

FAO: Jonathan Brearley, Senior Partner Networks, Ofgem
RE: FPSA - RII02 Consultation Response

1st September 2017

Dear Jonathan,

Thank you for the opportunity to comment on Ofgem's RII02 thinking. You know from our interaction with you on the FPSA programme how central we believe the design of RII02 will be to all our aspirations for flexibility. We believe that RII02 has been a great success so far, having delivered valuable benefits to customers, with clear and useful requirements on network companies. We agree that it is timely to think deeply about the future nature of price controls and we have given a comprehensive response to your questions in the attachment.

However, we would particularly draw your attention to the following points:

- Given that this consultation encompasses a time period potentially stretching into the 2030s, **it is not clear that the full enormity of the transformative changes within the sector will be catered for in Ofgem's thinking.** A particular aspect of this is the integration of the demand side flexibility into the overall management of the energy systems. Customer behaviour and the behaviour of customers' equipment and appliances is likely to be a very significant future feature of network companies' business and any future regulatory framework needs to provide transparent and non-distorting support for the growth of such interactions.
- We believe that there is a fundamental unaddressed challenge for Ofgem: **what is Ofgem's role on the customer side of the meter?** We do not envisage Ofgem taking any form of prescriptive role in the domain of smart homes and appliances, but unless Ofgem engages in this area, and **ensures that regulatory frameworks encourage network company engagement** (for example in standards developments for connected homes that ensure interoperability and wider system harmonisation), the outcomes for customers are likely to be seriously skewed and sub-optimal.
- It would be most helpful if Ofgem (and BEIS) would **clarify their use of the term 'whole system'**. The context of recent documents suggests that the term is used to mean 'Transmission and Distribution', but this could be misleading as the FPSA project has identified that many disruptive drivers of system change are coming from 'beyond the meter'. We suggest that **'whole system' should be reserved to mean the end-to-end power system**, ie its literal meaning, encompassing consumer premises and smart energy developments at the grid edge. Where multi-vector situations are being considered as part of a 'whole system' this requires separate clarification.

We recognise the considerable challenges that the future presents for Ofgem in designing necessary regulatory structures. The FPSA project is committed to helping shape the institutional reform necessary in Great Britain and looks forward to supporting Ofgem in Ofgem's future work in this area. Below we give our answers, where we are able to comment, to your specific questions. We will be delighted to elaborate on or explain any of our answers. Please do not hesitate to contact me at the address on this letter.

Yours faithfully



Simon Harrison (FPSA Chairperson)

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

We agree with much of Ofgem's analysis of the challenges for RIIO2 and support Ofgem's broad objectives. We note that RIIO2 will be developed alongside the actions arising from the BEIS/Ofgem "Upgrading our Energy System" document published recently. Again, whilst there is much that is positive in the BEIS document, we are uncertain whether it really presents a sufficiently long term or strategic vision within which RIIO2 can be grounded – especially given that RIIO2 potentially reaches out to 2030 or beyond.

We would be wary of the temptation to build too much on the successes of RIIO1. In fact, DPCR5 was a close forerunner of RIIO1, with much of the outputs, incentives and totex regime in place from 2010 for electricity distribution. As such RIIO has already been very successful, but it has been in the context of shaping the network business in an overall regime that has changed little from 1989. Twenty-eight years on from privatisation, and with a legal and licence structure almost unchanged from then, **we believe that it is important to consider price controls in the much wider context of social and technical changes** that have been made since then, are in train now, and can be expected to continue over the next twenty years. In other words, RIIO1 could be seen as the pinnacle of a regulatory regime perfectly attuned to delivering an electricity system based on a largely centralised power system configuration, delivering a highly reliable and resilient service to passive customers. **We believe the system and customer changes that are now emerging require this basic model to be questioned.**

While we agree with the bullets on page 4 and 5, we are of the view that Ofgem's objectives in are incomplete and need to reflect the points we make in the above two paragraphs.

We also believe that considerations of aligning the approaches between gas and electricity will become very important given the overall challenge of decarbonising heat (see Q17 below).

