

# Expanding spectrum access for satellite gateways in the 28 GHz band

Proposal to make additional spectrum available within the 27.5 - 30 GHz band for satellite gateway use

#### **Consultation**

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# **Contents**

## Section

1.	Overview	3
2.	Introduction	5
3.	Our proposal	9
A1	How satellite networks operate	. 15
A2	Responding to this consultation	. 16
А3	Ofcom's consultation principles	. 18
A4	Consultation coversheet	. 19
A5	Consultation guestions	. 20

### 1. Overview

- 1.1 Space based connectivity is increasingly important for UK consumers and businesses, with an ever-growing number of satellite operators offering a range of services. Delivery of these services relies on radio spectrum. Satellite gateways are hubs that connect the satellite network to the internet and/or to private networks and cloud services and typically use 27.5 30 GHz ("28 GHz band") spectrum for the uplink (Earth-to-space) transmission. In the UK, these frequencies are accessed via a combination of Ofcom assigned satellite authorisations and commercial arrangements with 28 GHz Spectrum Access licence holders.
- 1.2 In March 2023, we agreed to vary the national 28 GHz Spectrum Access licence held by Arqiva at its request, to limit the scope of its licence to only authorise use of this spectrum at three locations until July 2026. This resulted in the return to Ofcom of 448 MHz of spectrum, available across almost all the UK ("unassigned spectrum"), for reauthorisation.
- 1.3 This consultation document sets out proposals for making the unassigned spectrum and the four "guard bands" in the 28 GHz spectrum available for Non-geostationary satellite (NGSO) Earth station gateways and Geostationary satellite (GSO) gateways (Permanent Earth stations PES). We use the collective term "satellite gateways" to mean both NGSO gateways and PES gateways in this document.
- 1.4 Our proposals would enable satellite operators to access this unassigned spectrum and the existing guard bands in 28 GHz for coordinated satellite gateway use, providing additional capacity to meet growing demand to support a range of wireless services. These include connecting more rural homes and businesses in hard-to-reach areas, including offshore energy facilities and utilities as well as for transport use (including aircraft, drones and ships) across the UK.
- 1.5 We plan to consult on authorisation options for access to the unassigned spectrum by other users such as fixed services and uncoordinated satellite terminals later this year. We consider that our proposals would not significantly constrain deployment of future users in the unassigned spectrum nor adversely affect existing users.

#### In brief

#### We propose to

- Make spectrum available for satellite gateways (Earth-to-space) in:
- > the unassigned spectrum at 27.8285 28.0525 GHz and 28.8365 29.0605 GHz and,
- > the four 28 MHz guard bands at 28.1645 28.1925 GHz, 28.3045 28.3325 GHz, 29.1725 29.2005 GHz and 29.3125 29.3405 GHz.
- extend access for satellite gateway use in these bands under the existing NGSO Earth station (Gateway) licence and the Permanent Earth station (PES) licence with the associated licensing process and licence fees.

We plan to publish our decision in autumn 2023 and consult on authorisation options for access to the unassigned spectrum by other users later this year.

The overview section in this document is a simplified high-level summary only. The proposals we are consulting on, and our reasoning are set out in the full document.

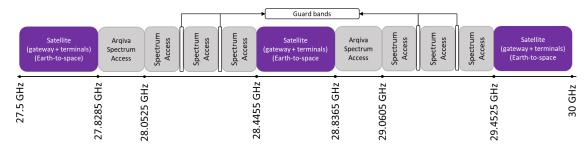
## 2. Introduction

#### **Background**

#### The 28 GHz band

- 2.1 One of Ofcom's major priorities is getting everyone connected. A key aim of our <u>space</u> <u>spectrum strategy</u> is to enable the delivery of improved communication services to places that are difficult to reach by terrestrial fixed or mobile connections particularly to increase broadband options for residential consumers and businesses in those locations.
- 2.2 In the UK, the 28 GHz band is <u>allocated</u> on a co-primary basis to Fixed, Mobile <sup>1</sup> and Fixed-Satellite (Earth-to-space) (FSS). The bands are assigned for fixed wireless and satellite uses under two different authorisations (see Figures 1 and 2).

Figure 1: 28 GHz band plan before Arqiva's licence variation



- 2.3 The Spectrum Access licences were awarded as regional<sup>2</sup> and national<sup>3</sup> spectrum blocks through auctions. They permit fixed and satellite (Earth-to-space) uses as well as spectrum leasing. The <u>current licensees</u> in these bands are Telefónica UK, UK Broadband, and Vodafone who are using the spectrum for fixed wireless (point-to-point). Prior to its variation, Arqiva held a national Spectrum Access licence in 27.8285 28.0525 GHz and 28.8365 29.0605 GHz. Satellites operators typically require the entire 28 GHz band to operate their gateways, as such, they can access the awarded bands via commercial arrangements with Spectrum Access licence holders.
- 2.4 The 27.5 27.8285 GHz, 28.4455 28.8365 GHz and 29.4525 30 GHz bands are authorised for satellite (Earth-to-space) only and accessed by satellite operators on a shared basis <sup>4</sup>. There are three types of licences that respectively authorise satellite gateways and uncoordinated satellite terminals:
  - a) **Permanent Earth Station (PES)** licence<sup>5</sup> which authorises a satellite gateway operating from a permanent, specified location transmitting to a *geostationary (GSO) satellite*,

<sup>&</sup>lt;sup>1</sup> Within the 28 GHz band, the co-primary allocation for fixed and mobile stops at 29.5 GHz.

