Impact on storage projects

The changes will also have an impact on the development of the energy storage market. 50MW of the 200MW of Enhanced Frequency response capacity recently procured by National Grid were secured by service providers that were seeking to augment the service provision income stream with triad avoidance payments. The contract award is for four years, with service provision starting by end of March 2018, at the latest – potentially leaving these projects exposed to changes before April 2022 and, indeed, likely afterwards too.

Impact on Capacity Market

We note that the premise of CMP265 is that the netting of output from embedded generators with Capacity Market contracts should be removed when determining liability for the residual HH demand TNUoS charges. In its consultation, dated 01

March 2016, on reforms to the Capacity Market, DECC (now BEIS) raised concerns about embedded benefits and they may “over-reward distribution-connected generators such as diesel reciprocating engines”.

It is clear therefore that the perceived charging defect raised in this modification proposal is specific to the Capacity Market. Therefore, we consider that instead of the current attempts to make corrections to the transmission charging regime to address the issue, it is more appropriate to seek remedies within the Capacity Market arrangements.

Current industry modifications

HIE does not support the fundamental principle that sits at the foundation of the current modification proposals being progressed through the CUSC and BSC – that suppliers should be charged for gross, not net, demand during triads. We believe that both proposals are likely to result in new discrimination between different user types (i.e. DSR and behind-the-meter generators Vs embedded generators), further distorting the electricity market. Whether a demand customer within a GSP group reduces demand during the triads (via DSR or behind the meter generation/storage) or an embedded generator increases its output during the triads, the net impact on the transmission system is the same – a reduction in flows from the transmission system to the distribution network and therefore a reduction in demand TNUoS charged to the relevant supplier. It is not clear why the charging arrangements should discriminate between these two actors – as the impact on the transmission system is indistinguishable. Therefore, we do not agree that there is a clear argument to differentiate between these groups of embedded customers from a transmission charging perspective.

As set out in the modification proposal form, CMP264 is predicated on halting “New Embedded Generators” from achieving triad avoidance from 01 April 2017 until “Ofgem has completed its consideration of the current electricity transmission Charging Arrangements.” However, Ofgem has stated in its recent open letter (dated 29 July 2016) that “the [CUSC] modifications” are better suited for taking forward changes in relation to embedded benefits. Therefore, we believe that CMP264 is no longer relevant and cannot achieve an enduring solution.

Discrimination across network users

CMP264 will in effect ‘grandfather’ triad avoidance benefit for existing generators. In the Ofgem decision notice (12 August 2015), the modification proposals under CMP239 for grandfathering small generator discount were rejected as it would discriminate between new and existing generators. We are concerned about discrimination between existing and new generation and the implications on its potential impact on energy markets and ancillary services.

Other ‘embedded benefits’ elements

We note that Ofgem identifies a perceived distortion in the market due to sub-100MW embedded not being exposed to generation locational charges.

This topic has been the subject of recent consultation from National Grid and HIE considers that changing the charging arrangements to account for exporting GSPs, in the manner described, is likely to make the charging arrangements for distribution customers more complex, and the arrangements overall unduly complex. Therefore,

the proposals are less likely to result in better facilitation of competition, and efficient and coordinated development of the transmission system.

HIE also notes that this particular issue is further complicated by the differences between the classification of transmission and distribution assets in England and Wales compared to Scotland (i.e. 132kV is transmission in Scotland). This is a particularly important point as almost all of the GSPs – defined by National Grid as exporting – are located in Scotland.

Impact on Community Generators

The importance of renewables in stimulating and supporting growth amongst communities throughout the Highlands and Islands is recognised by HIE and its partners, and community ownership and generation is core to our aspirations for economic growth throughout the region.

All community generators in the Highlands and Islands are embedded generators connected to the distribution system and therefore benefit from the existing arrangement where suppliers pay them for the reduction in the supplier's demand charges. The payment recognises that having generation connected at Distribution level does help to supply the load ("demand") during the worst three half-hour periods of the year and comes down from the Transmission level to compensate for what would otherwise have to be covered by greater generation at Transmission level. According to OFGEM, the main element of this benefit is from the TNUoS demand residual which OFGEM suggests has a value of around £45 per kW.

For the largest community owned generator in the Highlands and Islands – Point and Sandwick, the overall benefit last year was about £40,000 calculated by multiplying output in the TRIAD half hours periods published by National Grid by their zonal price.

Although other community projects in the Highlands and Islands are smaller, the overall benefit remains proportionately significant for small projects - around £15,000 per annum, for a 900kW turbine. This is a significant sum for small community projects and would represent an income reduction of at least £450,000 pa across all the community generators in the HIE area (assessed on a conservative estimate of EGs at 30MW installed capacity @ £15,000 pa per MW).

A cut of benefits by this level will further erode confidence at community level for new projects to proceed in the wake of FiT reductions and removal of the Climate Change Levy.

Furthermore, community projects currently channel any income received towards the social, economic and environmental advancement of those most in need within the individual communities concerned. Removal of embedded benefits will affect the amount of support community energy projects can provide to the most vulnerable in our communities and, in turn, reduce awareness and engagement in tackling energy issues such as fuel poverty alleviation.

However, although benefits are significant from the small project perspective, we do not believe they are of a sufficient scale to distort the market in generation as any advantage to EGs is offset, especially for community projects, by higher installation

charges, higher grid connection costs per MW and typically more challenging environments for installation. In particular, community projects in Orkney which have active network management connections under the Registered Power Zone are already experiencing increased costs, reduced revenues and higher uncertainty though non-firm generation connection agreements.

At the same time, Transmission connected generators already benefit from shallower connection charges, economies of scale for installation, increased PPA values, access to wider revenue streams through ancillary services and larger generation portfolios.

Finally, we believe that to remove the benefit from all EGs would be counterproductive as it has already been recognised by the NTBM and QMEDC consultations from Ofgem that embedded generation is a key driver for most of the innovation on the electricity network.

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26 September 2016