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

This is a hugely important area. In the FPSA project we have undertaken and documented fundamental research with key stakeholders and understand how difficult it is to have interactions with end customers of any size, sufficient to provide sound information for long term planning. However, we believe there are two key principles here. One of them you have already made central to RIIO - or at least partially; this is **making the customer the centre and focus of the regulatory and legal framework** (ie how the energy industry must enable customer freedoms, and not be regulated based on a series of assumptions regarding limitations imposed on customer behaviours). The second is to

recognise that there is **an increasing number of other parties and stakeholders who will be intermediaries, assisting customers to enjoy the full benefits of smarter energy devices and systems**, including not only the maximisation of utility and efficiency but also entirely new services through novel business models. In many cases it is these stakeholders who will have the clearest view of future end-customer requirements, either as direct requirements or ones that can be provided by a variety of intermediaries, service providers etc.

In answering questions 10, 18 and 19 we stress the need for a shared vision of the key attributes of the future energy system. Such a vision can only have validity if it has the widest possible input from stakeholders; in other words, if developed only by the traditional industry (ie licensed companies and Whitehall) it will be inadequate and invalid. In suggesting this, please note that we do not see the ownership of the vision being solely with the traditional industry. It needs to be much wider than that – although ultimate ownership must reside in Whitehall as the vision relates to critical national infrastructure. Again, it is not clear to us if “Upgrading our Energy System” is sufficient in scope to contribute significantly to developing what we anticipate will be needed, based on FPSA project findings.

Engaging with an appropriate representation of such stakeholders will always remain a challenge, but given their central importance, and probably their dynamism, **this could become one of the most important regulatory and/or governance functions in the future**. Engagement will be one aspect of the challenge - responding to that engagement in an agile way will be equally important. In this regard, we draw attention to the evidence that the FPSA project has published recently showing that today's change governance mechanisms are unsuited to the task.

The appropriate balance between stakeholder engagement that is the proper and necessary domain of network companies - and the broader engagement that is needed to support the government's shared strategic vision - is a matter for discussion. It is not the case of one of the other; both are needed, although the implications for the regulation of network companies needs to be thought through for this new level of challenge as it will require resources, skills, tools and techniques that are not currently in place (or indeed readily available).

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

FPSA evidence reveals that the role of Suppliers needs to be clarified, particularly the extent to which the Supplier hub remains a valid model. We would anticipate a range of innovative new non-traditional business model ‘services-orientated’ companies having a rapidly increasing level of interactions with customers. Indeed DNOs (or DSOs) might serve their customers more effectively by having a more direct (or indirect through intermediaries)

commercial relationship with their customers – for example in procuring aggregated ancillary services for network constraint management and even promoting in-home energy efficiency (which DNOs might be best placed to do by targeting areas where reduced demand might obviate the need for network reinforcement and reduce system losses). At the least, FPSA findings indicate that **the 'Supplier Hub' term and concept is outdated and should be discontinued.**

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

Outputs and incentives are fundamental to effective regulation. A current challenge is redesigning the approach to cope with greater uncertainty both in what is required from network companies, and the range of ways in which that can be delivered. The DNO to DSO transition implies that in some areas more importance might be needed to be given to operational and market solutions, whereas asset-intensive solutions will be appropriate in others. So, whilst we would not wish to see any move away from the current outputs and incentives, **we anticipate that additional outputs might be required.** and that the framework and targets etc may need more frequent revisiting and resetting.

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?

Although it is hard to estimate the pace of transition, we foresee that **parts of DNO networks will have characteristics that are similar to today's transmission system**, with the scope for market and operational solutions predominating. Consequently, **it will be important to have market and regulatory mechanisms that are in full alignment**, and it might be that thinking currently used in developing the system operator price controls etc might usefully be extended for some progressive use in distribution network company regulation.

In terms of 'efficient system operation' one possible output category would address system losses. Once the smart metering rollout is completed it will be possible to more accurately¹ reconcile all exit and entry point volumes on distribution systems over a given period of time (say one month) – provided that smart meter export volumes are included in the reconciliation. DNOs' have published comprehensive losses management strategies and Ofgem's 'losses discretionary reward' provides an incentive to DNOs to undertake additional actions to better understand and manage electricity losses. However, **we do not favour a return to a target-based losses incentive as there are too**

¹ Adjustments will still be required to cater for non-metered supplies such as street furniture and any remaining manually read (or estimated) consumption volumes

many extraneous factors that will affect losses over any given period. Instead we would advocate that DNOs be encouraged to factor-in the value of losses in their business plans and in individual project cost benefit analyses. This will ensure that only cost-effective actions to reduce losses are undertaken.

