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Dear Anthony

Uisenis Power Limited – Response to Project TransmiT Impact Assessment Consultation

Our detailed response to the impact assessment is attached to this letter. In summary, with regard to the proposed WACM 2:

- We recognise that Diversity 1 would offer a practical compromise in respect of the broad range of views on the issue of network sharing.
- We see that the calculation of load factor based on five years of historical data as sensible.
- We are very concerned at the proposed position on HVDC, which would not socialise any of the HVDC converter cost elements. It is wrong that a methodology has been proposed through WACM 2 that fails to recognise the importance of low carbon generation on the Scottish Islands.

Of the alternatives recommended by the CUSC Panel, **we would see that the implementation of WACM 30 would be most appropriate.** This is on the basis of:

- impact on other users of the network (see Q1)
- impact on sustainability targets (see Q3)
- consistency with AC onshore charging (see Q4)
- development HVDC technology (see Q4 and Q5)
- compliance with the relevant CUSC objectives (see Q5)

- the aims of Project TransmiT (see Q6).

In view of the protracted timescales and extensive analysis undertaken in reaching this point we would fully support **implementation in April 2014**.

Yours sincerely

A handwritten signature in black ink, appearing to be 'N Kay', with a large loop at the end of the last name.

Nick Kay
On behalf of Uisenis Power Limited

Question 1: Do you think we have identified the relevant impacts from NGET's modelling and interpreted them appropriately?

We believe that the impact assessment is comprehensive for the most part. However the Scottish islands themselves have been somewhat neglected.

Detailed assessment has been undertaken of the impact on the wider UK network as a whole. In our view this reinforces the case to socialise the AC elements of the converter costs. Comparing Diversity 1 with 50% HVDC costs (WACM 30) and Diversity 1 with 100% HVDC costs (WACM 2) produces the following conclusions:

- The Diversity 1 50% model gives extremely similar results in generation and transmission decisions to Diversity 1 100% model with results almost identical up to and including 2023. There are no differences in retirements, and no significant differences in new build.
- The Cost Benefit Analysis shows small differences in power sector costs and consumer bills. The scale of these differences is not significant.
- Therefore the same conclusions apply to Diversity 1 50% HVDC converter cost as apply to the Diversity 1 100% option.

With regards to the island links, the development of an island charging methodology was one of the three aims of Project TransmiT. The islands themselves should therefore be considered in detail. This is especially important as the islands are the areas most impacted by the outcome of Project TransmiT.

For example, the difference between Diversity 1 with 100% HVDC costs (WACM 2) compared to Diversity 1 with 50% HVDC costs (WACM 30) for the Western Isles link would result in a reduction of £19/kW to £20/kW in the resulting total TNUoS for the island generators. This reduction alone is over 5 times more than the current wider charge for Central London (the Southern zone considered in the assessment). Should WACM 30 be adopted (for islands and bootstraps) instead of WACM 2 then 70% load factor plant in the Central London zone would see an overall change in its negative charge from -£5.3/kW to -£4.9/kW in 2020, a decrease in the negative charge of £0.4/kW. Socialising 50% of the converter costs on a single island link is therefore likely to impact Central London by less than £0.1/kW.

Considering the significant potential positive impact for the islands and overall insignificant wider impact relative to WACM 2, we believe that modelling would reinforce the view that a methodology based on WACM 30 is more appropriate.

Question 2: Do you have any further evidence of the impacts of the charging options not covered by NGET's analysis?

Further thoughts on HVDC are covered in our answer to Q4.

Question 3: Do you agree with our assessment of the options in terms of the strategic and sustainability impacts? In particular, are there any impacts that we have not identified?

The modelling shows that, on a general UK wide basis, all of the options considered in the impact assessment would have similar overall long term sustainability impacts. However the assessment is based on adjusting the level of renewable support to ensure targets are met. Whilst this approach may be appropriate for the UK in general, it does make it difficult to draw conclusions on the impacts of transmission charges.

