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# **Ofcom Statement on short-range devices and railway level crossing radar sensor systems**

Licence exemptions for Wireless Telegraphy Devices

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**CONSULTATION:**

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# 1. Overview

- 1.1 Ofcom is responsible for authorising use of the radio spectrum. We permit the use of the radio spectrum either, by granting wireless telegraphy licences under the Wireless Telegraphy Act 2006 (the WT Act), or, by making statutory regulations exempting users of particular equipment from the requirement to hold such a licence.
- 1.2 On 11 December 2019, we published the “Notice of Ofcom’s proposals for changes to the licence exemption for Wireless Telegraphy Devices” (the Notice)<sup>1</sup> in accordance with sections 122(4) and (5) of the WT Act.
- 1.3 The Notice set out how we intended, by way of the (proposed) Regulations, to amend the Wireless Telegraphy (Exemption and Amendment) Regulations 2010 (the 2010 Exemption Regulations).<sup>2</sup> The proposed amendment would harmonise the technical conditions which must be met in order to enable use within the 874 to 874.4 and 915 to 919.4 MHz frequency bands, as well as make changes to the authorisation of Railway Level Crossing Radar Sensor Systems.

## What we have decided – in brief

In December 2019, we consulted on amendments to the existing licence exemptions for short-range devices (SRDs) and Railway Level Crossing Radar Sensor Systems. Today we publish our decision to amend the regulations as proposed in our consultation.

**We have amended the regulations exempting Short Range Devices** by making the Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2020. The regulations were signed on 28 May 2020 and come into force on 17 June 2020.

**The new regulations harmonise the technical conditions for spectrum use by SRDs within the 874 to 874.4 and 915 to 919.4 MHz frequency bands.** Our decision enables new RFIDs as well as IOT applications for networked devices in data networks (including networked metering, metering grid and home automation systems) to be deployed and operated without the need to hold a WT Act licence. The regulations also are in line with the European Commission Implementing Decision 2018/1538/EU of 11 October 2018.

**We have decided to introduce a licence to assist the nation-wide deployment of Railway Level Crossing Radar Sensor Systems** and we are revoking the previous licence exemption for this equipment operating in the 24.100 to 24.350 GHz band. These devices will be authorised via a licence to enable us to manage their deployment at locations previously excluded under the licence exemption regime. We are also changing the power of these systems to 5W to reflect the new way in which the emissions are recorded in technical standards.

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<sup>1</sup> [Notice of Ofcom’s proposals for changes to the licence exemption for Wireless Telegraphy Devices](#)

<sup>2</sup> [The Wireless Telegraphy \(Exemption and Amendment\) Regulations 2010](#)

The overview section in this document is a high-level summary only. The decisions we have taken, and our reasoning are set out in the full document.

### SRD exemptions

- 1.4 Every day, most of us use one or more short-range devices (SRDs) such as keyless entry fobs/cards, smart meters, garage door openers and Wi-Fi. Given this, SRDs play an important role in the day to day life of many UK citizens and consumers. They also help support various industries and the overall economy. Most SRDs in the UK are licence-exempt meaning that they can be used without the need for a WT Act licence.
- 1.5 As technology advances and new devices are developed this often results in the introduction of new technical conditions which we need to reflect in our Exemption Regulations.
- 1.6 The changes introduced by the Regulations are for SRDs in 874 to 874.4 MHz and 915 to 919.4 MHz. They enable the use of radio-frequency identification devices (RFIDs), Internet of Things (IOT) applications and networked devices in data networks without the need to hold a licence. These changes align with those set out in European Commission Implementing Decision 2018/1538/EU of 11 October 2018 and enable a harmonised market for this equipment across Europe, providing economies of scale to manufacturers and lower prices to UK citizens and consumers.

### Changes to the authorisation of Railway Level Crossing Radar Sensor Systems

- 1.7 We also proposed in the Notice to revoke the current licence exemption authorisation for Railway Level Crossing Radar Sensor Systems and instead, require a licence.
- 1.8 Railway Level Crossing Radar Sensor Systems are radar systems installed at level crossings which monitor intersections and detect obstacles such as people, vehicles and any object that may cause damage to a moving train. They improve safety and service efficiency for trains and people, having been licence-exempt in the UK since 2010.
- 1.9 The 2010 licence exemption included a requirement for exclusion zones to protect Radio Astronomy services from interference. It specified that the Railway Level Crossing Radars could not be used within 20 km of six UK Radio Astronomy sites. By moving to a licensed approach, we can instead coordinate use of the radars subject to specific conditions at each location. This will allow deployment of these safety devices in locations not permitted under the 2010 Exemption Regulations, whilst still observing the need to protect the Radio Astronomy Sites.
- 1.10 Respondents to the Notice expressed a range of views, but on balance gave broad support to our key proposals. This statement sets out these responses, Ofcom's reply and the reasoning behind our final decision.
- 1.11 After considering the responses received, we have decided to proceed with making the Regulations as drafted. This will promote the optimal use of the spectrum concerned and further help with the deployment of new technologies. In addition, we will move to license

Railway Level Crossing Radar Sensor Systems to allow the deployment of these devices in areas where they were previously not permitted under the 2010 Exemption Regulations. On 28 May 2020, Ofcom made the Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2020 (the “Regulations”) which will come into force on 17 June 2020.