From a wider perspective, **'efficient system operation' should also embrace 'whole system' efficiency** such that investments or interventions which have a wider system benefit (eg in terms of reduced need for transmission and/or central generation capacity, or reduced cost of system balancing) are incentivised even if they are not the most economic solutions when considered narrowly from a distribution system benefit. It is likely, as we move towards a more decentralised energy system, that there will be greater opportunity in the future for solutions that require whole-system analysis to identify optimal outcomes. This is clearly a challenge to today's regulatory frameworks in a segmented and multi-party supply chain. **Addressing this is timely and is likely to be an enabler for beneficial outcomes in the future.**

6. Did the outputs target the right behaviours?

We believe that overall the outputs and incentives developments, beginning right at the start of this century with the IIP/IIS² arrangements, have transformed licensee behaviour and produced valuable outcomes for customers. While this aspect of utility regulation is clearly a success story, we do not see it as either complete or perfectly implemented. We would acknowledge improvements in customer service arising from the Broad Measure of Customer Satisfaction and Connections incentives, but **it is not hard to find aspects of company performance that could or should be improved in relation to customer service** and where further consideration of effective and efficient performance, and of incentives mechanisms, are still justifiable.

Arguably, it is time to take stock of the use of incentives, recognising progress to date and future challenges. Every incentive arrangement has the propensity to drive unintended consequences, and this risk increases with the interactions of greater numbers of specific incentives.

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

This seems to be a fundamentally important question, and probably coupled with the question as to how investments necessary to deliver *future* functionality can be determined and agreed. We believe we are at a point in time where the sector has entered a period of transformational change. The details of how the industry will look and operate in ten years time is almost impossible to divine, although broad descriptions of the expected needs and activities are of course

² Information and Incentives Project, becoming in time the Interruption Incentive Scheme
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possible and worthwhile. The basic premise of the Future Power System Architecture Programme (FPSA) is that future requirements for the functionality of the power system can be defined at a high level, and that this definition, through the research and analysis of FPSA2, is believed to be robust to the foreseeable range of detailed outcomes. This does not provide a mechanism to answer this question in detail, but we do believe it appropriate to have the implementation of the functions identified by FPSA as a component of a strategic plan. The challenge then becomes funding in an appropriate way the rolling implementation of these functions.

In view of the transformative changes ahead in energy, it is important to address **the impracticability of avoiding some risk of funding investment in assets that eventually become technically stranded** (for example because anticipated load growth doesn't materialise at a particular location or unforeseen innovative developments change customer requirements).

Given the limitations of current knowledge and forecasts, it is inevitable that some investments to deliver functionality will subsequently appear suboptimal when technology, societal, political or other evolutionary factors emerge which enable functionality to be more effectively and economically implemented, even though the functional requirement itself has not changed. Greater innovation in network solutions is to be encouraged, but it is axiomatic that emerging technological or commercial solutions run the risk of capacity or capability shortfalls. **The regulatory arrangements need to minimise these risks – including mitigating risk through a least regrets approach to strategic investment** - but they do need to recognise that it is a reality that needs designing into the regulatory mechanism. Arguably the RIIO process does recognise this as any investment in the RAB, assuming it is based on robust analysis in terms of cost-effective delivery of outputs, is currently fully remunerated. However, the nature and scale of investments needed across the sector could be quite different to recent history and should be considered specifically.

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

We agree that the incentives on Connections performance and the Broad Measure of Customer Satisfaction are reflective of customers' needs and that these incentives have driven noticeable improvements in customer service. The IIS has also driven cost-effective (as judged by customers' 'willingness to pay') improvements in quality of supply. The Totex incentive has also been effective in driving cost-efficiencies and, to some extent, the rollout of innovation (aided by the innovation rollout mechanism). We do however question whether the IQI mechanism is as effective as it could be in driving efficient business plan proposals. Going forward, **DNOs will need to have confidence that strategic investment proposals, and investments that have either a longer-term (beyond RIIO2) benefit and/or a wider whole system benefit will not be penalised through a lower IQI incentive rate** as a consequence of being

more expensive than the minimum level of investment required to deliver a specific RIIO ED2 output. An effective IQI (or alternative) mechanism will be particularly important to ensuring the most cost-effective means of delivering functionality. One example here would be the importance of DNOs addressing data communications and data management architectures such they meet requirements for interoperability, cyber security and data privacy. Today's data architectures are typically centralised and 'point to point', whereas the future is likely to require distributed arrangements with 'many to many' capability. Change to data architectures will require up-front investment, but without it long-term benefits will not be delivered.

