SP ENERGY NETWORKS

Network Planning & Regulation

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Dear Jonathan

Open letter on the RIIO-2 Framework

This response is from SP Energy Networks. SP Energy Networks holds three electricity network licences. We own and operate the electricity distribution networks in the Central Belt and South of Scotland (SP Distribution) which serves 2 million customers, and Merseyside and North Wales (SP Manweb) which serves 1.5 million customers. We also own and maintain the electricity transmission network in the Central Belt and South of Scotland (SP Transmission).

In the UK we enjoy an efficient, affordable and secure transmission and distribution system underpinned by effective regulatory oversight from Ofgem, which has ensured stable and predictable conditions to encourage investment; efficient participant behaviour; efficient grid development and effective stakeholder engagement.

However, as we move towards a ‘Low Carbon UK’, in a riskier than ever political environment, the following will become key factors underpinning a stable regime:

- the impact of a rapidly changing energy mix and resilience;
- the Distribution System Operator (DSO) model
- appropriate price control mechanisms to encourage the required investment to facilitate a changing energy system
- support for innovation and research; and
- support longer term investment programmes and Innovation schemes
- understanding the impact of changes to Low Carbon technology costs on networks

Creating a Stable Investment Environment

The UK regulatory framework is at the forefront of calibrating outputs resulting in improved network services to consumers at an affordable cost and is respected globally by other regulators. To ensure that such a framework is effective, network companies are provided a fair rate of return.

Going forward, changes to our macroeconomic environment, combined with increasing political uncertainty in the UK and the imminent exit of the UK from the EU, will inevitably increase investment risk. Such political uncertainty may result in cuts to central government funding and downward pressure on revenues owing to a weaker economic outlook, which would represent key credit risks.

Leaving the EU single market would also imply heightened regulatory risks for infrastructure and infrastructure-related issuers. Furthermore, over the last 2 years, the UK Government has made a number of decisions which have undermined the stable investment climate for energy such as announcements to remove support for key renewables technologies. Such announcements have had a significant impact on our RIIO-1 business plans and will continue to have an effect on our plans for RIIO-2. We are already feeling the impacts of BREXIT, for example our Transformer costs have increased by 16% due to the volatility of the pound.

To create a stable environment, we believe that network companies must be provided with a fair cost of capital to ensure that they are able to invest in line with users' and Government needs. The Weighted Average Cost of Capital must take into consideration the ongoing risks associated with the industry, the UK's political environment and the global political environment.

Incentive based regulation has proved to be a powerful force in delivering benefits to customers. It is important to recognise this when considering future changes to incentive mechanisms.

Strong Stakeholder Engagement

For RIIO-T2, we intend to initiate our own stakeholder engagement process in November 2017 to include both pre-consultation and full consultation processes. We have already worked with other network operators to establish common ground in relation to Willingness to Pay and consider establishing one common methodology and approach across all network operators to be the best way forward.

We engaged with Scottish Water in order to understand the lessons learned from establishing the Customer Forum for Water. We are supportive of Ofgem's effort to better reflect the voice of the consumer when setting of business plans. We believe it will be important to appropriately consider the capacity, resource and budget required to form a consumer group which can appropriately scrutinise business plans within the required timescales. The current Customer Forum for Water is funded by the regulator to maintain appropriate separation.

Scottish Water, and their Customer Forum, has moved away from conducting Willingness to Pay research after finding that the end customer struggled to understand the required context in order to make informed decisions about levels of investment. Instead they are conducting research on the impact of different service failures at an accessible level for customers. We are very supportive of considering innovative methods of assessing customer impact.

Customer impact assessment will be at the heart of our business plans; therefore, our stakeholders will form the foundations of our RIIO-2 Investment plans. We will ensure that a range of views are considered so that we can determine a balanced view which will ultimately ensure that the lights stay on whilst delivering key outputs at an affordable cost to consumers.

Outputs Regime

We support the continued use and development of primary outputs and believe that it is important that outputs are complementary, measurable and within the control of licensees. We are on track to deliver all of our outputs within RIIO-ED1 and RIIO-T1 and we regard this as an important aspect of ensuring stakeholders have confidence in the regulatory settlement.

We believe that Ofgem may wish to refine the outputs-led regime further to ensure that the granular detail can be understood by analysts so that companies' performance can be truly understood. This will ensure that underspends are in fact real efficiencies and not solely cheap solutions which will result in higher costs to consumers in the long term. We also believe that a level of discretion must be applied where any outcomes are of benefit to the consumer. For example, our Transmission Connections Volume Driver,[1] which is an uncertainty mechanism intended to accommodate the customer driven changes to the volume and location of customer driven generation connecting to SPT's network, permits us to obtain funding only for a pre-defined list of assets. If the most efficient options for consumers make use of assets not specified in this list, we will not be funded for these. It is our view that Ofgem must use its powers where it will lead to a better outcome for consumers and the operation of the network.

As a Transmission and Distribution owner, we have a holistic view of the network, and believe it is crucial that Black Start capability forms a key output in RIIO-2. Any outcomes from the 'Blackstart Task-group' must be considered as part of Ofgem's wider RIIO-2 Strategy to ensure that the UK's economy is protected by preventing a Blackstart event from ever occurring and to ensure that the price control strategy will assist resilience in general.[2] This is particularly important given that the recovery time to restore customers' supplies has almost doubled since the RIIO-1 strategy was set.

In relation to Network Output Measures, Ofgem's current proposals for RIIO-2 will treat assets as individual components rather than part of a network which will not lead to efficient outcomes to the detriment of consumers.

