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Dear Neil

Reviewing the benefits of the Low Carbon Networks Fund and the governance of the Network Innovation Competition (NIC) and the Network Innovation Allowance (NIA)

National Grid Electricity Transmission (NGET) owns the high voltage Transmission network in England and Wales and is the System Operator for all of Great Britain.

NGET successfully won funding for the Enhanced Frequency Control Capability NIC project in 2014 and the Offline Substation Environment for the Acceleration of Innovative Technologies in 2015 and is a collaboration partner on several NIC and NIA projects led by other GB Transmission Owners and Distribution Network Licensees and Gas Network Licensees.

We welcome the introduction of the innovation funding mechanisms under RIIO and believe that they are succeeding in their objective to stimulate the exploration and development of new approaches to deliver the outputs needed from energy networks in achieving secure, sustainable and affordable energy systems for Great Britain.

We support the review of the processes and governance arrangements for network innovation funding. This is a period of great change in the energy sector with significant implications for energy networks that continues to warrant innovation funding support at the current level. In the short time since the introduction of the NIA and NIC for the electricity transmission networks there have been a number of changes to the electricity supply and demand landscape captured by our future scenarios. It is timely to consider opening the criteria for the NIC to broaden the

scope from just an environmental focus and encourage innovation relevant to the energy networks addressing all aspects of the energy tri-lemma.

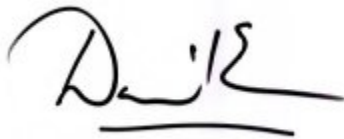
The Network Innovation Competition should continue to be focused primarily on problems and solutions related to the assets and operations of the energy networks. We would support a proposal for other funding mechanisms targeted at innovation in other aspects of the energy sector that are not related to the energy networks.

We welcome the proposal to review the outcomes from the Low Carbon Innovation Fund (LCNF) initiative for Distribution Network Operators (DNOs) and to share lessons that can be learned from it. The electricity transmission element of the NIC is still relatively new, so we believe it would be detrimental to our network customers if the funding available to electricity transmission was reduced as a result of this review.

We have provided further responses to the specific consultation questions below in Appendix 1.

We look forward to continuing to work with our stakeholders and customers to deliver significant innovation benefits. We hope that the information provided is useful for you. Please do not hesitate to contact me to discuss any elements of this response.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'D. Oram', with a horizontal line underneath.

David Oram
Network Innovation Manager: Electricity Transmission

Appendix 1

Question 1: Should we change the NIC and NIA criteria? If so how and why?

NGET is of the view that the NIC could attract a broader range of funding applications with benefits to network customers if the Low Carbon or other Environmental Benefits criterion for NIC projects is revised to accommodate projects that provide benefits related to all aspects of the energy tri-lemma. Much of the development needs of the electricity networks are driven by a range of factors and relationships of projects to particular aspects of the carbon plan maybe at a macro/system wide level rather than project specific level.

Question 2: Should we give more of an indication of where we consider innovation is required or is that inappropriate?

Each network has different challenges that influence their innovation priorities. NGET publishes an overview of strategic innovation priorities in our annual NIA summary report. This information is updated annually and is available to all stakeholders to review: we welcome feedback on these priorities. This ensures transparency of the areas where we believe innovation would best benefit our stakeholders, and enables prospective innovation partners to shape their proposals to align with network needs.

We believe that network companies and their broader stakeholders are best placed to select the innovation projects to take forward.

NGET welcomes views on innovative opportunities and innovation needs from all stakeholders. In the interest of ensuring the greatest value to customers, we welcome transparency about any problems, methods or solutions that Ofgem considers would not be appropriate for NIC or NIA funding.

Question 3: Should the focus of the NIC and NIA be broader and cover the broader energy system?

NGET is of the view that the Network Innovation Allowance and Network Innovation Competition should continue to be focused primarily on problems and solutions related to the assets and operations of the energy networks. We support consideration of other funding mechanisms, targeted at innovation in the energy sector that is not related to the networks.

The requirement for NIA or NIC projects to be clearly related to the assets and operations of the networks should be retained. Benefits from successful projects will only be realised if the problems researched and solutions developed and demonstrated are put into practice. The direct involvement of the party(ies) necessary for successful implementation of the Solution is the most important consideration for ensuring that potential benefits are realised.