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

In question 6 we explained how we believe RIIO has incentivised helpful behaviour across significant parts of the regulatory scope. However, this is predominantly to the benefit of current customers; the challenge is to identify, fund and incentivise investments and behaviours that will provide good value for future customers. Today's customers are still reaping the benefits of the huge investments in networks made in the post war growth of the '50s to early '70s. The majority of network assets are still first-generation assets installed in that window, but now fully depreciated. **It is not inappropriate therefore, when considering inter-generational equity, for investments with future benefits to be made now**, particularly if delaying those investments can be seen to create a high risk of future functionality failing to be developed in a timely manner. Some of these investments will turn out to be less than perfectly optimal and perhaps some will be under-utilised or stranded (although this may be temporarily, pending future load growth due to electrification of heat and transport). However, the future regulatory arrangements need to recognise this and develop mechanisms for dealing with it that are fair, whilst maintaining incentives for efficient behaviour.

In that regard, **it will be important to recognise the implications for cost of capital if a greater risk is imposed on network operators in terms of implementing new, less proven, technologies or commercial mechanisms to deliver functionality**, or indeed if they are expected to share an element of asset stranding risk. Whilst, in retrospect, assumptions over cost of debt and equity prior to RIIO1 may now appear pessimistic based on current trends, RIIO1 will span a period of considerable uneconomic uncertainty for UK which may well remain when RIIO2 is implemented. The trailing index of cost of debt should at least mitigate errors in economic forecasts, and consideration should be given to the feasibility of an equivalent mechanism for cost of equity.

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

Firstly, it is perhaps inappropriate to refer to 'errors' given that medium to long-term forecasts can only ever be based on a range of credible scenarios (as

demonstrated for example National Grid's Future Energy Scenarios); forecasting 'uncertainties' would be a more appropriate phrase. The future direction of the electricity sector contains an even greater number of uncertainties, for example the extent and pace of transport electrification, the extent of cost reduction in battery technology, and how rapidly localism in energy gains traction. Electrification of heat is likely to be a significant driver of electricity demand over the RII02 period but it remains uncertain as to the eventual scope for electrification and the extent to which gas will continue to play an essential role – for example in dealing with peak heat. Future pathways therefore show wide divergence, depending on what actually materialises and when. **The industry needs to evolve to become much more flexible and agile to change, while recognising that development cycles and lifetimes for many of its assets are long.**

This poses extraordinary challenges to accurate forecasting. For the industry to respond optimally requires a clear vision, but if policymakers set too rigid a vision this may either be overtaken by external events or make access to innovative new business models and technologies very difficult, potentially with high economic and societal costs.

We believe that more agile change governance that brings all stakeholders to the table will provide the best opportunity to secure minimum regrets investment pathways, and to respond quickly to emergent change to minimise stranded investments. In terms of accommodating uncertainty through the regulatory mechanism: the existing uncertainty mechanism relating to demand driven investment (ie the load related re-opener) provides reasonable protection for customers against over-forecasting, as does the Totex sharing incentive to some extent. Whilst we strongly favour the continuation of ex-ante (as opposed to ex-post) mechanisms, we believe that more frequent reviews and, if necessary, resets might be necessary. However, such reviews should be as light-touch and 'automatic' as practicable in order to reduce the regulatory burden on Ofgem and companies, and to provide reasonable certainty regarding future TNUoS and DUoS charges.

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?

FPSA offers no comment on this question other than to reiterate the point we make in our response to Q9 that returns must reflect risk and that if companies are to be encouraged to accept a greater level of risk in implementing innovative new technological or commercial solutions, including potentially an element of stranding risk, then cost of capital and hence returns on equity will need to reflect this. Failure to recognise this could deter companies from implanting innovative solutions that will benefit customer in the longer term.

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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?

Please refer to our response to Q9 and Q11 above.

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

Please refer to our response to Q9 above.

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?

Please refer to our response to Q9 and Q11 above.

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?

FPSA offers no comment on this question.