## 2. Introduction

- 2.1 Ofcom is responsible for authorising use of the radio spectrum. We permit the use of the radio spectrum either by granting wireless telegraphy licences under the WT Act or by making statutory regulations exempting users of particular equipment from the requirement to hold such licences.
- 2.2 On 11 December 2019, we published the “Notice of Ofcom’s proposals for changes to the licence exemption for Wireless Telegraphy Devices” (the Notice)<sup>3</sup> in accordance with sections 122(4) and (5) of the WT Act. The Notice set out how we intended, by way of the (proposed) Regulations, to amend the Wireless Telegraphy (Exemption and Amendment) Regulations 2010 (the 2010 Exemption Regulations).<sup>4</sup>
- 2.3 The Notice explained our proposals to implement European Commission Implementing Decision 2018/1538/EU of 11 October 2018<sup>5</sup> (the SRD Decision) by updating Interface Requirement 2030 (IR 2030). Those Interface Requirements are Ofcom published technical conditions which specify transmit power and field strength or power density limits, additional parameters and usage restrictions by frequency band and category of SRD, based on underlying compatibility studies.<sup>6</sup>

### SRDs in 874 to 876 MHz and 915 to 921 MHz frequency bands

- 2.4 SRDs are typically mass-market, portable products which can be transported easily and used across borders. Our aim is to maintain a regulatory environment that encourages the development of new SRD uses to benefit both businesses and consumers, and to facilitate access to spectrum where innovation may take place. Where possible, we seek to harmonise these conditions with other countries in order for manufacturers to have economies of scale which would then lead to lower prices for UK citizens and consumers. The harmonisation of devices also reduces the risk of devices causing undue interference to other systems that may be already operating in the band.
- 2.5 Ofcom works closely with other European countries via the European Conference of Postal and Telecommunications Administrations (CEPT) to develop harmonised conditions for equipment. It is on the basis of CEPT’s technical work that the European Commission’s harmonisation decisions are made, including the SRD Decision.
- 2.6 We are implementing the SRD Decision because of the many positive benefits available including enhancing the maximum freedom of movement of SRDs, the continuation of the

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<sup>3</sup> [Notice of Ofcom’s proposals for changes to the licence exemption for Wireless Telegraphy Devices](#)

<sup>4</sup> [The Wireless Telegraphy \(Exemption and Amendment\) Regulations 2010](#)

<sup>5</sup> The [SRD Decision](#) is available.

<sup>6</sup> See for example the [Addendum to the CEPT Report 59](#) in response to the EC Permanent Mandate on the “Annual update of the technical annex of the Commission Decision on the technical harmonisation of radio spectrum for use by short range devices”.

common approach to spectrum access conditions for SRDs and potentially lowering the costs of SRDs for UK consumers and business.

- 2.7 The SRD Decision has been fully implemented without added protections or additional national rules. Our implementation supports certain uses of SRD devices within the 874 to 876 MHz and 915 to 921 MHz frequency bands, including new networked SRDs (including metering grids and home automation systems), RFIDs and new types of machine-to-machine/IoT applications. The implementation also removes the requirement for a detect and avoid mechanism (DAA) in the 918.5 to 918.9 MHz frequency band.

## Railway Level Crossing Radar Sensor Systems

- 2.8 Railway Level Crossing Radar Sensor Systems are safety devices used in the UK to protect railway crossings by detecting obstacles at level crossings. The aim for these systems is to improve the safety of citizens and to reduce the number of casualties and fatalities by providing adequate warning to oncoming trains of a potential hazard.
- 2.9 As we explained in the Notice, Network Rail (the only current UK user of Railway Level Crossing Radar Sensor Systems), the Radio Astronomy community and Ofcom are supporting a licensing approach so that Railway Level Crossing Radar Sensor Systems can be deployed, where necessary, closer to Radio Astronomy sites in Jodrell Bank, Cambridge, Defford, Darnhall, Knockin and Pickmere. Licensing allows Ofcom to coordinate the deployment of equipment and, where necessary, impose behavioural and installation conditions to minimise the interference risk. The conditions help us to manage spectrum in a more efficient and flexible way.
- 2.10 Given the revocation of regulation 4 of the 2010 Exemption Regulations, Network Rail can apply to Ofcom for a National Licence that will authorise the installation and continued operation of Railway Level Crossing Radar Sensor Systems in the UK. The new licence also sets the maximum power limit of this equipment at 5W (from 500 mW) following a change in the related European Telecommunications Standards Institute (ETSI) Standard.<sup>7</sup>

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<sup>7</sup> [EN 300 440](#) was updated in July 2018.

