



Ofcom Statement & Consultation Increasing use of the 27.5 – 30.0 GHz band

1.0 Executive Summary

JRC welcome the opportunity to respond to this consultation on behalf of the UK Energy Network Operators and is pleased to note Ofcom's proposal to enable Ofcom licensed fixed link access to the frequency range. With the withdrawal of other fixed link bands, e.g. 1.4GHz and 26GHz, it is imperative that alternative options are enabled to address the increasing need for backhaul spectrum anticipated by the Energy Networks Operators as they seek to implement a pLTE based enhanced Operational Telecommunications capability.

2.0 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.

Fixed (Microwave) links have been utilised for many decades in order to provide backbone transmission capability to support existing, application specific networks such as SCADA, Scanning Telemetry and push to talk voice. Increasingly, as these multiple applications convene in the IP domain, increases in backhaul bandwidth requirements are essential. So too is the number of links required, as connectivity is required to push further and further towards the periphery of the energy networks. As noted in other dialogue with Ofcom, JRC & ENA-STG are striving to gain access to additional dedicated radio spectrum to allow the deployment of an LTE based smart grid connectivity FAN (Field Area Network)¹. The eventual deployment of such a network will require the introduction

¹ Call for Input: Potential spectrum bands to support utilities sector transformation <https://www.ofcom.org.uk/consultations-and-statements/category-1/potential-spectrum-bands-to-support-utilities>



of more fixed links in order to provide backhaul from the RAN back to the core. The 28 GHz band could be an important connectivity tool in the fixed link area.

3.0 Detailed Responses to Questions

Question 1

Do you agree with our analysis of the case for regulatory intervention and our proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways? If not please provide reasons / evidence for your response.

Q 1. JRC Response

Confidential? No.

No Comment.

Question 2

If we decide to proceed with this proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways, do you agree with our proposal not to adjust spectrum access license fees to reflect locations where we authorise future satellite gateways? If not, please provide reasons / evidence for your response.

Q 2. JRC Response

Confidential? No.

No Comment

Question 3

Do you have any further views / comments on our proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways?

Q 3. JRC Response

Confidential? No.

No Comment

Question 4

Have we correctly identified the possible uses of the returned spectrum? If not, what other potential uses should we consider?

Q 4. JRC Response

Confidential? No.

Yes, we welcome Ofcom's proposed approach to enable large bandwidth fixed links accessible via the standard Ofcom fixed links licensing process.

Question 5

As a satellite operator are you currently constrained by the amount of spectrum available in the 28 GHz uplink and 18 GHz downlink to provide your planned or existing satellite services to UK consumers and citizens? If so please explain what constraints exist in each band.

Q 5. JRC Response

Confidential? No.

No comment

Question 6

Do you agree with our initial view that alternative use of the returned spectrum would be an allocation decision for either point to point fixed links or land based satellite terminal use because it is unlikely

both services can share and auctioning the spectrum is unlikely to secure optimal use? If not, please provide evidence to support your response.

Q 6. JRC Response

Confidential? No.

Yes, JRC notes that an allocation for either terrestrial fixed link use OR satellite solutions is sensible. This perspective aligns with our response to the millimetre wave consultation² where we have expressed concerns regarding the co-existence challenges between space and terrestrial systems in the same frequency bands.

Question 7

Do you agree with our initial view to make 112 MHz at 28.8365 – 28.9485 GHz available for land based satellite terminal use, 2 x 112 MHz for point to point fixed links at 27.9405 – 28.0525 and 28.9485 – 29.0605 GHz and defer allocating the remaining 112 MHz of spectrum? If not please provide evidence to support your response.

Q 7. JRC Response

Confidential? No.

Yes, JRC agree that the proposed approach maximises the potential for high capacity terrestrial fixed links whilst simultaneously facilitating enhanced spectrum access for the satellite community. The removal of the excessively large guard bands from the original channel raster is also to be commended. Deferral of decision on the nonaligned 112MHz is appropriate at this stage given the rapid pace of evolution in wireless connectivity technology – which could in the future be accommodated in the remaining 112MHz. To make a decision on the remaining 112 MHz at this point in time would be premature and likely result in that resource remaining unused.

Question 8

Do you agree with our assessment of how the returned spectrum may be authorised for fixed links and GSO and NGSO land based satellite terminals? If not, please provide evidence to support your response.

Q 8. JRC Response

Confidential? No.

In terms of the proposal to return a significant proportion of 28 GHz spectrum to the general 'fixed links' (OFW 85) process, JRC are supportive of this approach as it provides the most balanced access method to this valuable spectrum without unnecessarily sterilising the band for one particular service (which may prove unsuccessful, as was ultimately the case with the original 2000 awards for BFWA). The ability to access the spectrum on a link by link basis will be valuable to JRC members as their networks continue to expand (particularly with the prospect of backhaul use for a private LTE network).

Question 9

Do you have a view on demand for point to point fixed links in Northern Ireland and London in the frequency range 28.1925 – 28.3045 GHz paired with 29.2005 – 29.3125 GHz and our proposed approach that, if we were to decide to make this available for fixed links, would be to authorise this as Ofcom managed spectrum licensed on a first come first served basis?

Q 9. JRC Response

Confidential? No.

² JRC Response to the [Ofcom CFI on Expanding Spectrum Access for Satellite Gateways](#)



JRC encourages Ofcom to authorise the frequencies for fixed links via the Ofcom managed spectrum license process in Northern Ireland and London.

Question 10

Do you have any further views / comments that you wish to make in respect of this consultation?

Q 10. JRC Response

Confidential? No.

No Comment