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Kevin O'Neill
Electricity Directorate
Utility Regulator
Queens House
14 Queen Street
Belfast
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Dear Kevin,

## Utility Regulator Draft Determination for NIE Transmission and Distribution RP5

The Ulster Farmers' Union (UFU) is the largest farming organisation in Northern Ireland representing over 12,500 farming families and we welcome this opportunity to respond to this draft determination on RP5. Being the largest representative of the rural economy in Northern Ireland, our members will be directly affected by any decisions arising from this determination.

RP5 and its final content 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 in Northern Ireland, mainly through wind turbines.

In terms of day-to-day usage, you only need to consider the electricity use on a dairy farm. Table One shows three different sizes of dairy farms and a range of average electricity usage. A clear example of economies of scale since the usage is less when there are cows in the herd.

**Table One – Electrical Energy used on Dairy Farms**

| **Electrical Energy Used Each Year** | | |
|---|---|---|
| Number of dairy cows | | Per Head |
| 0-88 | Equivalent Kilowatt Hours | 340 to 434 |
| 89-140 | Equivalent Kilowatt Hours | 280 to 373 |
| 141+ | Equivalent Kilowatt Hours | 273 to 351 |

If you consider the fact that the average dairy herd size in Northern Ireland is 80 cows you will see that this sector is an intensive consumer of electricity as the majority of Northern Ireland dairy farms will come under the first category, namely the most intensive users of electricity.

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

The Utility Regulator has already consulted on the RP5 strategy and NIE T&D responded to this with their Capital Investment Requirements for RP5 in April 2011, with further amendments in January 2012. The UFU also submitted their views, yet this submission on the draft determination.

In the Draft Determination published in April 2012, the Utility Regulator has proposed a significantly reduced level of investment for NIE T&D in RP5. The Ulster Farmers Union will make the case in this document that NIE T&D should be granted the level of investment they have pitched for in order to strengthen and rebuild the grid to enable our members (as well as the wider rural community) to avail of the services they are entitled to as customers of NIE.

We will focus on the 11kV line and subsequent CAPEX (Capital Expenditure) and OPEX (Operational Expenditure) and several other areas relevant to the rural landowners and the wider community.

## REVIEW OF NIE POWERTEAM LTD

**Utility Regulator Proposal** – The Utility Regulator proposes that NIE Powerteam should be treated like any other 3rd party supplier, ending the current arrangements and remove any references to NIE Powerteam from NIE T&D's licence. NIE T&D will have to "demonstrate competitive procurement ensuring better efficiency for consumers under RP5".

**UFU view** - The UFU are monitoring this situation very closely. Farmers and landowners are heavily reliant upon NIE Powerteam. As far as service providers are concerned, single-point-of-contact is crucial when reporting a fault and seeing it through to resolution. Such a seamless running of a farm business is crucial, in terms of day-to-day maintenance as well as fault management, grid connection solutions. Moving to a competitive tender situation could over-complicate the fault/service resolution process putting the service at risk and thereby cause damage to farm businesses, in terms of time lost due to power failure and potential animal welfare problems.

**UFU Proposal – whilst the current system has problems and inefficiencies, in the interest of continued service/fault resolutions, the UFU would favour retaining the status quo with a commitment from NIE to iron out operational problems.**

## RP5 CAPEX (inc proposed spending on Renewables)

NIE T&D requested a significant increase in CAPEX for RP5. In their submission, they requested an increase in "Business as Usual" CAPEX from £374m in RP4 to £606m and further to £776m in a later submission. In addition, NIE T&D proposed £291m for renewables and interconnection.

**Utility Regulator Proposal - The Regulator responded in their draft determination by allocating £314.7m for Business as Usual CAPEX (significantly less than the £776 proposed by NIE T&D). In terms of expenditure on renewable generation and interconnection, the Regulator would not set an individual figure, rather they committed to ring-fence funds and consider investment requests on an individual basis as the need is determined in the RP5 period.**

## RP5 OPEX

NIE T&D requested £345m, this was 22% higher than the RP4 incurred (£283.5m). Regulator commissioned Cambridge Economic policy Associates to consider NIE T&D's proposals on Controllable OPEX and their econometric analysis identified a 9% "efficiency gap" with GB DNO counterparts. This means that the Regulator believes there is scope for further efficiencies in RP5.