## 3. Comments received and Ofcom's response

### What we consulted on

3.1 The Notice set out Ofcom's approach, our proposal to make the Regulations, their general effects and the address from where a copy of the proposed Regulations could be obtained.<sup>8</sup> It also included a copy of the draft Regulations, the proposed additions to IR 2030 and called for responses to be made by 17 January 2020.

3.2 We asked the following:

**Question 1:** Do you agree with Ofcom's proposals to implement changes, that are consistent with the SRD Decision, within the 874 to 876 MHz and 915 to 921 MHz frequency bands for SRDs?

**Question 2:** Do the Proposed Regulations and proposed changes to IR 2030 correctly implement our proposals?

**Question 3:** Do you agree that removal of the licence exemption effectively implements Ofcom's decision to license the use of Railway Level Crossing Radar Sensor Systems?

### Comments received

3.3 We received nine responses to the Notice. Eight responses provided comment on the SRD implementation while there was a single response on the Railway Crossing Level Radar measures. All the responses have been published on Ofcom's website.<sup>9</sup>

### Implementing the SRD Decision

3.4 All eight respondents who commented agreed with the proposals, the draft Regulations and updates to IR 2030 on the basis that they were consistent with, and would correctly implement, the SRD decision.

3.5 Five responses, from the European Utility Telecom Council, the IEEE 802.18 Radio Regulatory Technical Advisory Group, Itron Metering UK Ltd, the LoRa Alliance and the Low Power Radio Association, further proposed that Ofcom should be extending the authorisation to cover the wider frequency band of 870 to 874.4 MHz because:

- This would mean that 873 to 874 MHz would not be left unused;
- Such a proposal would follow a recent outcome of ERC Recommendation 70-03;<sup>10</sup> and
- A decision of this kind would follow what many other countries have done with this frequency band.

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<sup>8</sup> [Notice of Ofcom's proposals for changes to the licence exemption for Wireless Telegraphy Devices](#)

<sup>9</sup> [Responses to the Notice](#)

<sup>10</sup> [ERC Recommendation 70-03 sets](#) out the general position on common spectrum allocations for Short Range Devices (SRDs) for countries within the CEPT and was last updated in July 2019.

- 3.6 Itron Metering UK Ltd, as part of its comments on having a wider frequency band covering 870 to 874.4 MHz, also requested that the band be made available with a single duty cycle allowance of  $\leq 10\%$  for network access points and  $2.5\%$  otherwise. Further it suggested that it was appropriate for IR 2030 to be updated to show newer applicable standards including EN 303 659 and EN 304 220.
- 3.7 Although the majority of responses requested that Ofcom authorise a wider frequency band of 870 to 874.4 MHz, this is outside the scope of the current SRD decision. While we have taken careful account of the requests, we consider that they relate more to the substance of the original EU SRD Decision and the underlying technical work of CEPT rather than the question of whether the proposed regulations give effect to the EU decision. That said, we acknowledge the responses raise important points about potential inefficient use of this part of the electromagnetic spectrum available for wireless telegraphy.
- 3.8 Ofcom will include consideration of these issues in further SRD related updates over the next 12 months. This work will see further policy development and decision-making associated with the recommendations in ERC Recommendation 70-0311 and Commission Implementing Decision (EU) 2019/1345 of 2 August 2019.<sup>12</sup>

### **Implementing a licence for Railway Level Crossing Radar Sensor Systems**

- 3.9 We received one set of comments on the Ofcom approach to Railway Level Crossing Radar Sensor Systems. The comments from Network Rail supported the proposed approach of moving to a national licence rather than maintaining the licence-exempt arrangements in the 2010 Exemption Regulations.

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<sup>11</sup> [ERC Recommendation 70-03](#) (July 2019).

<sup>12</sup> This is the [seventh SRD Update](#)

## 4. Ofcom decision

### SRD Decision

- 4.1 Having considered the responses received, we have decided to make the Regulations implementing the SRD Decision, as proposed.
- 4.2 Our decision means that RFIDs and IOT applications for networked devices in data networks (including networked metering, metering grid and home automation systems) can be deployed and operated without the need to hold a WT Act licence.
- 4.3 The Regulations support the harmonised market across Europe for SRDs within the 874 to 876 MHz and 915 to 921 MHz bands. We believe that the Regulations will have positive benefits for UK citizens and consumers. The Regulations are also consistent with the EU harmonisation decision on the band. These are binding on all Member States and we are therefore legally required to implement them during the transition period.

### Railway Level Crossing Radar Sensor Systems decision

- 4.4 Having taken account of the response received, we have decided to introduce the new licence and to revoke the relevant 2010 licence exemption, as proposed.