<sup>&</sup>lt;sup>2</sup> 2000 and 2008 spectrum awards.

<sup>&</sup>lt;sup>3</sup> 2008 spectrum award.

<sup>&</sup>lt;sup>4</sup> Avanti is also authorised to use the entire 28 GHz band to operate permanent earth stations since 2009.

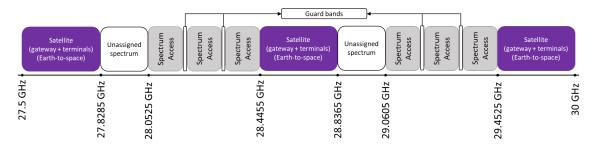
<sup>&</sup>lt;sup>5</sup> We refer to this as PES licence in the rest of the document.

- b) **NGSO Earth Station (Gateway)** licence which authorises a satellite gateway operating from a permanent, specified location transmitting to a specified *non-geostationary* (NGSO) satellite system, and
- c) **Earth Station Network Licence** which authorises any number of uncoordinated satellite terminals operating in a network where data is routed by a satellite to and from a satellite gateway.
- 2.5 The guard bands shown in Figure 1 were implemented to ensure different fixed wireless service (Broadband Wireless Access<sup>7</sup>) operators operating in adjacent bands could coexist within the same geographic area.

#### Arqiva licence variation

- 2.6 On 7 February 2023, Arqiva requested that we vary its national Spectrum Access licence, licence number 0307328<sup>8</sup>, which authorised use of 2x224 MHz (27.8285 28.0525 GHz paired with 28.8365 29.0605 GHz). The variation resulted in Arqiva retaining its licence in three locations until July 2026, but returning the balance of its nationally licensed 28 GHz spectrum.
- 2.7 We <u>consulted</u> on this variation request on 15 March 2023, and received three responses, all from satellite operators who supported the proposed variation.
- 2.8 On 24 March 2023, we published a <u>statement</u> which confirmed that, taking account of the consultation responses, we agreed to the variation request. Consequently, the near-national 2x224 MHz of spectrum was returned to Ofcom for reauthorisation. Figure 2 shows the updated band plan.

Figure 2: Updated 28 GHz band plan after Arqiva's license variation



2.9 We indicated in the same statement that we planned to seek stakeholder views on our future approach to authorising the returned spectrum, along with any relevant coordination arrangements. We also committed to consider the interest from a range of users, including satellite operators.

<sup>&</sup>lt;sup>6</sup> We refer to this as NGSO gateway licence in the rest of the document.

<sup>&</sup>lt;sup>7</sup> When the Spectrum Access licence was awarded, it was envisaged that spectrum could be used for broadband wireless access which influenced the need for the guard bands. The current use however of the spectrum is for point-to-point fixed wireless services.

<sup>&</sup>lt;sup>8</sup> The licence was originally awarded in 2008 and subsequently varied on 27 April 2016 and again on 18 May 2021.

#### Our policy objectives

- 2.10 We have a duty to secure the optimal use of the spectrum for the benefit of everyone in the UK.
- 2.11 Our policy objective for the 28 GHz band is to promote greater sharing, in line with our <a href="Spectrum Management Strategy">Spectrum Management Strategy</a> which explains that one important way to secure increased efficiency in spectrum use is to promote greater sharing of spectrum between different users wherever possible.
- 2.12 In addition to promoting greater spectrum sharing, we said in our refreshed <u>Space Spectrum Strategy</u>, that we will consider providing access to more spectrum to enable the delivery of higher speed satellite broadband services to businesses and people in places that are difficult to reach by terrestrial fixed or mobile connections. We also said that we wanted to make the four 28 MHz guard bands located in the 28 GHz band available for satellite gateways which could provide a small increase in capacity for satellite systems operating across these bands.

#### Ofcom's duties

2.13 Ofcom's statutory powers and duties in relation to spectrum management are set out primarily in the Communications Act 2003 (the "2003 Act") and the Wireless Telegraphy Act ("WT Act").