**Utility Regulator Proposal – In light of the "efficiency gap, the Utility Regulator has allowed total OPEX for NIE T&D of £257m.**

**NIE T&D submission and Utility Regulator**

| | **NIE T&D submission** | **Utility Regulator** |
|---|---|---|
| **OPEX** | £345m | Controllable = £144.9m<br>Uncontrollable = £89m<br>New costs = £28.4m<br>TOTAL OPEX = £261.9m |
| **CAPEX** | £776m<br>Inc £127m to upgrade and improve 11kV lines<br>Plus £291m for Renewables and Interconnection | TOTAL CAPEX=£314.7m<br>Renewable spend will be on a project-by-project basis. |

## UFU RESPONSE TO UTILITY REGULATOR DETERMINATION ON NIE T&D SUBMISSION

Over the space of 18 months, there were four notable severe weather events, Winter 2009/10, Easter Ice Storm 2010, Winter 2010/11 and the storm in late May 2011. These events put severe

pressure on an already strained 11kv network and it was only down to sheer luck that there were no catastrophic consequences as damage to the electricity lines and equipment was localised.

In their determination, the Utility Regulator cites the reason for the difference between their expected level of required investment and the NIE T&D submission is that the costings provided in the NIE T&D submission where heavily based on opinion rather than subjective supporting factual evidence. However, after speaking to NIE, the UFU have learnt that NIE have submitted realms of spreadsheets and answer question posed by the Utility Regulator. We would ask whether a desk-based assessment was the correct way to consider the empirical and quantitative information provided by NIE.

There is a difference of £461m in the CAPEX proposals and this is where we can concentrate. In particular the decision by the Utility Regulator to turn down the NIE T&D request for capital expenditure of £127m on the line upgrade and asset replacement on 11kV overhead lines. Farmers and landowners rely upon these lines as they criss-cross their land and their businesses are connected to this network and therefore reliant upon the electricity transmitted and distributed to run their farms. £127m is required to re-build and replace what is an essential utility in farmers and land owners day to day lives.

The nature of a perpetual asset such as the 11kV lines is that re-investment and regular upgrades are needed to ensure that the system does not degenerate into a state of decay. It would only take another event such as the April 2010 Ice Storm to create major problems. There are c. 15,200kms (73%) of the 11kV overhead line network is built with small cross sectional area conductors - 25mm2 Aluminium Conductor Steel Reinforced (ACSR) and these lines are susceptible to ice accretion. The next time this occurs thousands of rural homes and businesses could be without electricity for extended periods meaning the possible of loss of livestock or even human life.

Approximately 11,000km (50%) of the overall 11kV overhead line network and 72% of the 25mm2 11kV overhead line network is also single phase - there is now a greater requirement for three phase supplies in rural areas for renewable connections etc.

ESB experienced under investment in the 1990's, cumulating in the onset of a state of decay which almost crippled their network in ROI where it not for the rapid actions of key teams in the organisation.

UFU have been informed by NIE that these proposals would increase consumer electricity bills by 1% until 2017. However, it is the UFU view that should these NIE proposals for CAPEX not be accepted by the Regulator, the cost to the consumer could be even greater in terms of damaged lines, failing equipments and possibly personal safety issues.

Expenditure on Renewables – the UFU believes that a specific investment figure should be included for the integration of small scale renewable generation projects. By the Utility Regulator choosing to consider cases on a project-by-project basis, it further illustrates a lack of commitment to the smaller scale renewable sector in Northern Ireland. Instead, the UFU have

come up with smaller capital cost proposal on how to integrate smaller scale renewables onto the 11kV network.