### Decision implementation

- 4.5 On 28 May 2020, we made the Regulations which will enter into force on 17 June 2020. Copies of the Regulations can be obtained from <http://www.legislation.gov.uk/>.
- 4.6 The Regulations:
  - a) Implement the SRD Decision by amending the 2010 Exemption Regulations and the publication date of IR 2030; and
  - b) Revoke regulation 4 of the 2010 Exemption Regulations recognising our decision to licence Railway Level Crossing Radar Sensor Systems. These systems can now be deployed at locations previously excluded under the licence exemption regime and can operate at an increased power of 5 W in the 24.100 to 24.350 GHz band.
- 4.7 We have also published an updated version of IR 2030 to reflect the new technical requirements for the use of SRDs within the 874 to 876 MHz and 915 to 921 MHz bands. IR 2030 is available on Ofcom's website and contains references to up to date standards or implementing decisions (which in turn, references the relevant and up to date standards).<sup>13</sup>

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<sup>13</sup> [IR 2030](#)

# A1. Impact Assessment

## Introduction

- A1.1 Ofcom acts in accordance with Government practice that, where a statutory regulation is made, a Regulatory Impact Assessment (RIA) must be undertaken. We also comply with our duty under section 7 of the Communications Act 2003 (the 2003 Act) which imposes a duty on Ofcom to carry out impact assessments where our decisions would be likely to have a significant effect on businesses or the general public, or when there is a major change in our activities.
- A1.2 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policymaking. As a matter of policy, we are committed to carrying out and publishing impact assessments in relation to the vast majority of our policy decisions.
- A1.3 For further information about our approach to impact assessments, see the guidelines, Better policymaking: Ofcom's approach to impact assessment, which are on our website: [http://www.ofcom.org.uk/consult/policy\\_making/guidelines.pdf](http://www.ofcom.org.uk/consult/policy_making/guidelines.pdf).
- A1.4 The analysis set out in this document represents a regulatory impact assessment of the Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2020 (the Regulations). The assessment is consistent with the Government practice on RIAs and Ofcom's duty under the 2003 Act.

## Background

- A1.5 In the UK, Ofcom is responsible for authorising civil use of the radio spectrum and achieve this by granting wireless telegraphy licences under the Wireless Telegraphy Act 2006 (the WT Act) and by making regulations exempting users of particular equipment from the requirement to hold such a licence.
- A1.6 Under section 8(1) of the WT Act, it is unlawful to install or use wireless telegraphy apparatus without holding a licence granted by us, unless the use of such equipment is exempted. However, under Section 8(4) of the WT Act we must make regulations to exempt the use of equipment if we are satisfied that it is unlikely to cause undue interference.
- A1.7 Short Range Device (SRD) is the term covering radio equipment that has a low capability of causing interference to other radio equipment. SRDs use either integral, dedicated or external antennas and all modes of modulation can be permitted subject to the relevant standards.
- A1.8 The Regulations harmonise spectrum for SRDs within the 874 to 874.4 MHz and 915 to 919.4 MHz frequency bands to permit a range of different and innovative applications including mass-market and/or portable products which can easily be taken and used across borders. In these frequency bands, the update is required to enable technically advanced

radio-frequency identification devices (RFIDs) as well as ‘Internet of Things’ applications for networked devices in data networks. The Regulations mean that SRDs such as those used for networked metering, metering grid and home automation can be deployed and operated without the need of a licence.

- A1.9 Railway Level Crossing Radar Sensor Systems are safety devices used to protect railway crossings by detecting obstacles at UK level rail crossings. Network Rail is the only current UK user of Railway Level Crossing Radar Sensor Systems and we have introduced a licence for Railway Level Crossing Radar Sensor Systems so they can be deployed in areas closer to Radio Astronomy sites in Jodrell Bank, Cambridge, Defford, Darnhall, Knockin and Pickmere.
- A1.10 Railway Level Crossing Radar Sensor Systems have been licence-exempt since 2010, however this exemption has meant a 20 km exclusion zone around the six Radio Astronomy sites noted above. The new licensing approach will allow these systems to be deployed in these areas while permitting Ofcom to impose technical, behavioural or installation conditions at system locations.

## Proposal

- A1.11 This RIA relates to the decision to make the Regulations. The Regulations amend the Wireless Telegraphy (Exemption and Amendment) Regulations 2010 (the 2010 Exemption Regulations). They make changes to:
- add to the current licence exemptions for SRDs to enable common technical conditions and sharing in the 874 to 874.4 MHz and 915 to 919.4 MHz bands. The Regulations authorise new short-range devices, new types of machine-to-machine communications and technically advanced RFIDs;
  - facilitate the new licence for Railway Level Crossing Radar Systems. The licensing of these systems enables specific behavioural conditions to be imposed including to enable a manageable coordination process that can include commercially sensitive information. It also allows us to change the maximum power limit of this equipment which has increased from 500 mw to 5W because of a change in the related European Telecommunications Standards Institute (ETSI) Standard<sup>14</sup> and removal of the 20 km exclusion zone around Radio Astronomy Sites.

