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Dear RIIO Team,

Response to RIIO-2 Sector Specific Methodology Consultation

Frazer-Nash Consultancy is a leading systems and engineering technology company with extensive knowledge across the UK energy sector. We have worked on both electricity and gas Network Innovation Competition (NIC) and/or Network Innovation Award (NIA) projects, and we have experience of working with Ofgem on the NIC, providing technical consultancy support. As well as a comprehensive understanding of complex, multidisciplinary engineering challenges, we have Agile Project Management Group (AMPG)-accredited and HM Treasury qualified business case practitioners who support strategic, economic, commercial, financial and management reviews.

The primary focus of our response has been on the proposals for network innovation, though it also includes our thoughts on some of the supporting or related proposals. We have responded to questions that are of particular interest to us, or where we feel we have particular evidence or experience.

For a number of the questions, we have suggested that further clarification of the proposals would be useful to enable a fuller response.

1 REFLECTING WHAT CONSUMERS WANT AND VALUE FROM NETWORKS

CSQ2. Do you agree with our proposed three new output categories?

Broadly. There is a degree of overlap in the existing categories that is removed in the new categories, e.g. customer satisfaction is closely linked to social obligations and availability, safety is closely linked to reliability.

The new output categories could be broken down further into detailed targets, to ensure that all requirements within each output category are met, and that innovation objectives are clear. For example, the goals the industry is driving towards could be made clearer, particularly in terms of decarbonisation. As an additional example, within the 'Maintain a safe and resilient network' objective, there are multiple considerations such as the safe *operation* of the network infrastructure, and also the network's ability to securely power/fuel the systems that are reliant upon it, contributing towards consumer *safety*. A network could be scored against both of these aspects.

CSQ5. Do you agree with our proposals to introduce dynamic and relative incentives, where appropriate? Are there any additional considerations not captured in our proposed framework which you think we should take into account?

Do you agree with our proposals to introduce dynamic and relative incentives, where appropriate? – Yes. Further clarification of the protective measures to be put in place to prevent the drive for competition resulting in variability of performance noticed by the end energy consumer would be useful. Also, clarification of the protective measures to be implemented to ensure penalties are not passed onto consumers who, effectively, could end up paying even more for below average outputs. It will also be important to ensure that the industry remains a fair and welcome place for investment.

CSQ6. Do you agree with our proposals to allow network operators to propose bespoke outputs, in collaboration with their User Groups/ Customer Challenge Groups?

Yes if carefully interrogated, perhaps even peer reviewed, depending on the complexity of the arrangements. As per 4.43, it is important that global issues such as security, resilience and sustainability – issues that may not be prioritised by consumers – remain at the forefront of companies' focus.

Generally, the proposals are more customer driven than before (for the customer, by the customer). As engagement with networks increases – for example through local electricity generation or through electric vehicle batteries injecting power, as well as schemes such as peer-to-peer trading – this is a good thing. However, when empowering the consumer to drive important business decisions, it is important that they understand the technical challenges faced by the network companies and have a whole system perspective – a view of which industry professionals may have greater visibility.

A big learning piece may help to educate the consumer population on the benefits of a resilient network, which is sustainable and facilitates sustainable growth in the energy sector.

CSQ7. When assessing proposals for bespoke financial ODIs, are there any additional considerations not captured which we should be taking into account?

It may be relevant to assess how network proposals impact overall UK energy system resilience, not just of that network in isolation. A resilient UK energy system will contribute towards making the UK an attractive place to build future global business.

2 (5) ENABLING WHOLE SYSTEM SOLUTIONS

CSQ8. Do you feel we have defined the problem correctly?

We are excited to see any move towards coordination across the whole system.

It is good to see that close working between transmission and distribution projects is advocated for network planning decisions. Close working between electricity and gas companies may be more challenging but is equally important to work towards, and future systems planning methods could start to be thought through. From our observations of the network innovation projects, few projects have been established where electricity and gas networks work together, but these few have been very successful. There is untapped potential to do more here. Incentives/recognition for closer working and future planning between regional network companies may help in this regard.