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

FPSA believes that the existing historic distinctions between transmission and distribution are becoming increasingly arbitrary and serve no overarching useful ongoing purpose. The physics and the provision of energy services over the networks recognises no such boundary, and the disconnects, intentional or unintentional, introduced into the sector by the boundary must be minimised. One such disconnect is the different regulatory treatment of the two networks. Every effort should now be made to remove these discontinuities and consideration of the regulatory arrangement should be made in the round, taking the two network systems together.

We do not see any explicit disadvantages outlined in the letter. We believe stakeholders will welcome the holistic consideration of the issues across the whole network, provided they are appropriately integrated by Ofgem. We do note that this could have some resource implications for Ofgem (and potentially the Scottish companies). An alternative is to provide sufficient flexibility in the price controls such that investments in one system that confer benefits to the other (or which prove more effective in terms of whole system benefits –

including benefits to the system operator in terms of overall system efficiency) can be fully accommodated by post-settlement arrangements.

We note at this point that it would be most helpful if Ofgem (and BEIS) would **clarify their use of the term 'whole system'**. The context of recent documents suggests that the term is used to mean 'Transmission and Distribution', but the FPSA project has identified that many disruptive drivers of system change are coming from 'beyond the meter'. We suggest that **'whole system' should be reserved to mean the end-to-end power system**, ie its literal meaning, encompassing consumer premises and smart energy developments at the grid edge.

Finally, on this point **we would stress the benefits that we expect to see emerging from the ENA's Open Networks Project**, where a number of important short term and longer-term issues are being debated. We know that Ofgem is already focussed on this work and we would expect issues and learning from this project to be used by Ofgem in its design of future controls.

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

It is not clear that there are many other formal mechanisms where formal alignment would be of benefit (albeit not overlooking mechanisms for regulating the system operator). However, it will be important to remain vigilant, particularly in relation to the decarbonisation of heat (ie the regulation of the gas industry) and transport.

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?

The mechanisms in RIIO, particularly the incentives on Totex efficiency, already provide a sound basis for incentivising network operators to implement smart alternatives to conventional network investment where the smart alternative will provide the required output more cost-efficiently. However, **whilst the Totex efficiency mechanism provides an incentive to deliver outputs at lower cost during the period of the price control, the incentive to invest in smart solutions that have a longer-term or wider whole-system strategic benefit is weak.**

In question 10 we pointed out that the industry needs agility, flexibility and an inclusive ability to understand technology and business model innovation, particularly at the grid edge. In amplifying this point for question 18, we would emphasise the need to recognise developments that will be occurring across the whole system, in particular, the development of technologies that open up much greater flexibility from customers. These offer significant opportunities to reduce the need for traditional network investment. However, **many opportunities**

will be lost if investment in smart solutions is delayed until there is a demonstrable and working flexible response infrastructure for DNOs to plug into. Rather the DNOs (and National Grid) need to be at the forefront of helping guide, or even design, the growth of smart flexible services so that they can maximise the opportunities to take efficient and diversified services from stakeholders as an alternative to network solutions.

In considering the challenge of how to design a regulatory framework for this, we believe that there needs to be significant attention given to how incentives for system operation need to lie alongside incentives for asset investment. Interestingly the splitting of NG's licence and the separation into an asset owner and system operator price controls might provide many useful parallels to help the thinking about the design of future DNO (ie DSO) price controls.

Finally, on this point, to fulfil the responsibilities that we believe licensed companies should have, **they must be incentivised to engage fully in helping shape their operating environment.** Ofgem has made many useful steps over the progression of price controls, and has introduced regimes that incentivise companies to innovate right across the range of their activities, and also to invest appropriately in replacing and upskilling their workforces. To ensure that licensees are able to make full use of smart technology they need to be well connected across a range of activities related to technical standards and governance. In particular, **licensees' ability to maximise the opportunities for flexibility will depend on appropriate functionality in flexible appliances on the customers' side of the meter, and licensees' ability to interact with it.** Customers' devices, and their functionality will be built according to international product standards, plus significant numbers of other standards controlling issues like communications, energy management, cyber security etc.