**UFU Proposal for Grid Development Expenditure in RP5**

The majority of UFU members are producing renewable electricity on a small scale (<250kW), and this means that from their farm businesses, they need to have access to the grid via the low voltage 11kV lines. In many farm-locations, in order to accommodate small scale generation onto these 11kV line, the line often has to be upgraded to 3 Phase, at an extra cost of £25,000. (please note that this is an industry average figure and to be used as a rule of thumb).

The UFU advocates the benefits of such small scale electricity generation. Small-scale generation provides benefit to the farmer (through the use of the electricity on-farm and potential export to the grid) but also the wider rural community, unlike the larger scale wind farms, who export the electricity they produce out of Northern Ireland. In recent policy discussions on Interconnection and grid strengthening, there is a physical and financial commitment to development of the grid in Northern Ireland. The UFU believe that as far as grid strengthening and interconnection is concerned, the emphasis is steered towards larger scale renewables at the detriment of the smaller scale which we represent.

Higher capital costs in relative terms are greater for small scale generators when it comes to grid connection specifically and at £25,000 per km, the upgrade from single to 3 Phase. This is a significant part of the connection charge for small scale generators. Let is consider the example of the Magherakeel windfarm on the outskirts of Castlederg. The wind farm has had a dedicated line connecting their turbines to the grid. This is expected to be c.2% of the capital cost of getting the generator up and running. If you compare this capital commitment to a small scale wind turbine, the grid connection part of initial capital expenditure would be as much as 50% of the total.

In the case of grid enhancement for connecting a small scale turbine to the grid, it is "the developer which pays". This means that to connect a 3 phase line to a turbine, it is the turbine developer who has to pick up the bill. Yet, with the introduction of a new upgraded 3 phase line, other customers on the line will reap the benefits of this enhanced service, namely stronger poles, less instances of voltage imbalance and less chance of outages during bad weather. Meaning a more stable and better quality standard of service.

11kV network is contracted to distribute electricity to rural areas but it is not designed to facilitate small scale renewables.

The solution proposed by the UFU is as follows;

Let us consider all the small-scale renewable projects wishing to access the 11kV network. Many of these lines will have to be upgraded from single to 3 phase, adding to the significant grid connection costs. In many cases, a new line is installed to service turbine and neighbouring farms benefit from being able to access the more robust and efficient 3 phase line, yet it is the developer who pays as already stated.

It is widely accepted that there is 100MW of small scale wind stalled in planning. In order to accommodate this, 1,600km of electricity lines will need to be converted to 3 Phase. The UFU has calculated that it would cost £40 million to upgrade 1,600km of 11kV lines to 3 phase. (1,600km of line in NI at a cost of £25,000 per km = £40m).

The UFU are asking that this could be factored into RP5 CAPEX. This £40m is significantly less than the £291m proposed by NIE in their submission, yet would allow further expenditure on any interconnector solution £291m - £40m = £251m.

This grid strengthening we have described above would have wider benefit to the Northern Ireland economy. It is widely accepted that a very large percentage of the electricity generated from large wind farms is exported out of the country. Out of the 100MW of installed capacity expected to come online, a rate of 20% efficiency is the minimum expected. Therefore, in terms of what this mean in monetary terms for the NI economy pa, consider the following equation;

20,000kW (20MW) x 8760 (number of hours in a year) x 22p (current value of electricity) = £42m

That means that should the level of small scale electricity we have described get online, it will mean £42m for the Northern Ireland economy. In terms of the investment case, £42m is £2m greater than the £40m cost of upgrading to 3 phase. The 20% efficiency will improve during the lifespan of the industry and therefore, the benefit to the economy will broaden in time.

The UFU advocates the grid strengthening of 1,600km of 11kV lines for the following reasons;

- will remove the "developer must pay" ethos
- improve reliability of service to all users on the line (wider benefit)
- Small proportion of the CAPEX agreed
- Reduce grid connection costs for small scale developers/generators
- Wider benefit to the NI economy compared to exporting large scale wind farms
- Enhanced grid security for the 11kV lines

**Summary of UFU proposal** – The level of allowed investment is insufficient to allow NIE to manage network risk; safety; quality of supply and resilience to storms. Inadequate investment will impact upon all rural dwellers, not just our members and we would urge that the Utility Regular assess NIE proposal accordingly. As far as small scale renewables are concerned, the Utility Regulator should consider our proposal for specific investment to be ear marked for upgrading 1,600km of lines to 3 Phase and the wider economic benefit to the NI economy this will generate.