In RIIO-2, a new output will also be required in relation to advanced Active Network Management. Whilst we support the current innovation incentives available, it is clear that the only means of DNOs being able to facilitate highly complex Active Network Management schemes which interface with the Transmission network are through the Innovation Roll out Mechanism. In an increasingly distributed and highly constrained network, it is vital that network companies have the ability to adapt to meet the needs of their customers' schemes. And the current regime does not allow for such funding. For example, a large part of the SPD distribution network in Dumfries and Galloway is subject to an export constraint. Currently the only means of managing this is via a Load Management Scheme (LMS) which protects transmission assets against overloading by disconnecting the DG when there is a transmission fault or a transmission constraint. Whilst the LMS is proven to be an effective tool in advancing connections, it is necessary to advance the technology and application of Active Network

[1] Transmission Licence Condition 6F

[2] Please see South Australia Black Start event which occurred on the 28th September 2016 for further Blackstart information

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Management to complex transmission networks to further enhance asset utilisation and maximise system access. The unnecessary loss of zero carbon DG results in a carbon impact, and the resultant system imbalance has a cost impact for consumers.

Low Carbon Focus: UK Government and Devolved Government Strategies

It is our view that Ofgem should formally recognise the Low Carbon ambitions of the UK's devolved Governments. Formalised agreements should be made between Ofgem, the UK Government and the devolved Government's on RIIO-2 investment plans.

In January 2017, the Scottish Government consulted on its Draft Energy Strategy, it sets a new 2030 'all-energy' target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources.

The Scottish Government also proposes to set a challenge to the renewables industry to make Scotland the first area in the UK to host commercial onshore wind development without subsidy. To facilitate its ambitious targets, the Scottish Government has confirmed it seeks to address grid constraints in Scotland for distributed power generation at local, regional and national level, through engaging with key stakeholders, including Ofgem.

The Scottish Government will continue to provide interest-free loans to enable the purchase of Electric Vehicles (EVs) until at least March 2020. This is further enhanced with the proposed introduction of diesel scrappage schemes by major motor manufacturers and, potentially, in support of Clean Air Zones. The UK Government has stated that clearly the UK consumer is already turning away from diesel and the UK Environment agency has indicated that it will place ban on new Diesel/Petrol vehicles by 2040. Additionally, in March 2018, The Office for Low Emission Vehicles (OLEV) will release a new strategy, leading towards a new legal framework, providing new powers to help improve electric vehicle infrastructure.

Ultimately, the above policy proposals will result in the increased uptake of EV's, which will have a dramatic impact on our distribution network. It has already been proven that the introduction of only one EV in eight cars will result in voltage fluctuations on the network which could interfere with and ultimately damage our customers' appliances.

It is not yet clear how variable the roll out of EV's will be with some predictions stating that EVs will be a lower cost than combustion engine vehicles by 2022. This may suddenly accelerate the uptake of EV's, increasing volumes drastically as we saw in solar. We must also understand what the impacts are on networks as a result of Low Carbon technology cost changes. We may draw upon the lessons learned in relation to solar technology which the UK and many network operators had underestimated and were ultimately not prepared for.

Price controls are fundamental to the delivery of the long term UK, Scottish and Welsh Government energy policy and low carbon ambitions. In order to do this it will be necessary to look beyond single price control periods. For example, the future closure of thermal plant beyond RIIO-T2 will need to be considered as part of that review.

Separately, the UK Government's Industrial Strategy, which is expected to be published within the next year, is anticipated to help re-invigorate investment in low carbon energy. We support this fully and believe that the DSO model with prioritised investment in key transmission infrastructure is the key means of facilitating a low carbon energy network in RIIO-2.

Accommodating low carbon technologies in a timely and cost effective way should be a key feature of RIIO-2 and we are committed to playing our part in the transition to a low carbon economy. Given the variety of innovative solutions which may be proposed to address the future challenges, consideration could be given to assessment of whole life costs rather than simply the capital unit cost as is currently undertaken.

We propose that Ofgem revisit the price control funding split between the fast pot and slow pot to support the development of innovative commercial schemes. This is due to the fact that many DSO schemes will require increased OPEX funding and lesser CAPEX funding. This will assist the development of the DSO model.

Price Control Length & Alignment

Four years into our eight year RIIO-T1 price control, we do believe that an eight-year price control has provided us and our investors with greater certainty, which has led to efficiencies which are shared with customers. It has enabled us to make decisions focused on long term value for our customers and allowed us to place more efficient contracts which would not have been possible in a shorter price control period. Our transmission overhead line refurbishment programme is a good example of this efficiency. The eight year period has also provided room for prioritisation rather than making short term decisions. In addition, the complexity of transmission projects means that many of them take up to 8 years to complete. A shorter price control review will result in reviewing many in-progress projects. This creates uncertainty, especially where such projects are dependent upon revenue driver mechanisms.

It is our view that many benefits would arise from the alignment of the Transmission and Distribution price controls, such as the improved co-ordination to facilitate the Distribution System Operator model. However, the resourcing required to implement and facilitate both price controls should not be underestimated. Ofgem may not be able sufficiently scrutinise companies' business plans if it is required to review 3 business plans from Transmission companies, potentially 1 separate SO business plan and 6 Distribution business plans, all simultaneously.

If the Transmission and Distribution price controls are to be aligned, it is our view that the only efficient way of completing this exercise is through a RIIO-T1 Roll over.

Fast Tracking

We are supportive of the principle of Fast Tracking. However, we believe that the criteria Ofgem utilise to determine whether a company is deemed to be 'Fast Track' or 'Slow Track' should be made available to all stakeholders. Furthermore, any rewards associated with Fast Track status must be proportionate and fair.

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With regards to process, it is important that all Fast Tracking policy and licence arrangements are determined consistently and simultaneously with the Slow Track process. In RIIO-T1, the Fast Tracked Company's licence was modified (ie determined) at the same time as the Slow Track Companies' licence. This allowed both the Fast Tracked and Slow Tracked companies to work together so that the licences were consistent. The RIIO-T1 process also permitted Ofgem to make just one suite of licence modifications as opposed to two, which was a better use of Ofgem's and GEMA's resources. However, at ED1 a different approach was taken and the Fast Tracked Company's licence was set in advance of the Slow Track companies' licences. This prevented the Slow Tracked companies from appealing against the Fast Tracked Company's Price Control agreement as Slow Tracked companies had not received their agreements at that point in time.