In the RIIO-2 price control framework, the companies are likely to have to make significant decisions about the scope and scale of network investments despite increased uncertainty over the future usefulness of the assets. Even BAU investment decisions, such as well-developed plans for gas distribution mains replacement, may be affected. At the very least, any 'Futures' projects related to alternative heat pathways should have buy in at the required levels from both electricity and gas, and also across transmission, distribution, and system operator roles. This should help to prevent no investment leading to unpreparedness and/or over-investment in both network types. Additionally, future 'whole systems' projects should consider the 'what if?' scenarios such as black start and resultant threat to the consumer.

CSQ9. What views do you have on our proposed approach to adopt a narrow focus for whole systems in the RIIO-2 price control, as set out above?

The UK National Infrastructure is undergoing significant, continuous investment in the face of uncertain future technical requirements. In the longer term, efficiency improvements and waste reductions may occur if forward planning and needs assessments were encouraged to take a holistic view of the local energy system, including heat, transport, energy supply, water and waste as far as reasonably practicable. Naturally, the degree of coordination required will change depending on the circumstance and as the energy system evolves. There is clearly a balance to be made between the time spent on planning and optimising, and actually making technical progress, but it is more ambitious to begin with a broader view and recognise that there may be circumstances where the application of a narrower scope only is required. A risk-balance case or similar could be put together in each instance, which assesses the impact over the lifetime of an investment of the uptake of different energy technologies across heat, transport and power. This is technically feasible, but no further thoughts have been made as to whether and how to enforce or incentivise this.

3 (6) ENSURING FUTURE RESILIENCE

The regulator should consider the benefits of a whole system approach to ensure future resilience. With the network conditions changing due to low carbon and digital technologies, and care being exercised over capital spending in the face of an uncertain future energy mix, the risks to network reliability are likely to increase. The regulator should consider how these additional risks should be addressed by the network companies and whether incentives or additional investments are required in the short term to ensure long term resilience.

4 (8) DRIVING INNOVATION AND EFFICIENCY THROUGH COMPETITION

CSQ44. Do you agree with our proposals to encourage more innovation as BAU?

It is important that innovation is carried out as Business As Usual (BAU), but the framework should replicate the financial incentives to do so that exist in competitive markets. Also, innovating as BAU should not be confused with BAU investment in new methods/technologies that facilitate network improvements.

The proposals state "We expect companies to fund lower-risk operational and maintenance innovation projects as BAU". It is unclear where the regulator believes the risk threshold is likely to be. Instinct would suggest that 'easy wins' would have been taken by the network companies over RIIO-1, so it is unlikely that innovation will get more straightforward in future price control periods. This may affect the ability of the networks to retain innovation at the same level under BAU.

CSQ46. Do you agree with our proposals to introduce a new network innovation funding pot, in place of the Network Innovation Competition, that will have a sharper focus on strategic energy system transition challenges?

Yes, in particular to address challenges that are better solved by employing a whole-systems approach.

CSQ48. Do you think there is a continued need for the NIA within RIIO-2? In consultation responses, we would welcome information about what projects NIA may be used to fund, why these could not be funded through totex allowances and what the benefits of these projects would be.

As a method of funding smaller projects

Focus on the big strategic innovation challenges is important in an industry facing significant upheaval resulting from the need to decarbonise. However, this should not come at a cost of losing / instead of the innovative culture that has been developing at all levels throughout RIIO-1.

Often small, organic ideas have just as significant an impact as larger programmes, and can be delivered in an agile manner. We think there is a need to innovate regardless of the size or scale of the innovation.