## TREATMENT OF CONNECTIONS

The Utility Regulator has instructed NIE T&D to remove the 40% subsidy for domestic and small business customers.

**UFU View** – Utility Regulator has instructed NIE T&D to remove the 40% subsidy for domestic and small business customers. In our response to the earlier consultation, we set out our objections to this move. The UFU continue to be opposed to the removal of this. Whilst it is acknowledged that the subsidy was introduced to assist with the electrification of NI, the UFU believes that the subsidy should remain to allow the continued roll out of renewable generation and the assistance for rural dwellers who have difficulty in establishing a connection to the grid.

UFU members who are seeking new electricity connections are;

- Those who have built an new agricultural building;
- Those who have build a new domestic dwelling;
- Those who wishing to install a wind turbine for example and are seeking a new connection, either for their own use or to export back onto the grid.

In light of this our members would be classed as "smaller business connections", and will be affected by the proposed removal of the subsidy. In the case of these examples, the location of the new connection is often remote and will incur extra costs.

By withdrawing the 40% subsidy, the number of cases which breach this threshold will increase. A lot of our members will be affected by this. The Utility Regulator believes that connection costs for a new home/premises should be factored into the cost of building and it has been raised that this could be used as "a locational signal to future developers".

The UFU's concerns is that in many cases when a retirement dwelling is built for example, it can often be in a remoter location in terms of access to existing electricity lines and this increases the chance that the connection charges will be greater than £15,000. In such cases, the developers will be restricted when it comes to locating a property and there will be little or no choice on where a building could be located.

## INNOVATION

The Utility Regulator has called for the SMART programme and the Vulnerable Customers Programme to be discontinued. This decision was based upon the view that future investments should be considered in the context of CAPEX.

- **UFU view on the discontinuation of the SMART programme** - The NIE SMART Programme is funded by NIE and managed by Power NI. This programme offers householders, businesses and communities across Northern Ireland grants for a range of renewable technologies. Another aim of the NIE SMART programme was to incentivise businesses to look at a more sustainable form of heating, with specific grants available to help install biomass boilers. With no guarantee that the RHI is to be rolled out to small scale businesses in Northern Ireland, such incentives are crucial. As of July 2012, the RHNIPP for domestic customers has been launched, but there are doubts in the sector as to whether the RHI is actually going to be rolled out.

**UFU View – The UFU are asking that the SMART programme be maintained should the RHI not materialise.**

- **UFU View on discontinuation of the VCP** – In our previous submission to the Utility Regulator, we lodged our reservations concerning the decision to not continue with this programme. There are a significant number of farmers in NI who are pensioners and live on their own and could be classed as vulnerable customers. This has already been recognised by the PSNI who have identified these farms and premises as being susceptible to crime due to their isolated and vulnerable locations. In 95% of the case, the inhabitants will have lived in the dwelling for all of their lives.

**UFU Proposal - The UFU are asking that "vulnerable customer" status can be applied to a section of our membership and this should be taken into consideration.**

## WAYLEAVES

On Page 106 of the Draft Determination under the heading "rates and wayleaves", the Utility Regulator states that these are "semi-controllable". The UFU would make the point that rates and wayleaves are not "semi-controllable". These figures are reviewed and agreed in GB then applied here in Northern Ireland, yet in this draft determination, the Utility Regulator is making the case for a wayleave rent reductions. If anything these should be rising as new infrastructure and equipment will be brought onto our members land in 2012-2017 and this will be need to be reflected in the revised rents.

**UFU proposal – the UFU are asking that we maintain the current rental/negotiation system in line with GB.**

If you have any queries concerning the UFU response, please feel free to get in contact with myself.

Yours sincerely,

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