Licensees have traditionally had very little engagement with international standards, and even if done on a collaborative basis through trade bodies etc, this needs to be enthusiastically supported. Licensees will need to be deeply involved in both the technical aspects and critically in the governance of these standards. We believe **Ofgem should consider how to incentivise licensees to play their full part in the development of these standards and governance activities as part of ensuring full future flexibility.** Examples of areas that would confer whole system benefits if appropriately incentivised include:

- strategic design and implementation of communications and data architectures, noting that these may be under-utilised in their early years;
- development of technical standards and engagement with EU and international developments, particularly in regard to smart networks but also to an extent in regard to smart homes and appliances;
- creation of new tools for modelling, forecasting and decision support;

- implementation of agile governance mechanisms to promote effective technical and commercial change (eg mechanisms developed by the FPSA programme such as Enabling Frameworks governed through an Enablement Organisation);
- development of the NIC and NIA mechanisms to recognise the value of network companies taking forward lower-TRL, higher risk, projects that might deliver wider whole system benefits in the longer term, but not necessarily within the current or even next price control period. In the absence of such an incentive **there is a real risk that promising entrepreneurial technologies which might have potential for transforming the functionality or efficiency of the power system will remain undeveloped** (at least in the UK).

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?

We partially dealt with this under questions 9 and 18. We believe that the sector needs:

- A shared vision;
- A common way, understood by all stakeholders, of updating the shared vision;
- A rigorous process to accept investments (or in some cases lack of investment) that help achieve the vision;
- Investments made well and in good faith to the objectives of the vision always to be remunerated;
- Incentives for efficient, timely, etc delivery of vision objective and projects;
- A further wider strategic check routinely on all the above.

To reiterate, whilst there might be some risk of distribution system asset stranding in the shorter term (as overall demand continues to fall) Smart Grid Forum Workstreams 3 and 7 have demonstrated that projections for electric vehicles and heat pumps under some credible scenarios point to a significant need for network capacity supported by smart solutions in the medium to longer term. **Strategic investments determined on least-regrets principles** offer the best opportunity to balance the risks of asset stranding on the one hand, and insufficient capacity to support low carbon transition on the other.

Whilst residual charges will need to continue to reflect network investments that have been agreed as part of price controls to be in the best interests of customers, there is a need for future network charging arrangements to be simplified, and arranged such that forward looking network charges are based on the explicit and implicit services that networks provide to all those connected to it, and on the basis on which the services are provided – ie not on a per kWh basis. In this regard, with the anticipated growth of energy communities and opportunities for both intra-community peer-to-peer and inter-community trading (using public networks as virtual private networks and for ‘wheeling’) consideration will need to be given to the extent to which residual charges should be shared, and the basis on which communities should be charged for standby, top-up and export capacity to ensure an equitable balance between community and non-community customers.

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

Please refer to our answers to Q9 and Q10 above. We believe that the new challenges from the transition from DNO to DSO need to be thought through, and that the thinking around the development of separate owner and operator price controls will be fundamental to developing this. In this regard, **we would commend the recent DNO-DSO transition consultations issued by Western Power Distribution and UK Power Networks as a source of relevant thought leading**. We would recommend that Ofgem give careful consideration to the questions raised and the stakeholder responses once the consultations are closed (in September 2017).

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 that Ofgem should consider either shorter formal price control periods or, if 5 (or 8) year periods are to continue, a mechanism which enables regular (eg annual) readjustments based on latest outturn forecasts. However, in a period of uncertainty in the economic climate (particularly surrounding post-Brexit effects) it will be important to maintain an essentially ex-ante (rather than ex-post) approach and avoid over-reaction to short-term trend indicators. **It will also be important to minimise both the regulatory burden surrounding periodic reviews and adjustments, and also the uncertainty over future DUoS and TNUoS prices.**

It will also be important to recognise that the changes, behaviours and investments that companies are required to make will be strategic objectives delivered over longer-term timescales. We note that proposals for system operator incentives are being developed over three years. This seems a more appropriate timescale for the formal updating of plans, incentives and mechanisms – although we would not rule out a move to even shorter formal timescales if the pace of change makes this appropriate. It is also conceivable that the price controls could be split - with some aspects subject to longer run arrangements, whilst other regulatory arrangements related to more uncertain aspects could be fixed on a shorter formal basis.

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

As we have suggested, we believe plans should be assessed regularly against a clear shared vision.

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

FPSA offers no comment on this question.