Specific local impacts such as those on the Scottish islands have not been considered. It is on the islands that the impact of the new transmission charging methodology will be most pronounced. As the modelling shows, socialising 50% of the converter costs will have a significant impact on island charging. We would see that an important aspect of Project TransmiT is the ability to influence the amount of renewable generation that the Scottish islands contribute towards sustainability targets.

Overall we see that WACM 30 has a greater influence on low carbon generators in the areas where it is most suited. WACM 30 has, therefore, the potential to effect a greater positive contribution towards sustainability targets.

Question 4: Do you think that socialising some of the cost of HVDC converter stations could lead to other wider benefits, such as technology learning? If so, please provide further evidence in this area.

Yes, socialising some of the converter costs will clearly help the uptake of HVDC technology in the UK onshore transmission network. We would agree with the consultation document, that this would make it more affordable and therefore improve competition for generators in the areas of the networks connected by the HVDC links. The more the technology is embraced the greater the learning and the understanding of the benefits it can bring. The uptake of HVDC worldwide is demonstrating that it is now an established transmission technology. Moreover, the technology itself continues to mature, especially VSC, where ratings have increased and losses reduced in recent years. Advances are also being made in DC switchgear which will allow the development of smart grids based on meshed HVDC systems integrated with traditional AC networks.

If GB is to maintain its position as a leading country in the uptake of renewable energy then GB should also be at the forefront of the latest transmission technologies. Indeed, HVDC has been selected as the preferred technology by the Transmission Owners for the connection of emerging low carbon generation in the UK, where it offers the best solution in terms of system performance, environmental impact and cost. However, we believe that the implementation of WACM 2 could frustrate the uptake of the HVDC, seeing distorted

charging signals that would actually favour less suitable traditional AC solutions, potentially preventing the development of some HVDC links altogether.

The converters will be some of the most sophisticated assets on the onshore network. However if WACM 2 is adopted they will also be the only non-distance, or fixed, assets on the onshore network to have no cost elements socialised.

Considering some specific areas of the consultation:

- VSC converter stations, as proposed for the island links, will provide benefits to networks wherever they are situated, not just at the remote ends as suggested in the consultation document. On the Western Isles Link the reactive capability of the converter at Beaulieu (the mainland end) will be very helpful in managing voltage and system stability in that area of the network. Once fully understood, the sophisticated STATCOM capability of VSC converters could be planned into the network design, deferring the need for traditional AC compensation equipment, or avoiding the need altogether.
- Ofgem's view is that as a DC line would not work without the converter, therefore the converter should be classed as a distance related element of the line. However in terms of AC, a 400kV line would not work without a 400kV substation and yet under current onshore charging methodology the AC substation is classed as non-distance related element, and not part of the line. AC fixed elements are socialised, but it is proposed that HVDC fixed elements are not. There is a clear discrepancy here. As a minimum we would see that the AC elements of the HVDC converter, ie those analogous with an equivalent AC substation, should be classed as non-distance related and also be socialised.
- It appears that a principle reason for proposing WACM 2 is consistency with offshore methodology where no converter costs are socialised. We would argue strongly that HVDC in the onshore network should be dealt with independently of the offshore methodology. The bootstraps and island links will be implemented as extensions to the onshore Transmission Owner's Transmission Licence area, they are not part of an offshore OFTO's Transmission Licence. They should be dealt with under onshore charging methodology. Offshore connections tend to be specific links to individual generator stations whereas the bootstraps and the island links will connect multiple generator stations covering different technologies. The island links will also serve to benefit the islands themselves improving the quality and security of supplies in these remote areas, providing capacity to facilitate island demand growth, and relieving reliance on local carbon standby generation. The Western Isles link will relieve the heavily congested circuit to Skye, with demand being transferred to the new link.

HVDC needs to be properly understood. We believe that robust evidence was put forward through the CMP213 Workgroup. However if further evidence is required then additional work needs to be undertaken.

There is much evidence on the capabilities and benefits of HVDC in the form of technical papers. Information is available from leading technology suppliers (such as ABB, Alstom and Siemens). Suppliers have test facilities available to demonstrate how the technology performs and the benefits it can provide. We believe that Ofgem should engage with suppliers who would be able to offer a comprehensive demonstration of capability of HVDC to ensure this is fully taken into account in the charging methodology.

