



## Draft Ofcom Annual Plan 2018/19

### Executive Summary

As critical systems users, the Joint Radio Company (JRC) welcomes the opportunity to respond to this consultation on behalf of the electricity and gas utility operators. JRC highlights that communication networks are dependent on access to resilient and robust electricity supplies. Also, with the evolving Smart Grid, that the existing intelligent electricity monitoring and control systems are being expanded to the extremes of the electricity network. This expansion in the operational communications needs of the energy utilities will require access to additional spectrum. This developing need is not recognised within the Ofcom Annual Plan 2018/19 and as such we encourage Ofcom to establish a specific work item to address this need.

JRC appreciates the essential work of the Ofcom Field Teams and Spectrum Licensing Teams to support the day-to-day operational telecoms needs of the energy networks.

### **The Joint Radio Company Ltd (JRC)**

JRC 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 & tele-control services and network operations. JRC created and manages a national cellular plan for co-ordinating frequency assignments for a number of 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 throughout the country. These networks provide comprehensive geographical coverage to support the installation, maintenance and repair of plant in all weather conditions on a 24 hour/365 days per year basis.

JRC's Scanning Telemetry Service is used by radio based System 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 (EUTC) 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 also 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 and is an acknowledged knowledge source for cyber-security in respect of radio networks.



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### JRC Response

#### Spectrum access:

JRC encourages Ofcom to note that the availability of existing and evolving communication networks is dependent on access to resilient and robust electricity supplies. These supplies are predicated on access to resilient secure interference-free wireless-based monitoring and control systems.

Moreover, the direct relationship between communications network resilience and access to secure and resilient power has been clearly identified by Ofcom<sup>1</sup>. JRC is therefore very keen to continue working with Ofcom (also DCMS and Ofgem) to ensure that both the established and future communication network needs of the energy utilities' are afforded the appropriate security of access to spectrum. Also, that communications networks that may be supplied by network operators comply with our guidance and design and that they operate their networks in line with our requirements for good / best practice<sup>2</sup> security and resilience.

JRC highlights that the UK's evolving electricity Smart Grid requires the monitoring and control systems of the existing intelligent grid to be expanded to the extremes of the electricity network. This expansion requires access to a small amount of additional spectrum. To this end, where spectrum access is a key component of enabling critical national infrastructure such as the Energy Networks, this aspect should be captured in the on-going work of Ofcom and included in the Annual Plan.

In the case of Smart Grid, we note the importance of access to suitable spectrum in the UHF Band to enable supervision, control, and data acquisition (SCADA) type solutions to be deployed across all topographies. Whilst higher frequency spectrum could be utilised in a fixed wireless context to facilitate Active Network Management (ANM) in keeping with the acknowledgement by the NIC<sup>3</sup> that local energy networks will require more active management to efficiently manage the dynamics of future energy demand and supply.

For information, the energy utilities are conducting trials within the 400 MHz MoD / UHF1 Band and the UHF2 private mobile radio (PMR) Band. The trials include 12.5 / 25 kHz narrowband systems, 200 kHz wideband NB-LTE systems, and 3 MHz Broadband LTE systems to facilitate the increased data throughput requirements of future 'Smart Grid' capability. Moreover, ComReg<sup>4</sup> activities underway in Ireland to potentially make spectrum available within the 400 MHz range for Smart Grid applications aligns well with the initiatives underway in the UK to establish 'Smart Grid' capability within the same frequency range.

#### Ofcom Field Engineering Teams:

JRC appreciates the hard work of Ofcom's Field Engineering Teams especially with their prompt attention to resolving harmful interference issues. This work is essential for the continued smooth running of the UK's evolving electricity and gas Smart Grid systems.

<sup>1</sup> Connected Nations Report 2017, Section 8 Security and Resilience pg 64.

[https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0021/108516/connected-nations-security-resilience-2017.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0021/108516/connected-nations-security-resilience-2017.pdf)

<sup>2</sup> [https://socidoc.com/download/1001002-guide-to-telecomms-resilience-v4\\_59de95a8d64ab242ccc2a887\\_pdf](https://socidoc.com/download/1001002-guide-to-telecomms-resilience-v4_59de95a8d64ab242ccc2a887_pdf)

<sup>3</sup> National Infrastructure Commission Report Smart Power, published March 2016.

<sup>4</sup> Consultation on Proposed Release of the 410-415.5 / 420-425.5 MHz sub-band, ComReg 17/67, 31/07/2017



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### **Ofcom Spectrum Licensing Teams:**

JRC also appreciates the essential work of Ofcom's Spectrum Licensing Teams. The timely processing of licence applications / variations to facilitate the operational needs of critical national infrastructure is essential to the continued smooth running of the UK's evolving electricity and gas Smart Grid systems.

Nevertheless, JRC notes that, since the partial migration of the Ofcom Licensing to Warrington, the original 21-day maximum turnaround time for licence processing has doubled to 42-days. On occasions this increase has caused significant issues with the planned roll-out of new and amended fixed links and other utilities radio systems. Indeed, some applications are taking significantly longer than the 42-days to process. Extended licence turnaround times can have a regulatory impact. For example, the breaching of Ofgem permitted timescales for connecting distributed generation to the power grid can result in penalties for late connection.

It should be noted, however, that there has been progress with the 42-days maximum slowly reducing in line with the increasing experience gained by the newer members of the licensing team. This experience, and increasing confidence, is regularly demonstrated during phone calls to the Team.

Also, it is very much appreciated that JRC, with its many hundreds of licences, has access to a central point of contact within the Licensing Team. This enables most issues to be resolved more quickly than may otherwise be the case.