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Future arrangements for the electricity system operator: its role and structure

Please find attached the Institution of Engineering and Technology's written response submission to the above consultation.

About the IET

The IET is one of the world's leading professional societies for the engineering and technology community, with more than 167,000 members in 150 countries and offices in Europe, North America and Asia-Pacific. The IET provides a global knowledge network to facilitate the exchange of ideas and promote the positive role of science, engineering and technology in the world.

This submission has been approved on behalf of the IET's Board of Trustees, and takes into account the views of IET Members under the guidance of the IET's Energy Policy Panel and should not be taken as representing in any way the individual views of the organisations for which the panel members work.

The IET would be keen to have the opportunity to explore these points further with Ofgem.

Yours sincerely,



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Introduction

We welcome this consultation which addresses an issue of fundamental importance; the future role of the electricity system operator. We are pleased to provide our response to the questions identified in your consultation. Firstly, we offer our additional comments, based on recent work that the IET has carried out, which we consider provide a fuller context for this response.

The IET has played a leading role in catalysing the debate with stakeholders about the future development of the GB power system. Starting with our report, “Handling a Shock to the System”¹ (December 2013) we have provided evidence to support the case for whole system thinking. We developed this analysis further in our 2014 report which explored the issue of achieving coherent whole system planning and operation of the power system². As a result of this work, in 2015, DECC (now BEIS) commissioned the IET and the Energy Systems Catapult to report on the new functionality that Britain's future power system will need and in July last year we published the Future Power System Architecture (FPSA)³ report. A second phase of this work is in progress now.

We see this consultation as being the third of a series that are closely related in many ways; the other two being the BEIS/Ofgem “Call for evidence; a smart, flexible energy system” (CfE) and Ofgem’s consultation on industry code governance. We are encouraged that the case we made for whole system thinking has now been widely accepted by BEIS and Ofgem and the wider stakeholder community.

However, as we have previously commented in our responses to other recent consultations, we are concerned that these BEIS/Ofgem activities are not sufficiently well ‘joined up’ and that this represents a risk in terms of making good decisions. We remain concerned that the deeper learning generated by the FPSA project appears not yet to have been taken on board. We would therefore strongly urge Ofgem and BEIS to fully consider the FPSA evidence and recommendations before reaching conclusions about the development of system flexibility, the longer-term role of the SO and the future approaches to code governance.

A critical next step is the publication of the BEIS/Ofgem plan for enabling a smart, flexible energy system which we understand will be achieved by June this year. We would welcome Ofgem and BEIS engaging more closely with us and the Energy Systems Catapult to ensure that decisions benefit fully from the FPSA project learning and the evidence now available.

Chapter: Two

Question 1: What are your views on our proposed objectives for the SO (set out in paragraph 2.1)?

We are broadly supportive of the essentially high level aspirations set out for the proposed SO objectives. However, we note that currently the proposals are vague and require much more detailed development to define specific roles and responsibilities. As an example of the need for more detailed development, without adequate definition the first word of the first objective, “overseeing”, would be expected to mean very different things to different people.

We suggest that Ofgem develops detailed proposals including licence change and incentive mechanism proposals as soon as possible to provide all parties with greater clarity about the intended scope of the future arrangements for the electricity SO.

¹ “Handling a shock to the system” - <http://www.theiet.org/factfiles/energy/elec-shock-page.cfm>

² “The case for a system architect” - <http://www.theiet.org/factfiles/energy/brit-power-page.cfm>

³ FPSA project - <http://www.theiet.org/sectors/energy/resources/fpsa-project.cfm?origin=reportdocs>

Whilst the SO has defined roles and responsibilities with respect to directing the configuration of the transmission system, the SO does not have the same level of direct influence on non-transmission sectors of the electricity system. We note that DNOs as well as other types of transmission system users are currently classed as customers of the SO. We consider that roles with greater SO responsibility across the wider electricity system would be expected to need changes to other licence types as well as the transmission licence.

We consider that there would be a need to introduce new incentive mechanisms for the SO to ensure that these objectives are met and deliver net benefits to customers. We suggest that the SO will need to be incentivised to ensure the effective implementation of competition in transmission and address any residual “reluctance to change”. Also, clear risk/reward incentives will be needed in respect of promoting innovation as the risk profile for an innovative approach is generally more onerous when compared with more proven solution options.

Linking back to our introductory comments, it is not clear to us from reading these objectives what role the future SO might take in delivering the functionality that the FPSA project has identified will be necessary. A good example here is the development required to deliver the level of flexibility envisaged in the BEIS/Ofgem CfE. We suggest that this offers a good case study to test the thinking and potential policy developments over the next few months.

