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Caspar Swales  
Head of Economics and Efficiencies (Finance and Network Assets)  
Utility Regulator  
Queen's House  
14 Queen Street  
BELFAST  
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Dear Caspar,

**Northern Ireland Electricity plc Transmission & Distribution 6<sup>th</sup> Price Control (RP6) –  
Consultation Document on our Overall Approach September 2015**

The Ulster Farmers' Union (UFU) welcome the enhanced formal interaction between NIE and NIAUR at the early stages of this price control.

**Core Target**

At the core of the Northern Ireland Executive's Strategic Energy Framework (SEF) targets is the 40% consumption of renewable electricity by 2020 and it is crucial that the proposed approach facilitates this target.

**Background to role of the Ulster Farmers' Union (UFU)**

The UFU is the largest representative of the farming/land-based sector in Northern Ireland with 12,500 members. Our members are significant users of electricity, both as domestic and business. The NIE electricity infrastructure, with thousands of kilometres of cables, poles and transformers crossing our members land and there are thousands of wayleave agreements as well as formal and informal land access agreements with Northern Ireland Electricity (NIE). It is worth noting that NIE rely upon a large amount of goodwill on the part of our members when it comes to land access.

Aside from this conventional interaction, over the last 10 years, many of our members have committed themselves to small scale renewable projects; wind, hydro, AD and solar PV, and have faced significant barriers in terms of their efforts to gain access to the 11kV and 33kV electricity grid. To date we have an unresolved problem whereby there is insufficient grid capacity to allow many would-be generators to connect to the grid.

**General Points**

**- Consumer Engagement Advisory Panel (CEAP)**

It is clear that the formation of a Consumer Engagement Advisory Panel (CEAP) has helped inform the NIAUR approach to RP6. The results of the CEAP research have not been published and this makes it virtually impossible to comment on elements of this document without understanding the information on which it is based. The UFU would urge that in the interest of transparency any research results coming from the CEAPs should be published as soon as possible.

In general, flexibility and innovation should form an integral part of any price control. The consultation makes clear that policy changes impact upon network requirements. However, policy lies outside of the remit of NIE and NIAUR, the UFU agree with NIRIG when they say that there should be a built-in ability to be responsive.

At the CEAP meeting on 21 April, the UFU shared our views on the way forward for small scale renewables and stressed that there was a need for wider thinking with regard to how energy storage and microgrids could be factored into the workings of RP6.

#### **- Grid Connection**

In March 2015, the European Commissioner for Climate Action and Energy Arias Canete provided a speech on Renewable Energy Union, setting out how renewables fit into his vision for a sustainable energy and climate future. He stated that energy markets and grids have to be fit for renewables, not vice versa and that this needs to be taken into consideration in RP6.

Grid connection and access for new generation is not given sufficient weight in this approach set out in the consultation document. Consideration needs to be given to network development, including maximisation of current capacity, that allows efficient and timely grid access.

At the time of writing this consultation response, the future of subsidised support for small scale renewables is in doubt, however, that does not detract from the need for RP6 to set out how further small scale energy generation will be integrated onto the grid from 2017 to 2022.

Connecting individual small scale renewable energy generation units to the 11kV electricity network in Northern Ireland has proved to be a major problem for our members. Normally, load matching for generation capacity on the grid would have been achieved by adjusting the throttle control in the central power station (ie through generation). However, the nature of small scale renewable generators (embedded and intermittent) joining the grid means that this equilibrium between demand and supply has to be met through the control of loads as well as a generation.

From the very early days, the UFU were inundated with calls from landowners complaining about very expensive connection quotes when applying to connect SSR units to the grid. It has since transpired that this was attributed to lack of capacity on the 11kV network. This congestion has been brought about by “circuit level” activity. In other words, embedded capacity of small scale generation currently connected to the 11kV network. The situation worsened in 2014, with NIE identifying that capacity limitations are now arising on parts of the 33kV network. The main problem is that AD plants create permanent reverse power and this is unprecedented in network systems. This is being addressed by the work being undertaken under the banner of “Project 40”, a managed connection solution which NIE are currently consulting on.