Supportive of Ofgem's Approach

We are supportive of Ofgem's Strategy and will share our experiences with Ofgem to help shape any strategies. It is imperative that all Stakeholders are involved at this inception stage to ensure a robust strategy is set. This strategy will ultimately determine the make-up of our future energy network, which in turn, will support our energy system and the GB wide economy throughout a period of great political uncertainty.

As suggested earlier in this response, we would support the formation of a Price Control Review Forum and believe that the UK, Welsh and Scottish Governments should nominate key contacts to ensure that Ofgem's strategy will align to the various and developing strategies of all. Key Consumer Bodies should also nominate a contact to ensure that our consumers' interests are also represented via an independent body.

Should you have any queries in relation to our response, please do not hesitate to contact me.

Yours sincerely

Frank Mitchell

CEO SP Energy Networks

Appendix A: SPEN Responses to Detailed Questions in Open Letter

1. Do you agree with our overarching objective for RIIO-2 and how we propose to achieve it?

We are supportive of Ofgem's proposed RIIO-2 approach and believe Ofgem has correctly observed that the share of electricity produced from renewable sources has increased dramatically as costs for new technology have fallen at impressive rates. This will clearly have an effect on investment programmes and priorities.

Ofgem has also observed that the UK recorded its first working day without coal power since the Industrial Revolution. Whilst this is clearly an impressive statistic, this is also concerning from a Black Start perspective. As a Transmission and Distribution owner, we have a holistic view of the network, and believe it is crucial that Black Start forms a key output in RIIO-2.

RIIO-1 has brought benefits to consumers and has demonstrated that an outputs based regime is effective. We believe that Revenue should continue to be a function of Incentives, Innovation, and Outputs.

The RIIO outputs framework has been designed around six output categories; safety, reliability, customer service, environment, social obligations and connections. However, we do observe that the environmental element could be incentivised further in ED2 as this was only a reputational incentive in ED1. In RIIO-T1, environmental performance was incentivised via the Environmental Discretionary Reward.

Ofgem wishes to ensure that the cost of capital set for companies properly reflects the risks they face and remains in line with prevailing market conditions. For example, the next price control should address volatility associated with Brexit to ensure that licensees are funded to finance their licensed activities. We believe that the UK Regulators Network report which is due to be published towards the end of 2017 will provide a useful basis for future discussions between Ofgem and the Network Operators on the detail.

2. How can we strengthen the consumer voice (primarily end-consumers), in the development of business plans and price control decisions?

We believe that a customer impact and needs exercise should be conducted by each network operator to ensure that the voice of the customer is firmly embedded within the formation of business plans, with consideration given to areas where collaboration and joint effort is appropriate.

Willingness to Pay can often be complex and difficult for customers to comprehend. Ofgem should be open to alternative innovative methods of assessing customer needs and impact, which may be more likely to ensure the priorities of customers and value of service is reflected within business plans.

Any customer impact exercise should be conducted within a set GB wide framework, agreed between network operators and Ofgem in advance. Agreeing a common methodology would help to ensure that the end research is acceptable to all parties.

We would like as much engagement as possible with consumer groups, however we are concerned that they would struggle to resource extensive engagement with all network operators at once and this should be given due consideration.

Ofgem may wish to establish a 'consumer voice' analyst who would be integrated within the RIIO-2 Ofgem team to help with the analysis of companies' business plans.

We are supportive of Ofgem's effort to better reflect the voice of the consumer when setting of business plans and to look at new models, including establishing a customer forum. We believe it will be important to appropriately consider the capacity, resource and budget required to form a consumer group which can appropriately scrutinise business plans within the required timescales.

3. How should we support network companies in maintaining engagement with consumers throughout the price control period?

Ofgem may wish to consider a standardised form of customer impact assessment, which could be completed at least twice throughout the price control period.

We run Strategic Stakeholder Panels for each of our licences, where our CEO and executive team engage with highly influential and interested stakeholders on strategic challenges for the business. This provides our stakeholders with a real, tangible opportunity to influence executive level decision making. We have worked hard to ensure we have as strong a consumer influence in our panels as possible, with membership from high profile consumer and fuel poverty groups. The Terms of Reference of Strategic Panels could be enhanced to ensure the panel have a role in ensuring the network operator has taken appropriate steps to engage consumers during a price control.

4. Does this structured approach to defining outputs provide the right level of clarity around delivery?

The approach to outputs remains broadly appropriate. There remains a need to recognise the differences in scale and circumstances of each licensee, even within sectors. The outputs framework allows the licensees to define the outputs necessary to meet the expectations of their stakeholders with a degree of consistency.

5. How can the outputs framework be improved, including the introduction of additional output categories for example around efficient system operation for distribution network companies?

The clarity and specification of the outputs remains an area of concern for us whereby, subject to interpretation, materially different activities and investments can be construed by different parties to deliver the same output. This ambiguity can lead to outcomes that, within the bounds of a single price control, may appear efficient but will lead to consumers bearing higher overall costs in the long term.

It is right that frameworks hold licensees accountable for the efficient delivery of agreed outputs but it is also necessary to ensure that this delivery is within licensees' control and that extraneous factors are accounted for in the measurement of outputs. Whilst there are good examples of this in the RIIO-1 framework, there are definite opportunities to improve in this area.

The linkage between secondary deliverables and primary outputs may not be sufficiently clear to stakeholders in some cases. As an example, it has proven difficult to effectively engage stakeholders in the Transmission NOMs consultations. The only respondents to Ofgem's consultation on the March 2016 Direction were the licensees themselves.

6. Did the outputs target the right behaviours?

The RIIO framework's effective operation hinges on clearly defined outputs and we believe that the general approach remains valid. However, as covered elsewhere, the uncertainty caused by a rapidly evolving operating environment will often require outputs to be flexed. This may be where:

1. A new need has arisen for which no output had been defined.
2. A forecast need with an associated output had been defined but has not arisen during the period.
3. An existing need is tied to an output and the scope or scale has changed materially.

