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25 February 2011

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Dear Peter

Re: Open letter consultation on the regulatory asset lives for electricity distribution assets

On behalf of EA Technology, I am pleased to be able to respond to the consultation letter from Rachel Fletcher, dated 14th January 2011.

EA Technology was established in the mid 1960's as the UK Electricity Supply Industry's Research Centre, specialising in the Distribution and Use of Electricity. Despite a number of evolutions since to our present status as an independent employee-owned company, we have never lost this focus and continue to supply innovative solutions to the Distribution and Supply sectors of the energy supply chain, within the UK and overseas. In recent years, a significant proportion of our activity has focussed on supporting DNOs to assess the technical lives of their existing assets and to develop efficient and effective management and maintenance policies and practices.

We recognise that the Regulatory Asset Value (RAV) is, by its nature, an artificial construct based on a mixture of historical investment costs and benchmarked modern replacement costs and its formulation and use has decoupled depreciation from replacement expenditure. This presumably was done to avoid issues which would arise from using Modern Equivalent Asset Value (replacement cost) for all of the asset base and its effect on the RAV and the consequential allowed revenue for DNOs.

We believe that Regulation needs to work at an appropriate level of abstraction, to draw out the real differences in efficiency and effectiveness of network operators. It should reflect the physical, business and political reality in which the networks operate and incentivise preferred behaviours, whilst avoiding needless consideration of detailed information, which does not have a material effect on the regulatory outputs. In relation to determining appropriate regulatory asset lives, this presents a challenge for Regulators to find the right level, which is representative but not overly complex.

We note the recent developments through DPCR5 and RIIO to introduce the concept of Totex, to equalise incentives, and see this thinking continued through this consultation. However, in setting a mechanism like RAV, there is always a risk of unintentional consequences. We therefore suggest that, in reviewing current arrangements, you consider how any new mechanism can:

1. Incentivise long-term thinking;
2. Consider the appropriateness of using an average economic live; and
3. Ensure any transition minimises any adverse impact on investment in or by DNOs.

1. Incentivising Long Term Treatment

We note that Ofgem is increasingly seeking to ensure its approach promotes long term thinking within the sector. The sector is facing a significant period of transition as it facilitates the achievement of the UK's energy policy over the next forty years. The proportion of today's management, workforce and investors that will be active in the sector by 2020 (and even more so by 2050) is small. The tendency is naturally to view decisions in a shorter time frame to satisfy the immediate stakeholders. We therefore believe that Regulation can play an essential role in balancing this with a longer term perspective.

It is easy with hindsight to question whether economic lives of 20 years should have been chosen at the time of privatisation. We presume that this was to incentivise network owners to keep asset age at a reasonable level, encourage investment and avoid revenue being earned from obsolete assets. To this end, the current framework has been successful, although we agree that it is right to consider whether it is fit for purpose for the next 20 years. That said, it would be unfortunate if, in 20 years time, Ofgem has to reconsider economic asset lives because it recognises, in hindsight, an issue which could have been considered now and "baked in" to the method of treatment of asset lives.

One approach that could be adopted is to extend depreciation periods within regulatory accounting to reflect statutory accounting treatment. In other words, setting the regulatory depreciation rate to be equal to the reciprocal of the average asset life. On the face of it, this approach would decrease the notional annual amount of capital expenditure required by DNOs, and therefore decrease the rate of access to finance which is required by DNOs. The effect of this would be lower finance costs and therefore lower income hence lower bills to consumers. However, the benefit from this approach would only be temporary and is particularly risky if it leads to replacing assets on a 25 year cycle in an industry based on a 45 year cycle and similar difficulties to those faced by the rail industry could arise.

2. Identifying Appropriate Economic Lives

The difficulty that Ofgem face in considering this issue is the diversity of the assets currently installed or likely to be installed on distribution networks. Many of the older assets will typically have long technical lives, between 40 to 80+ years. However, newer, comparable equipment tends to be designed on different principles and as such is likely to have a live of perhaps just 20 to 30 years. The risk of adopting an approach based on average economic lives is that, within a group of assets, the individual economic lives could easily be from 20 to 80 years.

We believe that the use of a single average value of life for all assets may appear straightforward but actually masks a significant level of complexity and the consequences of adopting this approach may be significant. We therefore recommend that an appropriate level of abstraction for the economic lives for electricity distribution assets is selected which reflects, to some degree, the distribution of assets lives, rather than choosing a representative average value. There is an appropriate market that can, and will, find the optimum answer and we recommend that this be used.