In the context of this example, we would also highlight one key omission. There is no mention in the objectives of what happens beyond the meter. Is this deliberate? In fact, there are very few references to customers (excluding direct transmission system customers) in the document at all. We take the view that as so many of the change drivers are on the customer’s side of the meter that the SO will have to engage with them, directly or indirectly, in order to deliver a “...cost-effective electricity system as a whole.” It is vital that these whole system issues are thought through properly as they not only span today’s ownership boundaries, but also involve new ‘grid edge’ parties who are not represented in today’s governance structures. Transformative change requires leadership and the allocation of new accountabilities and it is really important that there is clarity as to who takes these roles. The FPSA project is developing recommendations to assist resolve these new challenges.

Question 2: What are your views on our expectations for how the SO should seek to achieve these objectives?

Residual balancing & competitive markets

We have found little to disagree with in the sections dealing with system balancing and developing competitive markets. The document offers sound ideas that we believe could help improve overall cost efficiency and therefore deliver benefits to customers.

As a general comment we note that a clear and up to date definition of the scope of services that the SO may require (e.g. a schedule of service requirements) is required to underpin market arrangements for balancing services. There is a need to better define SO requirements and then to define specific industry code requirements and set out how individual services will be procured.

Delivering a cost-effective electricity system as a whole

We are more concerned about the section on delivering a cost-effective electricity system as a whole. Here we have to repeat our concern about the lack of reference to anything beyond the

meter. Reading between the lines, it may be that Ofgem expects the DNOs to develop into DSOs and to take responsibility for all issues beyond the meter. But this is not stated. The other side of the future SO coin is the future DSO. We believe there is a strong case to show that the two should be considered together, i.e. a whole system approach. We commented in our response to the CfE that the description of a DSO's role (CfE section 5.2) lacked detail and clarity. We would find it very helpful if Ofgem could say more about how it sees the DNO to DSO transformation happening and the future roles and responsibilities of a future DSO. This could form an important part of Ofgem's decisions on the future role of the SO.

Regarding cost-effective outcomes, the proposed development of the SO role will be highly dependent on joint working across different, separately licensed sectors of the electricity system. Without cooperation (either on a voluntary basis or via regulatory framework changes), changes to the SO role will only be partially effective.

Within the electricity industry, solutions that are of benefit to one network type, do not always align with the preferred solution for another network licensee. A distribution licensee may identify a transmission system reinforcement solution as a preferred option (and vice versa) due to business specific funding considerations.

Forecasting is an example of a specific area that already requires cooperative working, system forecasts are prepared by the SO based on data submitted by third parties. The quality of the overall system forecasts therefore reflects the quality of data (actual and forecast) submitted to the SO. The SO is in part reliant on third party data for the quality (content and timing) of data that it can provide to market participants.

Our final major point about this section of the consultation is the lack of recognition of the issues identified by the FPSA project. This project has developed out of four year's work and involved an extensive range of stakeholders, including project board representation from Ofgem and DECC/BEIS. Given the compelling evidence offered by the FPSA report that significant additional system functionality is required, what role does Ofgem see the SO taking in this? Again, we would ask that your decisions address this issue.

Supporting competition in networks

While we understand Ofgem's intention to introduce more competition in the provision of new transmission infrastructure, we would express concern over potential impacts of the introduction of more physical ownership boundaries to overall system resilience and to the addressing of emergent 'whole system' considerations in the future. We note from the Impact Assessment that this benefit has not been quantified. We would therefore encourage caution in the implementation of this initiative particularly from an engineering and whole-systems perspective.

Question 3: Do you agree with our proposals for what licence changes are needed to support these objectives?

In our view, there is also a need for a wider consideration of the impacts of the proposed transmission sector changes on other types of electricity licensees. In particular, changes to the transmission licence alone would not seem to be sufficient for the extended SO role proposed. As noted in our response, we consider that an extended SO role may only be effectively achieved with a wider reform of all types of electricity licences. We would expect Ofgem explicitly to seek to

achieve the best balance between regulatory clarity and bureaucratic efficiency in implementing any agreed changes to the SO role.

We also note that the funding mechanisms and incentives for individual licensees are tailored for the specific requirements of that individual licence type and in many cases, specific price control arrangements. A change to the established, specific approach would be required to ensure that all network reinforcement proposals across T/D interfaces are properly assessed and justified in terms of overall cost impacts for consumers. For example, wider licence changes could require each type of network licensee to consider (and where possible quantify) impacts on consumers across a T/D interface so that all reinforcement proposals can be properly assessed and justified in terms of overall cost impacts.

Question 4: What are your views on the extent to which we should set specific or general obligations for the SO?

We would suggest that there isn't a simple answer to this question. Ofgem needs to be sure that the fulfilment of the obligations it places on licensees can be properly tracked and if necessary enforced. In some cases, general obligations might be appropriate to achieve this but in others more specific obligations may be necessary. Clarity within the regulatory framework in respect of the SO/TO split will be required for effective implementation particularly as change will be within established business.