We have experienced these within our price controls, particularly in transmission where individual investments are higher and changes in the underlying drivers can have significant unforeseen effects on what is required. For example, in 2014 a joint industry study looked at the effects of large power plant closures and concluded that specific investments were required in the transmission networks of all three TOs. These had not been envisaged at the time of the RIIO-T1 price review. A clear and unambiguous framework is required to manage these situations to ensure that the correct behaviours are not penalised.

There is a clear need to recognise the inter-related nature of assets in a network and, in the case of electricity, across the network boundaries. The frameworks should be reviewed to avoid undue fragmentation of outputs such that a narrow focus does not result in overall benefits being lost.

In relation to sustainability and the environment, it is our view that associated outputs should be strengthened and that this area may have its own output. There is a danger that companies are unintentionally incentivised to becomes less sustainable by focussing on reduced unit costs, so we believe this should be an area of focus for Ofgem and companies.

7. How can we address areas of expenditure for which a clear output is difficult to define?

The outputs regime should focus on areas where it is most effective. For some areas of expenditure it will not be possible to design a robust output based incentive mechanism. However, it must be borne in mind that these are still subject to regulatory scrutiny. This is preferable to forcing the application of output based incentives which could be highly flawed.

8. Were the output targets and associated financial incentives set for RIIO-1 appropriate, reflecting what consumers value and are willing to pay for?

In RIIO-1, there was a lack of consistency in how Willingness to Pay was conducted, interpreted and analysed by network operators. We also discovered that there were areas in which consumer research demonstrated an appetite for us to fund more investment in certain areas; however the funding was ultimately taken out of the plan by the end of the process. There should be appropriate mechanisms in place to ensure that Ofgem has the ability to recognise the views of consumers which can be considered within the financial analysis of business plans. We have previously mentioned that Ofgem may wish to introduce a 'consumer voice' analyst. The 'consumer voice' analyst could assist in this analysis. However, they will likely require a varied skill-set of stakeholder engagement and economics.

We believe that the output targets and associated financial incentives set for RIIO-1 were appropriate. However, we agree that it is appropriate for Ofgem to review the strength of incentive mechanisms for delivery of outputs, and the extent to which the incentives are aligned with the value that consumers attach to any under- or out-performance. In previous Controls, Ofgem and the Network Companies performed RORE analysis in conjunction with financeability tests to ensure that ranges of out and under performance were appropriate.

It is important that incentives reward the correct and penalise the wrong behaviours. We would therefore recommend that the level of reward and penalties associated with an incentive are proportionate to the action. For example, in Ofgem's recent Incentive on Connections Engagement consultation, it is proposed that the maximum penalty is applied to some companies' Relevant Market Segments (RMS) on the basis of just one stakeholder complaint. This is obviously disproportionate; however, we must note that this consultation has not yet been determined, so this outcome may change. With this in mind, it should be noted that there is a risk that customers utilise this mechanism to leverage preferential treatment, which is neither appropriate nor the intent of the ICE mechanism.

9. What changes in the RIIO framework would facilitate returns that are demonstrably good value for consumers?

We agree that in terms of stakeholder legitimacy, it is easier to justify higher levels of returns where those returns are due to efficiency or innovation. However, it would be wrong to suggest that higher returns that result from economic conditions being different from original forecasts are necessarily illegitimate: to the extent that the risks are symmetric (i.e. the economic conditions may turn out better or worse), companies could equally experience lower levels of return.

One way of reducing the impact of unforeseen economic conditions on company returns (and thus making the returns more *demonstrably* good value) would be to make greater use of indexation.

However, the benefits would need to be weighed against the increased complexity compared to simple pass through. This approach in turn of course needs to be weighed against the fact that one of the cornerstones of the RIIO framework is company incentivisation, where companies are best placed to manage risk.

Some further important considerations regarding indexation are discussed later under Question 13.

There is a culture of competition between electricity network companies which has been encouraged by the regulator through incentivisation. Whilst this has led to many positive outcomes for consumers, the competitive nature of the incentives discourages and slows the sharing of best practice between companies.
The analysis of some incentive schemes in the RIIO model is currently very subjective and network operators are not always clear what action is required to improve performance. A performance framework should allow a very clear link, for both network operators and stakeholders, between what actions are required and the ultimate reward.

10. How can we minimise the scope for forecasting errors?

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There may be scope in certain areas to make greater use of indexation to accommodate difficult-to-predict changes in economic conditions. However, previous attempts have shown that it is very difficult to create indices that are robust enough to meet the industry's requirements, including Ofgem.

As noted by Ofgem, the RIIO framework already includes measures to incentivise accurate forecasting by companies, such as the Information Quality Incentive (IQI) and fast-tracking arrangements. In our experience these already provide a strong incentive for accurate forecasting, but it may be that Ofgem in consultation with companies and other stakeholders can refine these measures in the light of RIIO-1 experience.

11. What constitutes a fair return for a regulated monopoly network company, and how can we ensure that returns remain legitimate in the eyes of stakeholders?

We believe that the allowed rates of return set at RIIO-T1 and RIIO-ED1 constituted a fair return and for the periods in question will serve as a useful starting point for RIIO-2 price control reviews.

Investors require a return which reflects the risks that they bear. In general, investors assess the required return by comparison with those available from investments of similar risk. Many investors in regulated utilities make investment decisions on a global basis and compare returns available in the UK with those available overseas.

Although risk, at least to some degree, may be transferred among stakeholders it cannot be ignored. In general, it is appropriate to allocate risk to the party best able to manage it.

The returns for a regulated network company need to be assessed over the long term, up to the life of the asset looking forward.

Customers benefit when a stable and predictable regulatory regime enables licensees to finance long-lived infrastructure by raising debt and equity at reasonable cost. Care must be taken when making changes to the regime that any apparent short term improvements do not undermine the stability and predictability of the longer term regime.

