National Infrastructure Commission

The future of regulation study: call for evidence

Executive Summary

The Joint Radio Company (JRC) welcome the opportunity to respond to this call for evidence and we acknowledge the underlying perspective that there is an increasing degree of alignment and interdependency developing across regulated Industry Verticals, particularly across Energy and Telecommunications. Market developments such as the DNO to DSO transition; the adoption of Electric Vehicles; increased availability of Distributed Generation; are all stimulating the technological drive to Smart Grid capability which is dependent on enhanced Operational Telecommunications capability and central to delivering the UK's Future Low Carbon Economy. As regards the idea of the establishment of a multi-utility regulator, our perspective is that improved co-ordination across the responsible Government departments aligned to co-ordinated and targeted interventions within the existing regulatory frameworks would be a more efficient and timely approach to adopt.

Background

The Joint Radio Company (JRC, www.jrc.co.uk)

Joint Radio Company Ltd is a wholly owned joint venture between the UK electricity and gas industries specifically created to manage the radio spectrum allocations for these industries used to support operational, safety and emergency communications.

JRC manages blocks of VHF and UHF spectrum for Private Business Radio applications, telemetry & telecontrol services and network operations. JRC created and manages a national cellular plan for co-ordinating frequency assignments for several large radio networks in the UK.

The VHF and UHF frequency allocations managed by JRC support telecommunications networks to keep the electricity and gas industries in touch with their field engineers and remote assets. These networks provide comprehensive geographical coverage to support installation, maintenance, operation and repair of plant in all weather conditions on 24 hour/365 days per year basis.

JRC's Scanning Telemetry Service is used by radio based Supervisory Control And Data Acquisition (SCADA) networks which control and monitor safety critical gas and electricity industry plant and equipment throughout the country. These networks provide resilient and reliable communications at all times to unmanned sites and plant in remote locations to maintain the integrity of the UK's energy generation, transmission and distribution.

JRC also manages microwave fixed link and satellite licences on behalf of the utility sector.

JRC supports the European Utility Telecommunications Council's Radio Spectrum Group, and participates in other global utility telecom organisations. JRC participates in European Telecommunications Standards Institute (ETSI) working groups developing new radio standards, and European telecommunications regulatory groups and workshops.

JRC works with the Energy Networks Association's Future Energy Networks Groups assessing ICT implications of Smart Networks, Smart Grids & Smart Meters, is an active member of the Energy Networks Association Strategic Telecoms Group and is an acknowledged knowledge source for cyber-security in respect of radio networks.

General Observations on the call for evidence

Context: The changing Energy Supply Market and the increasing importance of Operational Telecommunications

UK Energy Networks are undertaking a transition from centralised Energy Generation to a model where energy generation is distributed via a larger and diverse set of generation points resulting in a shift from a passive to an active or "Smart" grid where energy flows in two directions. This shift to an active and distributed grid demands a greater level of intelligence and interconnectivity (sensors, communications and control) and automation across the entire distribution network, in order to ensure co-ordination, efficiency, responsiveness, safety and security. Wireless based communication systems have always been a critical component of the Command and Control systems of the UK Energy Networks and with this increasing diversity of energy supply the number of devices that will need to be connected in the network will potentially increase by up to three orders of magnitude with data volumes increasing accordingly. This will be facilitated by a digitisation of the active assets that form the energy networks with a resulting significant expansion in the active communications component needed to facilitate the Management and Control of the energy networks. To make all this possible the Energy Utilities through their regulatory settlement with Ofgem will need to be able to invest and roll-out enhanced Operational Telecommunications (OT) capability. Such enhanced OT is subject to being able to secure access to appropriate radio spectrum as a key input. The regulator responsible for spectrum access is Ofcom and the regulatory framework and duties which define its priorities are aligned to the citizen-consumer rather than those of Industry Verticals as a consequence whilst there is an inherent need today and more so in the future for spectrum access by the Energy Utilities, Ofcom are not readily able to serve this need. To this end and noting the increasing interdependency between the operational requirements of the Energy Utilities and the need for enhanced Telecommunications capability we see merit in ensuring increased alignment between the Government departments responsible for the Industry Verticals resulting in targeted interventions to the discrete regulatory frameworks to secure the Policy outcomes sought by Government and society, in particular the benefits of a Low Carbon Economy.

JRC's Detailed Response to Questions

Section 1: Future Changes;

Q1. Assessment of economic Regulation as a model;

No Comment

Q2. How might the scope, functions or activities of economic regulators need to adapt in light of future challenges;

Response;

JRC encourage greater co-ordination / collaboration across regulators to ensure that market interventions by one regulator do not result in a market failure because of a separate but linked regulators duties. For example, in the future the operating model for UK Energy Utilities' will be increasingly dependent on robust and resilient operational telecommunications capability. If, however the Energy Utilities' are unable to deploy or procure optimum operational telecommunications system capability because the regulatory duties of Ofcom are aligned to citizens-consumers priorities rather than Industry Verticals, there is a risk that spectrum access decisions will not be aligned to the priority outcomes desired by Government and Society from the Energy Utilities.