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

Whilst we believe the IQI mechanism has benefits in terms of encouraging companies to develop efficient business plans, it can lead to perverse behaviour – for example companies being reluctant to put forward more ambitious plans (for example to deliver transformational change through strategic investments that might have longer-term or wider system benefits) if it is perceived that Ofgem's assessment of 'efficiency' might not take the benefits of such investments into consideration. Clearly such risks could be minimised by Ofgem making clear the parameters it will take into account in assessing 'efficiency'. However, there remains a risk of not only misconstrued signals, but also that Ofgem's pre-business plan submission determination fails to recognise opportunities that business plans might reveal.

Taking everything into consideration, including inherent levels of uncertainty, we believe **there is more to be gained than lost through Ofgem and companies agreeing in principle the factors that will determine assessments of efficiency before Ofgem determines the revenues that an efficient company requires.**

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?

An eight-year price control does have the benefit that companies can make strategic investments or implement innovation that is more likely to 'pay back' during the period of the price control (assuming that the opportunity is recognised during the early years of the price control period). However, the issue still arises that companies might be reluctant to implement innovation during the final years of a price control period. **An option to consider is the feasibility of price control periods on a 'rolling' (say six-year) basis with regular three-yearly reviews taking account of revised forecasts and new threats and opportunities – but with a formal review and reset after nine years.**

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?

Our observation is that IQI and the overall incentive regime has been very effective in regulating the traditional network activities of maintaining and

improving outputs, but critically, for a relative stable business environment. Whilst there may be many features of IQI etc that must be retained, **we believe there needs to be more focus on incentivising the developments that allow interaction with customers and stakeholders to realise and release their flexibility.**

However, as we note in our answer to Q24, the historic strength of the IQI might also be a key future weakness. IQI works well provided Ofgem's central assumptions are correct. In the face of increased uncertainty, IQI could amplify mistakes that Ofgem might make in its assumptions.

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

Companies have an information advantage with regard to their current assets and the traditional services etc possible from them. It is less clear that they have a similar advantage when considering new services associated with customers' flexibility, which in many cases will rely on the development of, or new, ICT.

However, we note the general trend to make more and more network information available such that customers and developers can more easily identify opportunities, and are able to innovate, less constrained by selective information obtained through dialogue with the network company. **Our vision is that there should be more and more network and associated information made available by companies, and also by consumer representative stakeholders and communities.** This will also assist Ofgem in understanding the reality inside the regulated company, minimising the risk of any undue value retention by companies due to the historic information asymmetry, but also in providing assurance over the legitimacy of business plan proposals.

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

The FPSA project recognises that there is a gradual change in the culture of network licensees and that many new ideas are being enthusiastically trialled. We are aware of the formal investigations that Ofgem has done into the value for money of its innovation funding, and we support the positive conclusions of that investigation.

We still see difficulties in moving good demonstrations into business as usual, and there is always more that should be done to ensure collaboration and joint implementation of successful innovation. In this regard, there might be a need for some strategic identification of successful innovation and promotion of it in standards etc.

We remain concerned that distribution companies in particular lack staff-time to think laterally and innovatively in normal business, and hence to drive the internal cultural changes that are necessary for innovation adoption. The engineering headcount has typically been reduced to the minimum needed to operate in business as usual (including ensuring that connection requests can be processed efficiently). These staff challenges also extend to the ability of appropriate company experts to engage in national and international standardisation activities; activities that we see as increasingly important as customers' devices, built to these standards, play a greater part in the management of the energy systems.

Notwithstanding the above, **Ofgem should recognise and take credit for IFI, LCNF, NIA and NIC incentives that have resulted in the development of a huge knowledge base and pipeline of high TRL innovation that will prove invaluable in dealing with the rapidly changing future power system landscape.**

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

From our responses above, it is clear that we recognise how effective the RIIO incentives have been. However, we do not believe that this approach can continue unchanged, primarily because the fundamental business models of network companies are themselves changing.

The current incentives are designed to drive network companies to fulfil their licence, legal and more general obligations, all in the structure of the current industry arrangements. As we have suggested in our answer to Q1, the function of the network companies needs to change, as does the legal and regulatory framework driving this change. **Future regulatory arrangements need to have a clear idea regarding the new services etc that network companies need to support.** We believe that although networks and assets remain essential, they are being complemented by services and flexibility. We see development of the system operator incentives as a key area and which will inform the future network price controls.