Incentive mechanisms should be calibrated in a way which reflects customers' willingness to pay for improvements in network reliability and broader aspects of the quality of service.

Appropriate valuation of social, environmental and economic benefits delivered during RIIO-1 price controls would help to demonstrate that customers and society are indeed benefitting from price controls.

Currently, there are considerable risks related to economic, geo-political and policy uncertainties. One overarching issue for the foreseeable future will be Brexit.

The Bank of England's response to these economic shocks could result in significant volatility in interest rates and currency movements and this additional volatility will lead to higher returns being required by providers of capital. Greater uncertainty drives hurdle rates up. As the volatility of earnings increases, options theory states that the option value of waiting increases, so that a higher return is required to encourage investment to go ahead.

Investor surveys (e.g. Deloitte European Infrastructure Investors Survey 2016) indicate that investors are increasingly concerned about regulatory and political risk and that the UK is less attractive.

It is almost impossible to predict the future, therefore, future price control do require 'flex' to ensure that companies remain funded to finance their licensed activities in the wake of volatility from Brexit and ensure that network licensees are protected from regulatory and political risks. We believe that price control re-openers, logging up mechanisms and Mid Period Reviews are adequate means of addressing this risk.

12. What factors do you think are relevant for assessing and setting the cost of capital so it properly reflects the risks faced by companies?

The CAPM (Capital Asset Pricing Model) framework adopted by several UK economic regulators focuses on the measure of systematic (i.e. non-diversifiable) risk known as "beta".

It is essential to distinguish between the "asset" beta and the "equity" beta. The equity beta includes financial risk, as determined by the level of gearing. It is crucial that the beta factor used in the WACC calculation is re-geared to the notional gearing level, which in many cases is above the actual gearing of comparator companies.

However, empirical beta estimates, especially short term ones, often appear unstable and can vary significantly over time. Also, different approaches to estimating beta will result in different estimates, even from the same dataset. As it is especially challenging to estimate the parameters of the CAPM in current market conditions, it is essential to cross-check the cost of equity derived from the CAPM against alternative models, such as the Dividend Discount Model.

Analysis at previous price control reviews has highlighted the following factors:

- Notional gearing
- Capex / RAV and Totex / RAV ratios
- Spread of minimum to maximum Return on Regulatory Equity (RoRE)
- Relative size
- Exposure to demand risk
- Risk of stranded assets

13. Can we improve our methods for the indexation of the costs of debt and equity?

The cost of debt is determined primarily by the credit rating, which is derived from financial ratios, and prevailing interest rates and credit spreads, at the time that the debt was raised. A separate but fundamental factor in Rating Agency assessments of regulatory utilities is regulatory stability.

Embedded debt reflects the interest rates that prevailed at the time the debt was raised, which were generally significantly higher than today's market rates.

Full indexation of the cost of debt requires that appropriate weight is given to past interest rates to allow for embedded debt.

Alternatively, indexing only new debt would require a separate allowance for embedded debt. New debt generally has to be issued at a premium to secondary market yields, and incurs associated transaction costs. Such additional costs need to be taken into account when indexing the new debt component of interest costs.

Whatever approach is adopted for the cost of debt, there will need to be stress testing of financial ratios and overall financeability, including assessment for a range of interest rate scenarios.

The cost of equity comprises both the risk free return and the risk premium.

In an increasingly risky economic environment, investors require more certainty. Although estimates of the risk free rate are available, subject to the Bank of England's review of its methodology, it is more difficult to estimate the risk premium, especially in the short term. Stock market returns are highly volatile, so it is difficult to observe short term movements in the underlying risk premium.

It would be misleading simply to index the risk free rate but ignore the corresponding movement in the risk premium. The Bank of England has developed a new, more sophisticated Dividend Discount Model (DDM)3. These changes to the Bank's DDM improve the accuracy of the model's Equity Risk Premium (ERP) estimates. The Equity Risk Premium remains above the levels observed before the onset of the Financial Crisis in 2008.

Ofgem's advisers, Smithers & Co, stressed the relative stability of the total market return in comparison to the components of the CAPM.

It is not surprising that individual components of the CAPM, including the risk free rate and beta appear to change over time. However, these movements need to be assessed in the context of the total market return.

14. Are there specific amendments to any core aspects of financeability that we should be considering in light of performance during RIIO-1 and the change in the financial environment?

In our view, some stakeholders place too much emphasis on projected Returns on Regulatory Equity, which are often speculative, as they involve projections to the end of the price control period, which in an uncertain environment, cannot be made with confidence. Further it has been a long established Ofgem principle that all Companies can plausibly outperform base returns.

It seems that some of the developments being considered for RIIO-2 are likely to be considered credit negative by the credit rating agencies. Furthermore, some potential changes could result in returns to network licensees becoming more pro-cyclical, so the systematic risk would increase, thereby raising the cost of equity.

In the event that financial ratios turn out to be inadequate to support a credit rating that is assumed for Ofgem's cost of debt index, it will be necessary to review the capitalisation rates and /or depreciation lives. Nevertheless, to ensure investment grade credit ratings are sustainable, Ofgem must ensure

[3] Bank of England, An improved model for understanding equity prices, Quarterly Bulletin, Q2 2017

that the regulatory regime maintains the highest scoring, which benefits customers in terms of lower financing costs.

In any event, it will be essential that financial ratios are subject to stress testing, including rising interest rates and volatile input prices. It is insufficient to consider only the central assumption, as licensees are exposed to a number of risks, which impact their financial ratios and credit rating.

The Price Control Financial Models (PCFMs) for RIIO -2 will need to reflect any changes to the tax regime and applicable tax rate and allowances, as they develop.

15. Should we consider moving to CPIH (or another inflation index) and how should we put into effect any change to ensure it is present value neutral for investors?

Ofgem should not underestimate the complexity in moving to an alternative inflation index. Any change will be challenging to apply and explain to stakeholders. Any change that is intended to be present value neutral should use the simplest approach.