## The citizen and/or consumer interest

- A1.12 Our principal duty under section 3 of the 2003 Act is to further the interests of citizens in relation to communications matters; and of consumers in relevant markets, where appropriate by promoting competition.
- A1.13 We take account of the impact of our decisions upon both citizen and consumer interests in the markets we regulate. We must, in particular, secure the optimal use for wireless

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<sup>14</sup> [EN 300 440](#) was updated in July 2018.

telegraphy of spectrum and have regard to the principle under which all regulatory activities should be targeted only at cases in which action is needed.

A1.14 In making these changes, we considered the wider impact beyond immediate stakeholders in the radiocommunications community. We believe that our decisions are of benefit to citizens and consumers for the following reasons:

- The SRD measures concern the use of radio equipment on a licence-exempt basis, which reduces the regulatory and administrative burden on our stakeholders and helps to secure the optimal use of spectrum;
- The SRD licence-exemptions support the introduction of new and innovative technologies that will be of benefit to consumers and citizens in general and are for the use of equipment that is unlikely to cause harmful interference to other spectrum users. In this instance, we are implementing European Commission Implementing Decision 2018/1538/EU of 11 October 2018 (the SRD Decision), a decision supported by studies undertaken by the European Conference of Postal and Telecommunications Administrations (CEPT) which address interference and quality of service issues and where mitigation techniques have been suggested, these are to be implemented in the UK;
- Harmonisation of technical conditions across a number of countries allows for equipment manufacturers to benefit from economies of scales and thereby reducing the cost of the equipment to UK citizens and consumers; and
- The Railway Level Crossing Radar System changes help improve safety for citizens when using railway level crossings and the imposition of the licensing arrangements for Railway Level Crossing Radar Sensor will facilitate the most efficient roll-out of equipment which is designed to protect rail passengers and users of level crossings.

## Our policy objective

A1.15 Spectrum is a vital component to enable wireless communication and one of Ofcom's main duties is to ensure that radio spectrum is used in the most effective way. Our high-level goal is to ensure that spectrum is not a barrier to making communications work for everyone.

A1.16 We seek, wherever possible, to reduce the regulatory burden upon our stakeholders, in this instance users of the radio spectrum. We can achieve this by removing the need for spectrum users to apply for an individual wireless telegraphy licence to authorise the use of SRDs and by making our licensing of Railway Level Crossing Radar Sensor Systems with a low regulatory burden to enable the further roll-out of safety equipment.

## Options considered

A1.17 The options open to us in relation to implementing the SRD Decision have been:

- to make the Regulations that implement SRD Decision; or
- to do nothing.

- A1.18 The options open to us in relation to Railway Level Crossing Radar Sensor Systems have been:
- to introduce a licence arrangement for Railway Level Crossing Radar Sensor Systems; or
  - to do nothing.

## Analysis of options - the SRD Decision

### Make new regulations

- A1.19 When considering the authorisation of devices Ofcom can either licence them or make regulations to exempt them from licensing. Section 8(4) of the WT Act requires that if Ofcom is satisfied that the criteria set out in section 8(5) of the WT Act are met, Ofcom must make regulations to licence-exempt the equipment. If the equipment does not meet all of the requirements of section 8(5) this does not prevent us still going ahead with exemption, but any decision would need to consider the impacts verses the benefits of any such decision.
- A1.20 Most SRDs operating in the UK are already authorised on a licence-exempt basis as they meet the requirements set out in section 8(5) of the WT Act. In general terms, licence exemption presents the lowest barrier to entry compared with other forms of authorisation, such as individual licences.
- A1.21 In 2013 we considered the best authorisation approach for equipment in the 870 to 876 MHz and 915 to 921 MHz bands.<sup>15</sup> We looked at whether there were any mitigating factors that would cause us to diverge from this approach and instead licence the equipment. We found no reason to impose licensing arrangements and therefore proceeded to exempt the equipment from the need to hold a licence.
- A1.22 From this starting point, we have considered any newer concerns over harmful interference or congestion to existing users or potential new users of these band bands. Harmful interference or congestion could negate the benefits of any reductions in the regulatory burden gained from exemption.
- A1.23 The Regulations support the harmonised market across Europe for SRDs within the 874 to 876 MHz and 915 to 921 MHz bands. This brings with it many benefits from the free circulation and use of devices. Manufacturers should benefit from economies of scale which drive down prices for consumers. Citizens should benefit from continued access to devices when travelling to other European countries. The Regulations are also consistent with the EU harmonisation decision on these frequencies. These are binding on all Member States and we are therefore legally required to implement them during the transition period.
- A1.24 The Regulations are supported by the recommendations in CEPT's Addendum to Report 59 and the work of ETSI on harmonised standards for SRDs.<sup>16</sup> Ofcom has been integral to the

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<sup>15</sup> See [Consultation on 870-876 MHz and 915-921 MHz Update and Way Forward](#)

<sup>16</sup> [Addendum to the CEPT Report 59](#)

work of CEPT and ETSI. The technical conditions for SRDs developed by these organisations help to ensure the efficient use of spectrum and the avoidance of interference.