Primary and Secondary Assets

As well as diversity between the designs of assets, there are also distinctions that should be drawn between Primary and Secondary Assets. These can be defined as follows:

Primary: Heavy current equipment that carries power currents at voltages from LV up to and including 400kV

Secondary: Ancillary equipment used to protect, control or maintain the Primary plant.[1]

[1] Definitions from Energy Networks Association Engineering Recommendation G85/2 'Innovation Good Practice Guide for Energy Networks'; available from http://www.energynetworks.org/ena_eng_docs/ENA_ER_G85_Issue_2_071205.pdf

Of these, Primary assets tend to have longer technical lives and their end of life is most beneficially defined as the point at which an asset has an unacceptable risk of failure. In comparison, Secondary assets have much shorter asset lives (10 years of less) as their life expectancy tends to be driven by obsolescence rather than failure. Any mechanism adopted needs to be sensitive to these differences.

It is generally accepted that the transition to a Low Carbon Economy will require networks with a much greater number of Secondary assets than was required for historical, passive distribution networks. In the future, the mean asset life will therefore be different from today. SCADA, communications and protection technologies are already significant in terms of asset value and criticality. Whilst some may assume that the effect of greater volumes of assets with a shorter life will be balanced by a greater proportion of long-lived underground cables as existing infrastructure is replaced, we think this assumption needs to be properly tested and challenged as we suspect that the shorter-lived assets will become increasingly prevalent.

The degree of uncertainty which was identified by CEPA could significantly affect the proportion and relative value of Secondary and Primary assets and consequently could have a material affect on the appropriateness of the economic asset lives which are chosen to be nominally representative. It is expected that to achieve the transition towards Smart Grids, investment in these Secondary assets will be essential. We therefore urge caution against adopting mechanisms that incentivise investment in Primary assets at the expense of Secondary assets.

Managing Risk

As highlighted above, the key determinate of end of life for Primary assets is the point at which it presents an unacceptable risk of failure. Risk is also a major factor in the deployment, operation and replacement of Secondary assets. It is therefore that any approach adopted in relation to accounting for asset life creates an environment that promotes effective management of risk. This needs to be based on an informed understanding of the risk posed, rather than a "blanket" avoidance of risk, and appropriate mechanisms need to be adopted to promote this.

The Totex approach adopted in DPCR5 incentivises DNOs to find effective ways to manage assets to reduce the risk of failure and hence move the point at which the asset has an unacceptable risk of failure. The consequence is that asset replacement patterns are likely to change and, as the evolving pattern is not yet known, there is a danger in basing a mechanism on historic trends.

Complexity

We believe that use of a single average value of life for all assets, whilst appearing to be straightforward, is likely to prove complex to operate against. We suggest that, somewhat counter-intuitively, a more complex formulation of asset lives would reduce the complexity of regulatory reporting by DNOs, providing that it is the same formulation that is used by DNOs to prepare their statutory accounts. As mentioned above, we strongly advocate that an appropriate level of abstraction for the economic lives for electricity distribution assets is selected which reflects, to some degree, the distribution of assets lives, rather than choosing a representative average value.

Whilst this might seem more complex from a regulatory perspective, it should also start to bring regulatory and statutory accounts closer to a common basis, which should reduce the costs of preparation of accounts, increase transparency, reduce the degree of confusion which can occur as a consequence of the differences between regulatory and statutory accounts and, ultimately, enhance investor confidence.

3. Designing and Managing the Transition

The design and management of a transition period is complex and runs the risk of triggering a complete (albeit temporary) halt to investment until the asset base "catches up". We suggest that transitional arrangements that make a number of step changes to asset life (and therefore depreciation) of assets within a price control period would lead to step changes in the rate at which DNOs can earn income over that price control period, unless Ofgem is proposing a number of concomitant changes to WACC within a price control period. Given the difficulties inherent in managing continuous change, we are unsure how a transitional period can be less than a number of price control periods, unless longer asset lives are applied only to new assets during this period.

A revision of how RAV is calculated or the use of a Totex approach may help to smooth the transition but will require serious consideration to ensure that any changes do not restrict available investment or inadvertently impact on other objectives.

I hope the above comments will prove useful in your evaluation of this area. If we can be of any further assistance, please do not hesitate to contact me.

Yours sincerely

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