There are an increasing range of inflation measures and it is not yet clear whether CPIH will gain wide acceptance as the preferred measure of inflation. The Bank of England's inflation target is set in terms of the CPI, whereas index-linked gilts are linked to the RPI. Substantial amounts of pension fund liabilities remain linked to the RPI. Although the ONS has stated that CPIH is its preferred measure of consumer price inflation, CPIH was only re-designated as a National Statistic on 31 July 2017.

Furthermore, only a very limited historic data series for CPIH is available, so it is difficult to assess how CPIH moves in relation to other cost and price indices. In addition, the ONS is developing a new set of measures of inflation, Household Cost Indices (HCIs), which are intended to be more reflective of households' experience of price changes.

If Ofgem decide to move to an alternative to RPI, it is essential that present value neutrality is preserved. This will require that:

- The nominal cost of capital is maintained at the same value, whatever inflation indexation is used
- The relation between the single nominal cost of capital and separately stated real returns, in RPI and CPI or CPIH terms, must be clear and transparent to mitigate the perceived risk that the effective return has somehow been lowered
- The impact on financing of the existing RAV, which was financed under RPI based price controls, should be minimised
- Existing RPI index-linked debt is fully financed for its duration
- "credit-negative misjudgements which could undermine companies' returns"[4] are avoided
- Allowances for the movements in relative costs and prices, also known as real price effects, are recalibrated against the alternative inflation measure, although there is a shorter history of

[4] Moody's: Adoption of CPI will impact UK water and energy networks, reshape index-linked debt market, 14 January 2016

- CPI and, especially, CPIH compared with the long established RPI, from which to estimate relative movements
- The treatment of pensions adequately allows for the liabilities of the pension schemes which have RPI linked benefits.

It must be remembered that the licensee's own costs are not impacted by the choice of inflation index and will still need to be financed. Moreover, stakeholders need to be aware that initial analysis indicates that moving to CPI or CPIH would, counter-intuitively, result in customer bills increasing in the short to medium term. At the very least, affordability concerns of customers will limit the speed of adjustment to alternative inflation indexation.

16. Do you think there are sufficient benefits in aligning the electricity price controls to off-set the disadvantages we have outlined?

We do believe there could be synergies from aligning both price controls. However, so long as the strategies and main principles are shared, we do not believe that these necessarily have to be implemented at the same time. It is our view that the industry, Ofgem and key stakeholders may struggle to resource both Transmission and Distribution price controls should they take place simultaneously.

If the price controls were to be aligned, we suggest the best method would be to extend RIIO-T1 for two years, so that new RIIO-T2 and ED2 price controls could commence together in 2023 (including the review for the newly separated SO). As Ofgem implies, this would have a number of disadvantages:

- Increased resource requirements for all transmission licensees (and Ofgem) in negotiating a rollover in addition to a new price control
- Increased peak resource requirements for Scottish TOs (and Ofgem) in negotiating transmission and distribution controls in parallel
- Increased peak regulatory risk for Scottish TOs, who will no longer be able to spread the uncertainty over staggered reviews
- Loss of any potential synergies between gas and electricity transmission controls

Setting aside the resource and risk issues, we believe there is a stronger case for aligning electricity transmission with electricity distribution than with gas transmission. Aligning ET2 and ED2 could enable TO:SO (or SO:DSO) interface issues to be accommodated more effectively, e.g. building in flexibility where it is unclear whether improvement actions can be taken most effectively at the transmission or distribution level. It may also result in synergies between information gathering and forecasting activities, where there will be considerable overlap.

17. Are there any other realignment options we should consider?

As an alternative to aligning the transmission and distribution reviews in 2023, the RIIO-T2 review period could be made two years longer than RIIO-ED2 such that the reviews were aligned at the next review period. This would avoid the need for a rollover of RIIO-T1.

18. What amendments to the RIIO framework, if any, should we consider in supporting companies to make full use of smart alternatives to traditional network investment?

Smart solutions should be considered alongside traditional solutions and evaluated through a robust economic and technical evaluation such as the Cost Benefit Analysis (CBA) process used in ED1. It is our view that Smart solutions are not the only option. For example, in the east of Scotland we have applied active network management to accelerate generator connections. Nevertheless, a conventional reinforcement is still the most economic long term solution.

Smart solutions are less proven and are subject to greater uncertainty and a much shorter lifespan, therefore, consideration needs to be given to how this risk is accounted for. For example, Ofgem may determine that Network operators receive a higher rate of return for riskier projects as companies will more than likely opt for the lower risk option if they may not be funded for the riskier option.

Effective benchmarking should encourage the most cost effective solution to be deployed, however the whole life of the solution needs to be factored into the consideration of smart solutions. The use of commercial mechanisms to delay reinforcement may offer a short term delay but could not be relied upon in the same way that traditional assets are for 40 years of service. Even asset intensive smart solutions such as storage or electronic controls on assets will not have the same lifespan. Electronics are likely to require replacement after 10-15 years.

We believe that the best way to encourage network operators to consider all alternatives, smart and traditional, is to assess the lifetime cost of investments for customers using CBA.

19. Given the uncertainty around demand for network services, how much of an issue might asset stranding be and how should this risk be dealt with?

The question of stranding, particularly when applied to electricity transmission, often arises when considering the shift to greater penetrations of distributed generation. While at a simplistic level the concern can be understood, there is a necessity to understand the nature of generation sources, demand and the relationships between the two. The wide variability of generation load factors (particularly wind) leads to significant differences in loading from historical norms and within short time windows. As an example, between the 22^{nd} and 23^{rd} of November 2016 transfers across the SP Transmission / NGET boundary experienced a 5.6GW swing which highlighted that on one day, there were significant volumes of generation being exported from Scotland and on the next, the same quantity was imported. This single example, and the experience at local levels, indicates that the transmission system is effective in facilitating the generation market and remains essential to security of supply and this is expected to increase in importance as the low-carbon transition progresses.