Whilst we would be keen to see the additional benefits of HVDC developed further, we would not want to see delays to the implementation of a new methodology now. We believe there is a strong case to socialise 50% of the HVDC converter costs. Of the alternatives recommended by the CUSC Panel, we believe that WACM 30 would be much more consistent with AC onshore charging methodology and better facilitate the uptake of HVDC in the onshore transmission network.

Question 5: Do you agree with our assessment of the options against the Relevant CUSC objectives? Please provide evidence to support any differing views.

We believe that it has been demonstrated that options which incorporate an element of sharing based on load factor would lead to a more appropriate level of cost reflectivity when compared to the Status Quo. We would therefore support the Original or Diversity 1 on sharing, with the Original achieving a sensible balance between accuracy and practicality, with Diversity 1 leaning more towards accuracy. We do feel Diversity 1 could be improved further however by incorporating sharing between low carbon generation.

We do remain concerned that the treatment of HVDC, electing not to socialise any of the converter costs may lead to barriers to connection in the islands. We do not believe this would allow island generation to compete on an equal footing with those generators on the mainland.

We feel that socialising the non-distance related AC components of the converter station costs (50%) would lead to comparable levels of cost reflectivity to AC transmission assets where non-distance related costs are socialised. A location signal would still be present, but this would be influenced more by the length of the HVDC links and to a lesser extent by the use of HVDC technology. This would help reduce the barriers and help island generators compete on a more equal footing with those on the mainland. We also believe it would better take account of the development of HVDC in the transmission business, as outlined in our response to Q4.

Overall we believe that a methodology arising from WACM 30 would be most in line with the relevant CUSC objectives.

Question 6: Do you agree with our assessment of the options against our statutory duties? Please provide evidence to support any differing views.

With respect to Project TransmiT, we understand that the aim was to ensure that appropriate arrangements are put in place to facilitate the timely move to a low carbon energy sector whilst continuing to provide safe, secure, high quality network services at value for money to existing and future consumers. The conclusions to the Significant Code Review state that current electricity transmission charging regime has served consumers well but we now need to step back and consider whether the arrangements are fit to meet the challenges of the future, in particular with regard to the need to contribute to sustainable development.

It seems well understood that the needs of the transmission network are changing and we are now facing the challenge where wind farms have to go where it is windy. Whilst locational charging will remain an important aspect of transmission charges very sharp locational charging signals would no longer seem fit for purpose. We are therefore surprised at the proposal to not socialise any of the HVDC costs, resulting in many of the generators that Project TransmiT is looking to help facilitate, being exposed to some of the sharpest locational signals on the network.

We would see that WACM 2, in ignoring island generation, falls short in a key aim of Project TransmiT - to help facilitate the move to a low carbon energy sector. We believe there is a strong case to socialise 50% of the HVDC converter costs. This will make significant inroads into the high transmission charges on the Scottish islands, help facilitate the uptake HVDC in the onshore transmission network in general, and without significant additional impacts on the costs of other users of the network.

Overall we believe WACM 30 would strike a much better balance of the overall aims of Project TransmiT.

We also believe it is important to note that 7 of the 8 alternatives recommended by the CUSC Panel contained an element of socialising of the converter costs. Over half of the CMP213 Workgroup members voted for alternatives containing an element of socialising as 'best' against the CUSC objectives and the industry responses to the Workgroup consultations were largely in favour of an element of socialising.

Question 7: Do you agree with our assessment that it is appropriate to implement WACM2 in April 2014? Please provide evidence to support any alternative implementation date.

Yes. Project TransmiT was launched back in September 2010 with an original timetable having an implementation date of April 2012. We understand that a date of April 2014 remains achievable, given that this would be two years later than originally envisaged and the extent and detail of the discussion and analysis undertaken to date, we believe that implementation should be as swift as possible. The improved charging regime would at least reduce one aspect of uncertainty holding up current, and much needed, investment.