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78 Grey Street  
Newcastle Upon Tyne  
NE1 6AF

Maxine Frerk  
Partner  
Ofgem  
9 Millbank  
London  
SW1P 3GE

24 September 2014

Dear Maxine

## **THE CALCULATION AND ATTRIBUTION OF SMART BENEFITS AND SAVINGS**

Since the publication of your Draft Determination we have been considering various aspects of the proposals including your proposed smart grid and smart meter based deductions from our business plan costs.

Ofgem's analysis allocated £118m of smart savings to Northern Powergrid (NPg) and calculated that we had offered some £37m of this allocation already in our plan.

Having taken the time to study your analysis we conclude that Ofgem has both over-estimated the savings that might be available to the DNO sector and allocated an unfair (i.e. a disproportionately high) share of those savings to Northern Powergrid (NPg).

I shall deal with both of these aspects below.

### **Over-estimate of savings**

Ofgem has assessed that NPg should have offered £118m of smart savings based on its analysis of the Transform model, DECC's smart meter impact statement and companies' other smart savings compared with the savings assumed in the business cases submitted for the LCNF Tier 1 & 2 projects.

There are a number of problems with this analysis.

### *Transform model application to general reinforcement*

Ofgem's analysis of the Transform model has been applied to *all* reinforcement, whereas all DNOs and EATL (who built the Transform model on behalf of Smart Grid Forum WS3) are clear that it does not apply to 132kV reinforcement or fault level reinforcement at any voltage level. In addition it is obvious that the model cannot impact the design of solutions for schemes that are already in the delivery phase.

## **NORTHERN POWERGRID**

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We have corrected these figures prior to any other correction and ensured that all EHV to HV or LV schemes starting in the 2015-23 period remain within the modelled saving. These corrections reduce the modelled savings in NPg by:

- £3.4m for fault level reinforcement,
- £3.7m for 132kV reinforcement, and
- £4.8m for work in progress.

This totals £11.9m of incorrectly calculated savings which should be removed in NPg's case.

We also note that the two NPg EHV projects which are planned to commence in the 2015-23 period (i.e. not already work in progress) have already been fully evaluated for smart potential and one of the two is going forward with a smart solution (33kV network automation to avoid additional circuits). The other scheme has an optimised solution that is conventional; in other words the smart solution would be impractical. It seems unreasonable to expect a smart saving of 25% on the costs of a project that is already smart, and it does not seem reasonable to expect savings where there is no practical smart solution. We recognise that the sums in question are in both cases small and not material in the overall calculation, however other companies may be in a similar position and the aggregate effect of such errors may be material.

#### *Smart meters*

We understand that Ofgem has used DECC's smart meter impact statement from January year to calculate the saving attributable to smart meters arriving at a sum of £190m. This statement is in stark contrast to the well-regarded ENA estimate of July 2013 which gave a range of £47m to £80m. We further understand that in the revised DECC statement about to be published the assumed saving drops by just over one third.

Moving to the lower upcoming assessment would lead to a £70m reduction from the £190m in Ofgem's interpretation of the January impact statement. Assuming a proportionate reduction, this would equate to the £21m savings expected of NPg reducing by £7.7m.

#### *Other smart savings*

The calculation of other smart savings remains opaque. Ofgem here draws on the ENW plan in its calculation. Within its plan ENW appears to suggest this is partly IIS revenues (which should not be seen as savings against allowances) directly funded by previous IFI expenditure (which was meant to be used for learning projects rather than for IIS reductions). By contrast Ofgem has told us that these are cost savings.

Rolling out the solutions we believe ENW is proposing would not be cost effective on the NPg network. Our calculations indicate that LV automatic restoration would yield operating cost savings of around £1.5m (based on the current non-damage fault costs) and additional IIS revenues of around £12m per annum. The up-front capital costs for the investment to realise the saving however would be around £800m.<sup>1</sup> We accept that a company less efficient than ourselves or with more non-damage faults than us might have greater potential for savings, but we would be surprised if the solutions were cost effective in any DNO.

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<sup>1</sup> Assume 5 or 6 LV feeders per substation each requiring 3 single phase units plus one gateway unit for substation. Total around £32.5k for each of 25,000 substations or £812.5m. There would also be usage based refurbishment costs.

No doubt there will be other smart savings. However, they will be single figure millions sums and as such should be dealt with by the IQI framework and incentive mechanisms. Moreover, there is a conceptual problem in that we presume that ENW's savings are already affecting the cost allowances that flow from the cost assessment models. Ofgem's solution is to reduce the savings by the same proportion as it reduced the allowance in the benchmarking. However, this treatment is not appropriate because it still leaves a double-count in the calculation.

Removing these unsubstantiated other smart savings reduces the saving NPg is expected to find by approximately £16.5m, after adjustment for the allocation issues discussed below. These issues with the bottom up analysis of savings would not be insurmountable for Ofgem if it was consistent with a strong top down analysis. However, it is not. The top down analysis offered by Ofgem is not repeatable using the published data and we question its validity.

### **Over-allocation of savings to NPg**

Notwithstanding the clear issues with Ofgem's analysis of the Transform model, DECC's smart meter impact statement and companies' other smart savings, which we believe lead to a material overestimation of the savings, the allocation of the savings to the individual DNOs is inappropriate as it does not take account of the relative opportunities different companies have in different areas of investment.

It is reasonable to assume that with regard to the reinforcement related savings, and assuming the percentage saving is constant within reinforcement, companies with larger reinforcement allowances have greater opportunity to find reinforcement savings in absolute terms. We have assumed that the converse is also true that the companies with larger non-reinforcement budgets will be able to find greater absolute non-reinforcement savings. The latter point is probably not as clear cut.

Clearly, as a company with low reinforcement costs, we will expect our allocation of savings to reduce significantly due to the first point, but we accept that they will increase slightly due to the second.

Reallocating the full savings on the basis that reinforcement savings and half of smart meter savings should be allocated in proportion to the companies' reinforcement budgets and other savings and the remaining half of smart meter savings should be allocated in proportion to non-reinforcement budgets would be a more proportionate way to allocate the notional savings. The corrected allocation shows that Ofgem has over allocated savings to NPg by around £15.2m.

There is clearly some interplay between the factors described previously which affect the size of the savings expected and the misallocation described here. The figure of £15.2m is the residual misallocation after the other factors have been taken into account. If it were to be calculated in isolation the equivalent figure for misallocation would be over £30m.


### **Overall effect of corrections to Ofgem calculations**

In Ofgem's Draft Determination it is stated that Ofgem expected £118m of smart savings in the RIIO-ED1 period. The corrections to the calculation that we have detailed above total £51.3m.

We therefore expect that the smart savings Ofgem might reasonably expect from NPg are £67m and we ask that Ofgem make this correction.

If for any reason Ofgem does not agree with us on any of these points, we would like to discuss this further with you. We shall write to Ofgem separately about the quantification of the savings that we have already included in our plan and with some suggestions for an uncertainty mechanism relating to smart savings that might be a suitable way forward.

Yours sincerely

A handwritten signature in black ink that reads "John France". The signature is written in a cursive style, with the first name "John" and the last name "France" clearly legible.

John France  
Regulation Director