20. How do we need to adapt the RIIO framework and the uncertainty mechanisms in particular, to deal with this uncertainty?

There is a need to update the existing mechanisms to close gaps in the framework that are evident in the RIIO-T1 period where emerging system and users' needs have no explicit mechanism for the provision of funding. Equally, it is evident that where there have been forecast needs that have not arisen it would be beneficial to have mechanisms to provide adjustments within period.

21. Is an eight-year price control period with built-in uncertainty mechanisms still appropriate given the greater range of plausible future scenarios?

We believe through our experience of RIIO-T1 that the 8 year duration has been beneficial to consumers. The long-term nature of transmission projects, whose average duration in RIIO-T1 is 6 years, has benefited from the ability to plan in a longer time frame than previous price controls. These benefits arise from development of staff, economies of scale in equipment procurement and supply chain development. Increased certainty of work has opened the supplier markets to new entrants, increasing competition, facilitating innovation and lowering costs.

However, it is recognised that uncertainty persists and retaining the 8 year duration will require renewed focus on uncertainty mechanisms and, in particular, in security of supply and load related activities, especially as regards the uptake of electric vehicles, for which there are a wide range of forecasts. Subject to detailed consideration of the mechanisms, our view is that, on balance, the risks associated with uncertainty can be mitigated to an acceptable level and that the benefits of a longer-term view will produce greater consumer value.

22. What improvements should be made to the assessment of business plans?

We believe that the views of consumers should be appropriately incorporated into the assessment of business plans by Ofgem. It is also important to arrange regular bilaterals and dialogue with Ofgem throughout the process to help the regulator to analyse the plans.

There should be more thinking in advance about the design of business plan questionnaires and how the information will be used. This would help to minimise the collection of data that isn't ultimately used. It would also reduce the amount of ad-hoc data gathering and analysis during reviews.

23. Should we give further consideration to companies' historic performance against their business plans?

We believe that there is merit in consideration of a licensee's performance against historic business plans, including the accuracy of the forecasts when assessing business plans. The track record of companies' delivery of agreed outputs should also be taken into account.

24. Should we determine the revenues an "efficient" network company requires before seeking information from the companies themselves?

We believe that this process would be difficult to manage and implement and could undermine the completion of the RIIO-2 control process. Our interpretation is that Ofgem would seek to determine revenues prior to any information being provided by the licensees. As acknowledged throughout the letter, the licensees are operating in a time of unprecedented change and uncertainty. For Ofgem to predict and map each company's future plans and strategies, which are likely to have been adapted to meet the challenges of the uncertain environment, and to determine efficient revenues does not appear to be an efficient means of delivering the review. We believe that clear, well justified business plans remain the most appropriate mechanism for determining revenues.

25. What has an eight-year price control period allowed network companies to accomplish or plan for that would not have occurred under a shorter price control period?

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A longer term Price Review encourages a longer term horizon in terms of planning which is more appropriate for an asset intensive business and provides more certainty for multi-year projects. It creates the opportunity to develop more strategic options on how the network is designed and operated.

It also allows the network companies to place longer framework contracts for service partners and affords the service partners the opportunity to implement innovative solutions and create efficiencies. It allows them more time to absorb set up costs and consider better solutions in terms of their own supplier base, logistics and infrastructure. A longer period also reduces the regulatory burden of consultation, preparation and submissions to Ofgem by lengthening the intervening time. The broad range of skills that are required to develop a submission can be deployed on improving the outcomes for stakeholders and customers.

We believe that the Mid Period Review is an effective means to allow Ofgem to review and if appropriate amend outputs which are no longer required or to allow for funding additional funding which is required due to changes in Government Policy or Users' needs.

26. How well has the IQI and efficiency incentive worked in revealing efficient costs through the business plan process and encouraging efficiency throughout the price control period?

The IQI and efficiency incentive have been effective at revealing efficient costs. However, any IQI rewards to successfully 'Fast Tracked' companies should be calibrated appropriately to ensure that the Fast Tracked companies are rewarded fairly.

27. What alternative approaches could we consider to encourage companies to give us high quality information that minimises the damage from their information advantage?

It is our view that the IQI incentive has worked effectively, on the basis that any Fast Track rewards are appropriately calibrated.

An alternative option could be to assess a company's business plan entirely on the views of stakeholders and willingness to pay survey results, which would be supported by Ofgem's high level views on Unit costs. This approach would result in entirely individual business plans being assessed on their merits only, with little benchmarking.

28. What impact has the innovation stimulus had on driving innovation and changing the innovation culture?

The Innovation stimulus has been successful in driving a change; this is evident in the business plans which were submitted for T1 and ED1.

The innovation culture has changed and in SPEN's case can be evidenced by the number of staff who are now engaged in innovation and taking this mind-set into the wider business as other staff retire and rotate through the business.

Ofgem's own analysis of the benefits of the LCNF was highlighted in the report produced by Poyry (https://www.ofgem.gov.uk/system/files/docs/2016/11/evaluation_of_the_lcnf_0.pdf):

- the LCNF has succeeded in encouraging network companies to innovate and has served to move the level of innovation within the DNOs from a 'low' base to a 'moderate' level;

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- LCNF has encouraged network companies to include innovation as core business, with encouraging sign of transfer to business as usual – but this work is still progressing;
- current benefits are estimated to be approximately one third of the total funding cost;
- the potential future net-benefit from the LCNF projects is significant and is estimated to range from 4.5 to 6.5 times the cost of funding the scheme;

29. Have the incentives inherent in the RIIO model encouraged network companies to be more innovative and what should we consider further?

Yes, innovation incentives have produced benefits, as per Poyry report (see Q 28).

Incentives are required to address the imbalance in the RIIO-1 regulatory environment which put pressure on investment in research and development and innovation as part of the wider totex allowance. Investment in these areas is likely to have less benefit in the current price control review period but will be beneficial in future price controls. Innovation expenditure is likely to be benchmarked out, particularly speculative investment in newer technologies if a dedicated funding mechanism is not identified for this activity.