Question 4: Can we improve the process for deciding on which projects to approve and if so how?

NGET recognises the diversity of expertise of members of the expert panel and acknowledges the valuable contribution of the panel in evaluating proposals. It is important that the expertise and experience of the panel continues to be well balanced across innovation risk, network operations, energy policy and strategy, business experience, and academia.

We consider that the following changes to the process are worthy of consideration.

The NIC bidding process is very intensive and the timescales quite short. Our experience of the process is that acceptable levels of risk in project delivery, project outcome and potential benefits are as low as those for investment in proven technologies and operating practices. This expectation risks reducing the benefits that could be achieved compared to the original intention of the innovation stimulus package to encourage network companies that have an intrinsically risk averse operating model to take forward innovation projects that “are speculative in nature and yield uncertain commercial returns”.

It would help the process if there was a clear break between the full submission deadline and the beginning of the bid review questions. The timing of questions is uncertain from the networks perspective, and the response time very short. As a result we have to plan for much of the team to be fully available for NIC bidding purposes from ISP in April to re-submission in late October.

In two of the last three years of the NIC competition, NGET has developed 2 NIC proposals in parallel. We have concluded that it is very challenging to do this to the level of detail and certainty that the expert panel requires within the budget of £175,000 for NIC bidding. We suggest that this is increased to £250,000 or that costs in excess of £175,000 for bid development and the evaluation process be counted towards the Licensee compulsory contribution if the bid is successful.

Question 5: How can we improve participation in the NIC?

We believe that participation in the NIC is already strong. NGET has not experienced problems in attracting participation from a wide range of partners on either NIC or NIA projects. Our portfolio of projects is supported by a broad range of parties including small medium and large business, academic institutions and other charities. Details of the SME's that NGET works with on innovation have previously been provided to Ofgem and details of all our innovation partners are provided in our Annual Summary report each year.

We are of the view that the potential value of 3rd parties developing and delivering NIC projects without the participation of a relevant network company, is outweighed by the increased risk to value for network customers. The compulsory funding contribution from the lead network licensee is an effective way to ensure that projects are focused on issues of relevance to the networks.

Above all, the implementation of innovations demonstrated through the NIC into the network companies' practices, is essential for realising potential benefits and could be less effective for customers if the relevant networks have not been involved.

To assist prospective partners in understanding our network challenges and how these influence our innovation priorities, we publish information about them annually in our NIA Summary Report (<http://www2.nationalgrid.com/UK/Our-company/Innovation/Annual-Reports/Annual-Summaries/>), together with more detail in the Future Energy Scenarios document (<http://fes.nationalgrid.com/>), the System Operability Framework (<http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/System-Operability-Framework/>) and the Electricity Ten Year Statement (<http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Electricity-Ten-Year-Statement/>). We have good engagement from partners. We are open to proposals from all quarters for innovation projects that are relevant to the challenges we face and there are several ways in which prospective partners can, and do, engage with us: via the ENA collaboration portal, our own innovation website, the LCNI conference, via our innovation .box (box.innovationtransmission@nationalgrid.com) or through direct contact with individuals within NGET.

Question 6: Please comment on your experiences if you have worked with licensees when implementing NIC and NIA projects or when transferring innovation into business as usual.

NGET collaborates with other licensees on a number of NIA and NIC projects, and liaises with the other licensees through the ENA's R&D Managers Group, the TO/SO innovation collaboration group and Energy Networks Futures Group, as well through direct bilateral contact. It has been our experience that these are effective in, identifying problems and solutions of common relevance, areas of potential duplication to be avoided, and sharing learning outcomes. Scottish Power Transmission's successful 2015 Innovation Roll-Out Mechanism proposals following NGET IFI and NIA trials of ACCR conductor is a good example of this.

Our experience of work with DNO's and other TO's on projects such as VISOR and CLASS has highlighted how important it is for the right parties to be involved in NIC and NIA projects, for them to be appropriately funded, and to have sufficient time to plan for projects and secure the commitment of the business to input the right resources. The time required for this is easily underestimated.