- A1.25 Ofcom believes the SRD Decision will deliver many positive benefits from enhancing the freedom of movement of SRDs, by continuing the common approach to spectrum access conditions for SRDs and potentially lowers the costs of SRDs for UK consumers and business.
- A1.26 Overall, we believe that costs to business are likely to be lower under a licence-exempt approach than the requirement for users to obtain individual licences. Licence exemption represents the least cost regulatory approach to authorisations on the use of spectrum for SRDs.
- A1.27 Our view is that making the Regulations is likely to generate a net benefit for UK businesses, citizens and consumers and at worst, would have a neutral outcome (to the extent that benefits may depend on the uptake of the new opportunities afforded by the proposal). We consider it is unlikely to impose costs on other users. Therefore, the effect of implementing the Regulations would be likely to be positive overall.
- A1.28 There are one-off administrative costs associated with making Statutory Instruments. We consider the implementation costs to be low, both in absolute terms and in comparison, to licensing alternatives that might require an auction or the maintenance of a licence scheme. Moreover, the costs such as they are will also be offset by the benefits to businesses and consumers outlined above.

## Do nothing

- A1.29 The alternative to making the Regulations would be to do nothing. By doing nothing, we mean not making the Regulations and not taking advantage of the technological and market developments for SRDs.
- A1.30 If the spectrum access conditions were not harmonised for SRDs, limitations on free movement, increased production costs and the risks of harmful interference with other radio applications and services due to unauthorised use are more likely to occur for UK citizens and consumers.
- A1.31 Citizens and consumers would not be able to benefit from the new opportunities that these devices could provide as a result of advances in technology. If the UK did not participate in this approach, it might be argued that UK businesses and consumers would be disadvantaged in not having access to these innovative technologies.
- A1.32 By not making regulations, there would be no additional cost imposed on Ofcom relating to making a Statutory Instruments. Taking this course would also mean that we would not be implementing policy changes that Ofcom had previously consulted and decided upon, impacting on the regulatory certainty for stakeholders.
- A1.33 Finally, if we did not implement an EU decision there are legal risks associated with non-compliance. The UK remains bound by EU law as if it were a Member State during the transitional period.

## The preferred option

A1.34 Our preferred option has been to make the Regulations. This decision is consistent with European law and the policy considerations of Ofcom.

## Analysis of options –Railway Level Crossing Radar Sensor Systems

### Introduce a licence for Railway Level Crossing Radar Sensor Systems

A1.35 The introduction of licensing arrangements means that Network Rail (the only current UK user of Railway Level Crossing Radar Sensor Systems), will need to apply to Ofcom for a licence and to pay fees in order to establishment, installation and use of this equipment in the UK.

A1.36 The licensing arrangements will result in a direct cost for Network Rail in the order of £50 for a five year, UK-wide licence. While this is a shift from the current licence exemption, it is low cost and presents a low administrative burden. This is because the license will cover all systems on a national basis, for a low fee, with a potential one-off application process. Accordingly, there should be low compliance cost on Network Rail for the use of safety and infrastructure critical equipment in the 24.100 GHz to 24.350 GHz band.

A1.37 Our view is that introducing the licensing arrangements are likely to generate a net benefit for UK businesses, citizens and consumers and at worst, would have a neutral outcome (to the extent that benefits may depend on the continued deployment of these systems). We have noted the low licensing costs for Network rail and consider that our approach is unlikely to impose costs on other users. Therefore, the effect of implementing the licence arrangements would be likely to be positive overall.

A1.38 There are one-off and ongoing administrative costs for Ofcom associated with imposing licensing arrangements for Railway Level Crossing Radar Sensor Systems. However, we considered that the implementation costs to be low and the administrative burden is minimised through the design of the licence. Overall, the costs such as they are would be offset by the benefits to Ofcom, Network Rail, RAS and their consumers.

### Do Nothing

A1.39 The alternative to introducing the licensing arrangements for Railway Level Crossing Radar Sensor Systems would be to do nothing. This would maintain the 2010 Licence Exemption and would mean that a number of Railway Level Crossing Radar Sensors would not be able to be installed in certain areas for the safety and protection of UK level rail crossings. It would mean that Railway Level Crossing Radar Sensor Systems could only operate according the technical specifications in Interface Requirement 2080.<sup>17</sup>

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<sup>17</sup> [IR 2080](#)

- A1.40 Citizens and consumers would not benefit from changes likely to improve safety for users of railway level crossings or from the expected efficient roll-out of equipment designed to protect rail passengers and users of level crossings.
- A1.41 No additional cost would be imposed on Ofcom if we did not introduce the new licence. Taking this course would also mean that we would not be implementing policy changes that Ofcom had previously consulted and decided upon, impacting on the regulatory certainty for stakeholders.