Chapter: Three

Question 1: Do you agree that greater separation between NG's SO functions and the rest of the group is needed?

Yes. Greater separation will assist with an evolving SO role, as it is likely to:

- Provide clarity and focus for personnel within NGET (current name).
- Improve confidence for all industry participants.
- Reduce uncertainty for all participants and therefore improve clarity externally.

The US Federal Energy Regulatory Commission ("Commission") considered the question of the appropriate degree of independence for public utilities that intended to become the operators of electric systems in its In its seminal 1996 Order 888⁴. It laid out the principles by which it intended to evaluate proposals for independent system operators ("ISO") submitted to the Commission. We would recommend these principles as a useful reference point for Ofgem's proposals.

When read in the British context, the Commission's principles would fully support a complete legal separation of the system operator and the transmission owner functions. We believe that this should remain as a future option even if the regulator is at this time only proposing a partial functional separation.

⁴ *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 (1996)

Question 2: What are your views on the additional separation measures we are proposing?

We think that the views of the market participants that could be impacted (and/or consider that they are impacted), by the identified conflicts of interest should take primacy here. The perception of a conflict of interest can be as damaging as its reality. This is recognised in the document and so we expect it to be given due weight in your decisions.

It will be important that separation measures reinforce the intended changes to roles with behavioural/cultural changes. From the point of view of organisational dynamics there is a need for change to be noticeable within the NG Group as well as for external parties.

The proposed SO role extension will create an even more significant monopoly licensed business. In view of this we advise: (i) there is a need for financial protection measures, (ii) there should be specifically defined payment arrangements to ensure that service providers to the SO have sufficient confidence in SO credit worthiness, (iii) clarity in scope of SO and TO roles will be improved by business and licence separation, (iv) employees should benefit from a licence specific identity, and (v) a clearly defined scope will be particularly important for externally facing roles and for any function with access to SO data provided by third parties.

Question 3: What are your views on our proposed approach for implementing these changes?

There is not a great deal of detail provided about implementation. We note the practical aspects regarding timing and we do not see a real problem with an April start date. However, if Ofgem is convinced of the benefits of a new structure for the SO it should explain why a start date of April 2018 is not achievable.

Time will be needed to ensure that transmission customers as well as network service providers have sufficient notice so that they can properly assess any impacts of the SO/TO split on their enduring role with the SO.

There is a brief reference to stakeholder engagement but no detail. We believe that the IET and the Energy Systems Catapult can provide valuable inputs to this process and it would be a lost opportunity not to utilise the FPSA stakeholder engagement work. It is unfortunate that an engagement plan was not included in the consultation.

Chapter: Four

Question 1: What are your thoughts on our proposed approach for implementing the proposed changes set out in this consultation?

Our response to Q3 in Chapter 3 applies equally well here.

We observe that this separation proposal appears to be on the assumption that the independent SO selection decision would not involve any competitive process (i.e. only the incumbent would be considered). Whilst not necessarily an unreasonable assumption, a clear statement with supporting justification would be helpful.

Question 2: What further evidence should we consider in finalising our impact assessment of the proposals on the SO's roles and level of independence?

We note that the monetary benefit of these proposals is not quantified in the IA. We do appreciate the difficulty of assessing this benefit. We agree with Ofgem that these changes are likely to be beneficial. However, we would encourage Ofgem to carefully scrutinise the costs that NGET has estimated that it will incur. As a point of minor detail, the term "NPV" should be replaced by "PV" in the summary table ("Costs" section – page 47) and paragraph 1.45 (page 56).

The impact of greater SO/TO separation on industry codes should also be assessed. For example, would there be a continuing need for separation of an independent SO from direct responsibility for BSC administration?

Also, there will be a need to consider the impact on the effectiveness of an evolving SO role in respect of T/D interface investment requirements should implementation be taken forward through only changes to the electricity transmission sector. We observe that investment in own network is not always the preferred option for a licensee when compared to capital expenditure by another party, even if it would offer the overall cost effective solution for consumers.

Consistent with our comments to Q2/Chapter 2, we note that the impact assessment does not address the potential impacts on DNOs. The future model for a DSO needs to align well with the model for the SO. As we have very little information about the former it is impossible to determine whether such a fit will be achieved. We suggest that the final impact assessment should address this and that change processes ensure coordinated development pathways.

We are pleased to see the brief reference to the FPSA project in paragraph 1.23 (page 52) but note that this is only made in relation to whole system thinking. It makes no reference to the new functionality that is the focus of the FPSA project. This needs to be addressed if the IA is to be robust and recognise the changing context in the sector.