Q3. *The role of increased data availability on future regulatory decisions;*

Response;

Enhanced data availability and in particular the timeliness of data is central to the effective management and control of Energy Networks now and even more so in the future. As Distribution Network Operators adjust their operating model to become Distribution System Operators it is anticipated that this change will be dependent on enhanced visibility and control of a greatly increased number of network assets, many unconnected today, and the flows of energy in these networks as generation and demand patterns change. Being able to harness and exploit real-time information from Network Assets will both allow operators to be able to more efficiently utilise the assets deployed, 'sweat the existing investment,' whilst at the same time allow the introduction of additional distributed generation and the management of the anticipated future growth in demand from Electric Vehicles and Heat as public policy decisions are implemented. From an economic regulators perspective increased understanding of network performance and the ability to better target network investment are central to supporting the future needs of Consumers and Businesses and hence the availability of enhanced network performance data for regulators is at the heart of informing future investment decisions in an increasingly dynamic supply and demand context.

Section 2: Competition and innovation;

Q4. – Q7. No Comment

Section 3: Regulatory consistency;

Q8. Where could regulators work together more consistently to meet future challenges*;*

Response;

Where there are converging dependencies between Industry Verticals, e.g. Energy and Telecoms, it will be imperative that the responsible regulators collaborate to promote better outcomes for consumers, investors and society more generally particularly when seeking to achieve environmental policy outcomes, e.g. the Low Carbon Economy, targeted by Government. Furthermore, greater alignment at the regulatory level is subject to better alignment across Government departments to ensure consistent regulatory interventions to deliver policy outcomes.

Q9. What changes to the existing regulatory framework would be necessary to promote greater collaboration and regulatory consistency?*;*

Response;

As noted above it is imperative that there is increased alignment across Government departments to ensure that the policy outcomes being targeted are reflected in the interventions being undertaken by the relevant regulators. Recognising that the underlying basis on which the

existing regulatory frameworks were established are profoundly different it would be difficult in the short to medium term to contemplate the establishment of a multi-utility approach as the economics of long-term investment and more specifically investment timings vary considerably across sectors. In addition, the nature of competition differs greatly between the Industry Verticals identified and as such a converged regulatory approach is unlikely to be effective.

Q10. What is the case for or against a multi-utility regulator covering energy, digital and water?

Response;

As noted above we welcome a focus on ensuring better alignment across regulators where there are critical dependencies, e.g. Energy and Telecommunications, rather than the establishment of a multi-utility regulator. We anticipate that the risk in a multi-regulatory approach is that it would result in a hybrid regulatory framework that was not optimised to address the discrete challenges that exist within the Industry Verticals and as such have a detrimental impact on innovation, investment and value for consumers in absolute terms.

Section 4: Policy and regulation

Q11. Is the traditional role of economic regulation, to mimic the outcome of a competitive market, sufficient to ensure future investment and to meet the needs of current and future consumers, and if not, how might this role need to change?

Response;

As noted above we believe that there is scope for increased collaboration across regulatory frameworks to optimise the market outcomes for consumers and businesses into the future. To this end, we see merit in ensuring that future enhancements are built on the existing foundations of economic regulation on which current and long-term network investments are predicated for the benefit of UK Plc rather than a short-term focus on politically motivated concerns.

Q12. What should be the boundary between government setting policy and strategic direction and independent regulation in these sectors? Do the existing duties and functions of regulators need to be adjusted to reflect this?

Response;

We encourage better alignment across Government Departments to ensure that policy outcomes can be optimised through the strategic directions given to regulators particularly where there are interdependencies across Industry Verticals, e.g. Energy and Telecommunications.

Q13. Has there been a lack of clarity over strategic goals? What is the cause of this and what has been the impact on investment?

No Comment

Q14. *Are the government's principles for economic regulation* – accountability, focus, predictability, coherence, adaptability and efficiency – fit for purpose; and if not, how should they change?*

Response;

Yes, if there is a better alignment across Government Departments to ensure that policy outcomes are optimised through the collective direction given to regulators. In particular, where there are critical interdependencies across Industry Verticals every effort should be made to deliver upon these interdependencies to the long-term benefit of UK Plc particularly where there are complementary investments associated with assets that have a long service life.

Q15. *How can regulators act in the future to support public trust in the regulatory system for water, energy and telecoms?*

Response;

We encourage closer liaison and collaboration between regulators particularly where there are critical interdependencies between the Industry Verticals. Such a collaborative approach between regulators, i.e. Ofgem and Ofcom, will be particularly important in the future for the Energy Utilities as their operating model becomes increasingly dependent on resilient and robust operational telecommunications capability which can be enabled by the actions of the Telecommunications regulator Ofcom through facilitating spectrum access.

Conclusions

The Joint Radio Company (JRC) welcome the opportunity to respond to this call for evidence and we acknowledge the underlying perspective that there is an increasing degree of alignment and interdependency developing across regulated Industry Verticals, particularly across Energy and Telecommunications. Market developments such as the DNO to DSO transition; the adoption of Electric Vehicles; increased availability of Distributed Generation; are all stimulating the technological drive to Smart Grid capability which is dependent on enhanced Operational Telecommunications capability and central to delivering the UK's Future Low Carbon Economy. As regards the idea of the establishment of a multi-utility regulator, our perspective is that improved co-ordination across the responsible Government departments aligned to co-ordinated and targeted interventions within the existing regulatory frameworks would be a more efficient and timely approach to adopt.