## Equality Impact Assessment

- A1.42 We consider that it is reasonable to assume that any impacts on consumers and citizens arising from the Regulations and new licence arrangements would not differ significantly between groups or classes of UK consumers and citizens, all of whom would have access to these services, potentially at end-user prices reflective of all general input costs, including opportunity costs of spectrum used.
- A1.43 We do not consider that the proposal to make the Regulations or to introduce the licence for Railway Level Crossing Radar Sensor Systems would have a significantly greater direct financial impact on groups including based on gender, race or disability or for consumers in Northern Ireland relative to consumers in general.
- A1.44 We have not carried out a full Equality Impact Assessment in relation to race equality or equality schemes under the Northern Ireland and disability equality schemes at this stage. This is because we are not aware that decisions made and implemented here are intended (or would, in practice) have a significant differential impact on different gender or racial groups, on consumers in Northern Ireland or on disabled consumers compared to consumers in general.

## A2. Legal framework

- A2.1 Ofcom's statutory powers and duties in relation to spectrum management are set out primarily in the 2003 Act and the WT Act. Amongst our functions are the making available of frequencies for use for particular purposes and the granting of rights of use of spectrum through wireless telegraphy licences and licence exemptions.
- A2.2 Our principal duties under the 2003 Act, when carrying out our functions and exercising our powers, are to further the interests of citizens and consumers, where appropriate by promoting competition. In doing so, we are also required (among other things) to secure the optimal use of spectrum and the availability throughout the UK of a wide range of electronic communications services.
- A2.3 We must also have regard to: (i) the desirability of promoting competition in relevant markets; (ii) the desirability of encouraging investment and innovation in relevant markets; (iii) the different needs and interests, so far as the use of the electro-magnetic spectrum for wireless telegraphy is concerned, of all persons who may wish to make use of it; and (iv) the different interests of persons in the different parts of the UK, of the different ethnic communities within the UK and of persons living in rural and in urban areas.
- A2.4 Additionally, in carrying out our spectrum functions we have a duty under section 3 of the WT Act to have regard in particular to: (i) the extent to which the spectrum is available for use, or further use, for wireless telegraphy; (ii) the demand for use of that spectrum for wireless telegraphy; and (iii) the demand that is likely to arise in future for such use.
- A2.5 We also have a duty to have regard to the desirability of promoting: (i) the efficient management and use of the spectrum for wireless telegraphy; (ii) the economic and other benefits that may arise from the use of wireless telegraphy; (iii) the development of innovative services; and (iv) competition in the provision of electronic communications services.
- A2.6 Under section 8(1) of the WT Act, it is unlawful to establish or use a wireless telegraphy station or install or use wireless telegraphy apparatus except under and in accordance with a wireless telegraphy licence granted under the WT Act.
- A2.7 Under sections 8(3) - 8(3B) of the WT Act, Ofcom may make regulations exempting from the licensing requirements under section 8(1) the establishment, installation or use of wireless telegraphy stations or wireless telegraphy apparatus of such classes or description as may be specified in the regulations, either absolutely or subject to such terms, provisions and limitations as may be specified.
- A2.8 Under sections 8(4) and 8(5) of the WT Act, we must make regulations to exempt stations and apparatus from the requirement to be licensed if their establishment, installation or use is not likely to:
- a) involve undue interference with wireless telegraphy;
  - b) have an adverse effect on technical quality of service;

- c) lead to inefficient use of the part of the electromagnetic spectrum available for wireless telegraphy;
  - d) endanger safety of life;
  - e) prejudice the promotion of social, regional or territorial cohesion; or
  - f) prejudice the promotion of cultural and linguistic diversity and media pluralism.
- A2.9 In accordance with the requirements of section 8(3B) of the WT Act, the terms, provisions and limitations specified in the regulations must be: a) objectively justifiable in relation to the wireless telegraphy stations or wireless telegraphy apparatus to which they relate; b) not such as to discriminate unduly against particular persons or against a particular description of persons; c) proportionate to what they are intended to achieve; and d) transparent in relation to what they are intended to achieve.
- A2.10 Before making any exemption regulations, we are required by section 122(4) of the WT Act to give statutory notice of our proposal to do so. Under section 122(5), such notice must state that we propose to make the regulations in question, set out their general effect, specify an address from which a copy of the proposed regulations or order may be obtained, and specify a time period of at least one month during which any representations with respect to the proposal must be made to us.
- A2.11 As noted above, the Notice satisfied the requirements of section 122(4) and 122(5) of the WT Act.
- A2.12 Furthermore, the decisions to make the Regulations, introduce the new licence and amend IR 2030 have been made by reference to our statutory duties. Accordingly, the Regulations are:
- **objectively justified** in that they address the risks of undue interference that might otherwise arise from the use of SRDs and Railway Level Crossing Radar Sensor Systems;
  - **not unduly discriminatory** against particular persons or against a particular description of persons in that they would apply to all users of relevant SRDs or Railway Level Crossing Radar Sensor Systems (and, indirectly, to all manufacturers and sellers);
  - **proportionate** to what they are intended to achieve, in that they ensure that use of the relevant equipment would not be likely to have relevant adverse effects; and
  - **transparent** in relation to what they are intended to achieve, in that they are described and explained in this Statement.
- A2.13 The Regulations will amend the 2010 Regulations and the following changes have been made:
- In relation to the exemption for SRDs (regulation 5 of the 2010 Regulations), IR 2030 has been updated to May 2020.
  - In relation to the operation of Railway Level Crossing Radar Sensor Systems, we have revoked regulation 4 in the 2010 Regulations along with the reference to IR 2080 which provided the technical conditions for Railway Level Crossing Radars.