Areas where innovation is inherent in the activity are where other incentives are employed such as IIS and Broad measure of customer service, and stakeholder engagement incentive have also led to other types of innovation. These do however have the disadvantage that they do not encourage sharing of learning in the same way as network operators are competing for access to the incentive reward.

In a truly competitive market, the cost of innovation (and the risk of it being successful or not) is off set by the higher returns which it can potentially achieve, and first mover benefit. The current regulatory framework does not allow for a network operator to achieve a higher than normal return as a result of investing in innovation out with the incentive mechanisms such as IIS. There is no similar incentive for load or non-load related investment. Nor is there currently an incentive other than Network Innovation Allowance to invest in longer term technology trends which are likely to have a profound impact on the networks such as EVs.

The current price control approach resets the analysis of network operators' costs, and the advantage gained by investing in innovation is reset as all companies are normalised. Therefore, the advantage is diminished. Removing any incentive is also likely to hinder knowledge sharing amongst network operators in the open way which it currently is, as the investment in innovation will be by shareholders rather than customers.

The current NIA mechanism allows companies between 0.5% and 1% of annual revenue to be spent on innovation. This could be adjusted in RIIO-2 so that network operators are not compelled to invest. An alternative way would be for network operators to invest at their own risk and be rewarded retrospectively for their actions in a similar way to the Environmental Discretionary Reward.

As a regulated environment does not naturally encourage innovation, Incentives are required to incentivise longer term investments, to address changes in future price control reviews, and to continue to encourage the sharing of learning.

30. Do you agree that the scope of competition should be expanded in RIIO-2? What further role can competition play?

We have been engaged with Ofgem on the ITPR and ECIT projects using our experience of successful and efficient delivery of complex high value projects to help guide and shape the form of competition. Our position throughout has been that we are supportive of competition where it benefits consumers. As a smaller TO, there could be opportunities though greater competition. However, we do not believe that in electricity transmission the consumer benefit has been demonstrated satisfactorily. There should be a proper impact assessment taking account of all the benefits and impacts, both positive and negative. Where necessary, any changes to the scope of competition should be underpinned by primary legislation.

31. Which elements add the most complexity and how do you think that these and the broader RIIO framework could be simplified?

It is our view that price controls could be made simpler for stakeholders, network operators and Ofgem. Regulatory reporting can be onerous and we should look to reduce this where possible so that we are able to deliver the best value to the consumer.

Price Control mechanisms and outputs could also be simplified so that it makes it easier for stakeholders to understand. For example, the IQI and NOMs are highly complex and it is our view that if these are not simplified, these must be documented appropriately in a guidance document so that any stakeholder can follow this process.

Currently SPEN submits over 400 regulatory submissions to Ofgem, including Regulatory reporting tables and various reports. Whilst we agree that we must report on our performance to ensure that Ofgem have the ability to challenge us, it is our view that this has gone beyond what is useful to Ofgem or stakeholders. This is also a huge drain on our resources which could be focussed on more customer facing tasks.

To simply the reporting process, it would be helpful if Ofgem, potentially with the assistance from network companies, complete an exercise where all regulatory submissions are listed and the output of the submission determined. Where synergies exist, these submissions should be merged. It will also likely become apparent that some reporting requirements are now redundant and can be removed from the network companies' licences.

32. What improvements could be made to the format and presentation of the business plans?

Feedback from our stakeholders is that they would prefer information to be presented in a short, simple and visual way. There is an opportunity to standardise parts of the business plan in stakeholder friendly summaries for all network operators. However, it is important to retain scope for each network operators to format business plans in the best way for their stakeholders.

33. Should the plans be revised at any stage during the price control, for example annually?

While such a review may help to further mitigate uncertainty after the application of uncertainty mechanisms, we would treat with caution any administrative burden in addition to the annual reporting cycle. The consumer benefits of a longer control period outlined in our response to question 21 may be undermined by introducing the uncertainty of an annual review.

34. Should we retain fast tracking and if so, for which sectors?

As previously mentioned, we believe Fast Tracking is effective in driving companies to reveal efficient costs. However, we believe it is important that any rewards associated with being Fast Tracked are appropriate and not excessive.

35. Do we collect the right information in the right format and are there better ways to monitor the performance of companies?

We believe that the data requested by Ofgem in the Regulatory Reporting Packs is too low a level and requires further analysis to derive any meaningful KPI's.

For example, the Connections information is requested on the quoted and actual costs for every project, which does not recognise that there will be margin contributions and losses with the overall market segment. In addition, no account is taken of timing differences particularly when looking at 'in year' costs.

It is appropriate to highlight the difficulty in benchmarking across DNOs. The interpretation of the RIGS and the application of accounting practices remains complex, giving rise to concerns as to comparability when reviewing company performance. For example, Income recognition policies and betterment approach.

Ofgem has requested a Strategic Performance Overview Report which is a new reporting requirement for network companies in 2017. We believe that this is the right level of information Ofgem staff require to understand our performance. We also believe that our annual reports for stakeholders provide our stakeholders with the level of information they desire to see. We believe that there are many reporting obligations on network companies which are excessive and should be reviewed as part of the RIIO-2 Strategy, RIGS and Licence Drafting processes.

36. What are your views on how the changing role of the electricity SO should be factored into the RIIO framework, including whether or not the electricity SO should have a separate price control?

With the recent announcement regarding the system operator function, it is expected that this will result in the creation of a legally independent, separate licensed entity. It is our view that it is therefore appropriate and necessary for the SO to have a separate price control.

37. Do you agree with our broad stakeholder engagement approach set out above?

We are supportive of innovative engagement techniques such as webinars, especially if open to wider stakeholder groups and would encourage efforts to reach and engage hard to reach stakeholders, especially those who would not normally respond to industry consultation.

The co-ordination of engagement with network operators is welcomed, if this is consistently applied across all networks operators.

Ofgem and network companies should consider holding engagements in a range of different locations across the UK to encourage wider stakeholder participation.