In a truly competitive market, very subtle changes in operation have a large impact on sales, and so innovations that might only provide small advantages are funded as BAU. Where regulated monopolies see little to no immediate commercial incentive, the mechanisms for achieving indirect commercial incentive (i.e. through demonstrating 'softer' outputs such as customer satisfaction or carbon reduction) may be too subtle. The proposals could better clarify how companies will be incentivised to innovate where there is an indirect commercial gain through a positive impact on one or more of the three output categories.

Further, removal of the NIA might lead to a decline in innovation that presents good value for money for the consumer, rather than an overall cost saving.

As a means to undertake high-risk, high-reward innovation

In the private sector, where the returns on investment are not capped, a balanced investment portfolio includes projects that are high-risk, high-reward. Where regulated monopolies are not incentivised to maximise profits, additional stimulus may be required to make high-risk, high-reward investments more appealing.

In the private sector, we have developed asset risk management techniques that we believe are industry leading. To achieve this we have invested significantly in people, skills and facilities and our clients have invested a significant amount in research and development, which carried the risk of not working. This effort and cost was justified by the scale of returns that could be achieved upon success. In the network industry, we have found that our asset risk management technique has gained significantly less traction, despite its proven track record in other industries. It is possible that this is because the incentives around allowed return are not high enough to justify the cost. It could also be the uncertainties around future regulation.

The proposals could better clarify how network companies will be incentivised to invest in high-risk, high-reward projects, of any size, and in an agile manner. It is also important that the lowest performing companies are equally driven to innovate, even where this does not affect

overall relative position. (It appears that this would be the case given the proposed financial mechanisms, but it would be helpful for this to be confirmed.)

Reducing barriers to market entry

The NIA promotes a highly collaborative working environment that is something of which the industry can be proud.

The way inception of NIA projects is managed through network company innovation teams and through the Energy Innovation Centre (EIC) reduces the risk to the network companies by opening up the supply chain for novel technical disciplines, and lowers the barriers to entry for the supply chain. This promotes efficient research and development that may otherwise not occur. We have heard from our contacts across the industry that this is particularly helpful for small-medium enterprises (SMEs), who may otherwise choose to invest in more financially lucrative, competitive markets. Even for a larger organisation such as Frazer-Nash¹, as we deliver work across all sectors we find this environment brings the risk-to-rewards ratio in line with other sectors and has encouraged us to invest in innovative solutions for the network industry.

Despite a comprehensive understanding of the engineering challenges faced by energy networks, the NIA Call for Innovation mechanism helped us to identify several solutions that we have to problems we didn't know existed. Three of these are now live projects.

We have two current NIA projects with a Gas Distribution Network (GDN), in which we are taking experience and methods from our work in the defence sector, and adapting this to potentially solve operational challenges within gas networks. If successful, these projects will demonstrate good value for money. However, the size of these projects means that both identifying their need, and approval to continue, would have been unlikely without the help of the NIA mechanism (and much more difficult without the EIC).

CSQ49. If we were to retain the NIA, what measures could be introduced to better track the benefits delivered?

There absolutely are actions that could be taken to improve the NIA. To address concerns around the NIA, closer regulation of the projects through new governance arrangements could be employed, similar to – but less onerous than – those of the existing NIC. This governance structure would observe that:

- The risk of success is sufficiently high that the project could not be funded through totex allowance.
- Project delivery is agile and fails quickly if necessary.
- Success and failure is communicated clearly and openly.

Is there a question about other sources of funding??

Yes, but both the pros and cons of seeking alternative sources of funding are recognised. The pros include that it promotes a whole systems approach, as the competition is sufficiently wide;

¹ Frazer-Nash is a leading systems engineering and technology company with approximately 800 staff and a turnover of approximately £80m

the cons include that the source of funding is further removed from the industry, requiring further bidding effort and likely reducing the availability of funds.

End of response.

Thank you for the opportunity to respond to this consultation. We hope some benefit can be taken from the views we have put forward. Please do not hesitate to contact us if anything requires clarification.

Yours sincerely
FRAZER-NASH CONSULTANCY LIMITED

Original Signed By

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