# A3. Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2020

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## STATUTORY INSTRUMENTS

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**2020 No.**

### **ELECTRONIC COMMUNICATIONS**

#### **Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2020**

*Made* - - - - - 28 May 2020

*Coming into force* - - - - - 17 June 2020

The Office of Communications (“OFCOM”), makes the following Regulations in exercise of the powers conferred by sections 8(3) and 122(7) of the Wireless Telegraphy Act 2006<sup>(18)</sup> (“the Act”) and in exercise of those sections of the Act <sup>(19)</sup>.

Before making these Regulations, OFCOM have given notice of their proposal to do so in accordance with section 122(4)(a) of the Act, published notice of their proposal in accordance with section 122(4)(b) of the Act, and have considered the representations made to them before the time specified in the notice in accordance with section 122(4)(c) of the Act.

#### **Citation and commencement**

1. These Regulations may be cited as the Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2020 and shall come into force on 20 April 2020.

#### **Interpretation**

2. In these Regulations –

“the Act” means the Wireless Telegraphy Act 2006; and

“the Principal Regulations” means the Wireless Telegraphy (Exemption and Amendment) Regulations 2010<sup>(20)</sup>.

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<sup>(18)</sup> 2006 c.36.

<sup>(19)</sup> Section 8(3) and section 122(7) were extended to the Bailiwick of Guernsey by Article 2 of the Wireless Telegraphy (Guernsey) Order 2006 (S.I. 2006/3325); to the Bailiwick of Jersey by Article 2 of the Wireless Telegraphy (Jersey) Order 2006 (S.I. 2006/3324); and to the Isle of Man by Article 2 of the Wireless Telegraphy (Isle of Man) Order 2007 (S.I. 2007/278).

<sup>(20)</sup> S.I. 2010/2512 as amended by S.I. 2011/3035, S.I. 2013/1253, S.I. 2014/1484, S.I. 2017/746, S.I. 2018/263 and S.I. 2018/1140.

## Revocations and amendments

3.—(1) The Principal Regulations shall be amended in accordance with paragraphs (2) and (3).

(2) Regulation 4 (railway level crossing radar) of the Principal Regulations is revoked.

(3) In Regulation 5 (short range devices), for ““IR 2030—UK Interface Requirements 2030 Licence Exempt Short Range Devices”, published by OFCOM in November 2018”, substitute ““IR 2030 – UK Interface Requirements Licence Exempt Short Range Devices”, published by OFCOM in May 2020.

28 May 2020

*Philip Marnick*  
Group Director, Spectrum Group  
Office of Communications

## EXPLANATORY NOTE

*(This note is not part of the Regulations)*

The Regulations amend the Wireless Telegraphy (Amendment and Exemption) Regulations 2010 (the Principal Regulations). The Regulations exempt the establishment, installation and use of certain devices which comply with certain terms, provisions and limitations, from the requirement to be licensed under section 8(1) of the Wireless Telegraphy Act 2006 (c 36).

Regulation 3(2) revokes Regulation 4 of the Principal Regulations which exempted the use of railway level crossing radar (a safety device), subject to certain terms and limitations. Railway level crossing radar is now subject to licensing.

Regulation 3(3) amends Regulation 5 of the Principal Regulation which exempts the use of short-range devices, subject to certain terms and limitations. Regulation 5 is amended to extend the exemptions to give effect to Commission Decision 2018/1538 on the harmonisation of radio spectrum for use by short-range devices within the 874-876 and 915-921 MHz frequency bands and amends the Interface Requirements which are referred to in the 2010 Regulations. The Interface Requirements are published by Ofcom and available to the public on its official website at <https://www.ofcom.org.uk/> and from its library at Riverside House, 2a Southwark Bridge Road, London SE1 9HA.

A full regulatory impact assessment of the effect that these Regulations will have on cost to business is available to the public from OFCOM’s website at <http://www.ofcom.org.uk> or from the OFCOM library at Riverside House, 2a Southwark Bridge Road, London SE1 9HA. Copies of this assessment have also been placed in the library of the House of Commons.

## A4. List of respondents

European Utility Telecom Council

IEEE 802.18 Radio Regulatory Technical Advisory Group

LoRa Alliance

Low Power Radio Association.

Itron Metering UK Ltd

Nedap NV

Network Rail

Rain Alliance

WiFi Alliance