We recommend that during the review of the NIC governance, consideration is given to appropriate ways of managing financial transparency of projects in a way that allows a suitable amount of flexibility for the lead network licensee as projects evolve. For example a requirement has been introduced through the Project Direction that written consent from Ofgem is required if costs between different categories (Labour, Contractors etc) change by more than 10% whether or not this has an impact on overall budget: increasing the regulatory burden on NIC project participants with no discernible benefit for customers who are seeking value from the overall innovation goal.

There is in practice some tension between the competitive aspect of the NIC with companies wishing to develop a winning bid and early collaboration. We believe that successful projects will be those that have engaged proactively with a range of stakeholders to develop them and we would welcome Ofgem strengthening guidance in this respect if felt beneficial to customers.

Question 7: Are there any other issues we and the independent evaluator should consider as part of the review?

We have identified some set out below issues that could merit consideration as part of the review.

The license condition for NIA funding that limits the proportion of expenditure on licensees internal resource to no more than 25% of total expenditure is potentially a limiting factor and underestimates true internal resource requirements. This is particularly a limitation for higher technology readiness level solutions and for those where the direct and ongoing involvement of business units that will ultimately implement the Solution is beneficial for accelerating adoption into business as usual and therefore benefits customers. We suggest that a distinction be made between two types of internal costs in a revised governance document: those associated with project management/administration and dissemination activities should be limited and treated differently from costs for input from in-house subject matter experts and field operatives required to enable network access and provide expert input into practical issues that could impact implementation.

We believe Ofgem should be open to considering exceptional circumstances in which customers best interests are served by bespoke treatment of specific innovation developed in the early part of the RIIO T1 period: particularly where principles and definitions of other elements of the RIIO mechanisms are only now being clarified.

Although there is an Innovation Roll-out mechanism for the Transmission Owners, this is limited to 2 application windows in RIIO-T1 and the minimum additional roll-out cost threshold for IRM applications is too high to stimulate the early adoption of the many innovative solutions. We recommend consideration be given to more flexibility in the IRM framework by increasing the number of application windows and reducing the materiality threshold. This would enable more proven innovations with customer benefits to be deployed at the earliest opportunity.

The IRM for the GBSO is also potentially restricted by the timescales for implementation. There can be as little as 11 months between confirmation of a funding decision and the final eligible costs to be incurred. This is a very challenging timeline for recruiting a project team, completing compliant tender processes and the implementation of a Solution, often into the control systems or supporting processes of critical national infrastructure.

Some network innovation projects are multi-year projects. The current review is a timely opportunity to start planning the transitional arrangements for projects with programme risks (outage dependence for example) that put them at risk of not completing before the end of RIIO T1.

The default Intellectual Property Rights position for NIA and NIC funded projects provides a clear route for ensuring that network customers taking on the financial risks associated with the development of solutions to address network problems don't pay again to realise the benefit of those solutions, and further have a means by which they can benefit from a commensurate share of the potential broader financial benefits. It also removes a potential blocker to benefits being realized across all relevant licensed networks and not just those directly involved in a particular project. The arrangements as modified following the last governance review are effective in achieving this and workable for most situations and there is a route for a case to be made for the occasions where exceptions are justified.

Question 8: To what extent do you consider that the LCN Fund has succeeded?

The LCNI Fund has demonstrably stimulated thought about the future needs of, expectations from, and possibilities for, energy networks and their customers. There has been significant change in the time since the LCNF was first introduced, notably in the energy sector and the economy, both of which have had an impact on what is valued by society. The review of the LCNF fund should be mindful of the energy landscape and forecast scenarios influencing the innovation priorities at the time that LCNF project commitments were made.

Question 9: To what extent do we need to continue incentivising innovation by DNOs?

This is a period of great change in the energy sector with significant implications for energy networks that continues to need innovation funding support. A great number of the changes that will impact the electricity system are happening on distribution networks and it is foreseeable that solutions to support the system will involve actions on the distribution networks. DNO's may be less likely to work with the Transmission Owners and / or System Operator on more uncertain projects if they have don't have access to sufficient innovation funding going forward.