In broad terms, **there is no shortage of innovation opportunities** and potential benefits to be obtained by networks, which suggest that if there is low take-up of innovation incentives or low conversion of proven innovations to business as usual, there is something amiss in the regulatory incentive frameworks, for example the current lack of recognition of wider system benefits that a smart solution might confer (compared with a conventional 'network' solution) - or of longer-term benefits which accrue beyond the current regulatory period.

Please also see our response to question 18 – we make comments about incentivisation to be appropriately engaged in standard making for the whole system.

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

Effective competition is fundamentally important in revealing new ideas and efficient costs. It should be allowed to operate wherever it can be effective in driving down cost and/or spurring innovation, but not where it results in a loss of coordination and a risk to the efficient and economic development of the power system.

Efficient delivery often requires clear standards. It also essential that those standards do not frustrate competition or innovation. These are hard trade-offs, but they must be made across the whole sector and not just in the networks. Standards can be framed to provide enabling conditions for innovation and market behaviours (for example through interoperability and open protocols), and this should be given attention in the coming stages of standardisation. Similarly it will be important that standards are not 'UK specials' if procurement is to be efficient and export potential maximised.

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

As we briefly mentioned in our response to Q6, there is already a very complex interaction in the RIIO framework between the various efficiency and output incentives, both explicit and implicit. We know that even regulatory experts within the network companies struggle to have an intuitive grasp of how these interact without recourse to intricate financial models.

Also, as we have argued above, we believe **we need to move the focus from regulating asset based output to incentivising whole system efficiency.** This implies greater clarity about what companies need to deliver both short and long term. We believe that current effort should be on **agreeing this overall framework and shared vision**, and then turn our efforts to how incentives and help deliver it.

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

The complexity of the future power system has led the FPSA project to conclude that company business plans should be addressing an **overall shared strategic vision**. We believe that the development of this is key such that companies' individual plans can then be appropriately assessed. **A key feature of RIIO**

ED2 business plans should be the DNO's strategy for transition to DSO and a clearly articulated and cost-justified plan of execution over a defined period. This will need to consider **a truly 'whole system' perspective, from end to end**, including new drivers and opportunities for system change that arise from 'beyond the meter'.

We believe that there is a fundamental unaddressed challenge for Ofgem here: **what is Ofgem's role on the customer side of the meter?** We do not envisage Ofgem taking any form of prescriptive role in the domain of smart homes and appliances, but unless Ofgem engages in this area, and **ensures that regulatory frameworks encourage network company engagement** (for example in standards developments for connected homes that ensure interoperability and wider system harmonisation), the outcomes for customers are likely to be seriously skewed and sub-optimal.

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

As we have suggested above, we see a much more frequent review and reset being needed in the future, and this should be built into the framework, but not at the expense of undue regulatory burden or uncertainty over future DUoS and TNUoS prices. The pace of externally driven change will continue to accelerate.

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

FPSA offers no comment on this question.

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

Again, in advance of answering some of the fundamental points we raise about the future of regulation etc, it is hard to answer this. We note the significant efforts absorbed in the companies and in Ofgem in undertaking all of the regulatory reporting processes. We believe this should be revisited in the light of all the other developments we foresee being appropriate. As mentioned in Q27 above we believe more open data should be considered, not just for regulatory reporting but also to stimulate innovation, but with a focus on the key outputs. Noting our comments in Q32, there is an area for consideration in regard to **actions that network companies (and Ofgem) need to take to facilitate connected homes and smart energy solutions for customers.** These actions will benefit from definition, measurement, and incentivisation.

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?

We have reservations about the splitting of network businesses into asset owner and asset operators. We recognise the trade-offs that need to be made between assets and services, but we do wonder if those trade-offs can be made most efficiently across a legal/commercial boundary as opposed to within the same legal entity. But having said that, as we have argued above, **we do believe that system operation needs separate consideration from network asset price controls**. And as we have also emphasised, investments by network companies should be assessed from a more whole system benefit perspective – for example distribution system investments that confer benefits to transmission network efficiency and/or efficient system operation (including system balancing and ancillary services).

37. Do you agree with our broad stakeholder engagement approach set out above [on pages 14 and 15 of the letter]?

As we have emphasised throughout this response, **we believe that the future development of the energy sector needs a clearer strategic vision within which regulated licensees operate**. We believe that more work needs to be done, led by Whitehall, to achieve such a shared view. We see this as a prerequisite to effective stakeholder engagement around future price controls.