Whilst “Project 40” is not mentioned in the NIAUR document, the UFU believes that there should be mention of alternative grid connection options. The UFU have been advocating “Microgrid solutions for over 2 years now and their importance going forward should be reflected in this document as they may be the only viable option for integrating small scale renewables to rural areas in the future.

#### **Overview of our Price Controls**

- **Aims and objectives for RP6**

#### **3.12 To enable the successful achievement of the above aims, we must deliver on the following RP6 objectives:**

“incentivise network development to evolve with changes in electricity industry e.g. DSU, renewables, DS3”

The UFU agree with NIRIG when they say in their own response that this objective is inappropriate. Instead we reiterate their recommendation that the above should read;

“Deliver networks that facilitate increased and efficient integration of renewables”

and

“Incentivise network development to evolve in a timely manner to initiatives that support a more secure, responsive and sustainable electricity industry”.

We elaborate upon this point later in our response.

- **Lessons Learnt from RP5 – Integration of Small Scale Renewables**

The UFU are concerned that there is no mention of the integration of further/future small scale renewable generation in Northern Ireland. We would urge that NIAUR look to how small scale renewables could be integrated onto the grid. This was not addressed in RP5 and is one of the reasons as to why the situation mentioned above had arisen.

### **Our Approach to Key Areas**

- **General Overview**
- **Customer Engagement and Stakeholder Involvement** - The UFU believe that it would be difficult to comment with the research finding still to be made available.

### **Asset Management**

- The UFU wish to highlight the point where NIAUR suggest that DETI engages with NIE to support forward planning. We would have concerns based upon previous interaction between the two and there would need to be an improvement in the working relationship.

**Going forward the UFU would urge that consideration is given to the following areas;**

- **Further Investment in the 11kV Network**

With c.40,000 farms throughout Northern Ireland, our members are solely dependent upon the 11kV network and lines. If you consider the fact that in Northern Ireland there is approximately 3.5 times more overhead line per customer than the average Distribution Network Operator on the UK mainland, which illustrates the importance of a resilient and reliable electricity network being available.

Failure to allow adequate investment in the 11kV network will impact upon Northern Ireland farmers and landowners on three counts;

1. Farm businesses are direct customers of NIE T&D as their businesses consume large and significant volumes of electricity every second of a working day.
2. NI farm land incorporate and facilitate much of NIE T&D's infrastructure and capital equipment (lines, poles, substations etc) and our members receive a wayleave payment in many instances.
3. Farmers and land owners are the main generators of small scale renewable electricity (<250kW) in Northern Ireland, mainly through wind turbines.

**Hence the UFU are calling for further investment in the 11kV grid within RP6.**

- **Commitment to Storage of Renewable Energy**

With it looking as if subsidised support will no longer be available for small scale renewable generation, an on-farm storage solution would allow many reduced capacity generation units (with reduced connection costs) to be economically viable.

The advantages of storage are that it is seen as an alternative to traditional grid reinforcement, reduces peak demand (reducing losses and reducing asset allocation) and leads to carbon savings from the displacement peak generation

They are challenges to on-farm energy storage and the UFU are prepared to tackle these going forward. Firstly, switch gear will need be developed to allow storage to integrate with the single farm system. Secondly, single applications are often not cost effective (economies of scale only apply for network solutions). Finally, regulatory obstacles will need to be addressed.

These challenges could be addressed if RP6 was to address the integration of storage. This is already being looked at on a larger scale at AES Kilroot with their 10MW lithium ion battery facility but by their own admission, further commitment is needed in the next Regulatory Period.

- **Alternative forms of grid connection**

The 11/33kV network in Northern Ireland is in need of an overhaul and in the unlikely event of substantial capital investment, we need to open our thinking in terms of how we access and utilise the grid. A change thinking is needed where the design and construction of local power systems is permitted which meet exact needs of consumers. The renewable energy produced on a farm, meets the exact needs of the business, with no spill, no waste, and this is known as Zero-Net Energy. There needs to be a move from a supply-side infrastructure to “the other side of the metre”, in other words, a bottom up approach.

An example would be Distributed Generation, a different way to manage demand and supply of generated renewable energy. This would improve the incorporation of alternative generations sources, allowing the ability to “switch-on” controllable site-loads.

If you have any questions, do not hesitate to get in touch.

Yours sincerely,



**Chris Osborne**  
**Senior Policy Officer**