#### Communications Act 2003

- 2.14 Our principal duties under the 2003 Act are to further the interests of citizens and consumers in respect to communications matters, 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 United Kingdom of a wide range of electronic communications services.
- 2.15 Our spectrum management duties require us to have regard to:
  - a) the desirability of promoting competition in relevant markets;
  - b) the desirability of encouraging investment and innovation in relevant markets;
  - c) 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
  - d) the different interests of persons in the different parts of the United Kingdom, of the different ethnic communities within the United Kingdom and of persons living in rural and in urban areas.

#### Wireless Telegraphy Act

- 2.16 We permit the use of the radio spectrum by granting wireless telegraphy licences under the WT Act. It is unlawful and an offence to install or use wireless telegraphy apparatus without holding a licence granted by Ofcom, unless the use of such equipment is exempted.
- 2.17 In carrying out our spectrum functions we have a duty under section 3 of the Act to have regard in particular to:
  - a) the extent to which the spectrum is available for use, or further use, for wireless telegraphy;

- b) the demand for use of that spectrum for wireless telegraphy; and
- c) the demand that is likely to arise in future for such use.
- 2.18 We also have a duty to have regard to the desirability of promoting:
  - a) the efficient management and use of the spectrum for wireless telegraphy;
  - b) the economic and other benefits that may arise from the use of wireless telegraphy;
  - c) the development of innovative services; and
  - d) competition in the provision of electronic communications services.
- 2.19 Section 8(3B) of the WT Act says the terms, provisions and limitations specified in the licences 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.

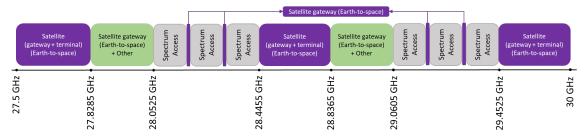
## 3. Our proposal

#### Summary of our proposals

#### 3.1 We propose to:

- a) make available now the unassigned spectrum including the four 28 MHz guard bands located in the 28 GHz band, for satellite gateway (Earth-to-space) use; and
- to do this by extending access for satellite gateway use in these bands under the existing NGSO gateway licence and the PES licence, with the associated licensing process and fees
- 3.2 Figure 3 shows the proposed updated band plan should we decide to proceed with the proposals in this document.

Figure 3: Updated band plan if we decide to proceed with these proposals



#### Our proposed approach

- 3.3 The Arqiva licence variation resulted in the return of 448 MHz of near national spectrum in the 28 GHz band. The band was previously assigned through auction and we are now reviewing the authorisation of the band, in line with our duty to secure optimal use of this spectrum.
- 3.4 We consider there is an early opportunity to make the unassigned spectrum available now for satellite gateways. This would restore the ability of satellite operators to access the spectrum required for their gateways, supporting demand for additional capacity in the UK, thereby benefitting consumer and businesses.
- 3.5 We also consider that our proposals would not adversely affect existing users nor significantly constrain deployment of future users in the unassigned spectrum. This is because we anticipate a limited number of satellite gateways, and these mainly operate in rural locations. Satellite gateways are authorised to operate in known locations and therefore can share or be coordinated with other potential users such as fixed services or uncoordinated satellite terminals.
- 3.6 We plan to consult on authorisation options for the wider use of the unassigned spectrum by other users later this year.

#### Expanding spectrum access for satellite gateways

- 3.7 The 28 GHz band is an important band for FSS for both GSO and NGSO satellite systems<sup>9</sup> and there has been significant growth and development in its use globally. The band has primary allocation to the FSS globally in the <u>Radio Regulations</u> and in the UK, making it ideal for the delivery of global satellite services.
- 3.8 In response to the Arqiva licence variation <u>consultation</u>, satellite operators <sup>10</sup> expressed the importance of the 28 GHz band for satellite services and their desire to access the returned spectrum to increase capacity and meet the growing demand for satellite services in the UK.
- 3.9 Satellite networks operating gateways in this band are typically designed to use wideband channels across the whole 28 GHz band. To access all these channels when operating in the UK (for as much capacity as possible) satellite operators can apply for a gateway authorisation and approach the relevant Spectrum Access licensees for commercial arrangements to access the remaining spectrum in the areas where their gateway will operate.
- 3.10 In response to previous consultations, some satellite operators <sup>11</sup> have indicated that these commercial arrangements can be costly and time consuming and in the recent Satellite Earth Network licence <u>consultation</u> some satellite operators <sup>12</sup> suggested we take steps to make it easier for satellite operators to access the entire 28 GHz band and more specifically the returned spectrum for satellite gateway use.
- 3.11 We propose to enable satellite gateway access to the unassigned spectrum as well as the four guard bands. This would:
  - a) further assist in addressing the demand for satellite spectrum by providing access to the unassigned spectrum and making available an additional 112 MHz (four guard bands) of bandwidth for satellite gateway use. This would enable satellite operators to provide additional capacity to serve more consumers and provide new services;
  - b) give operators the certainty they need to access the spectrum they require for future gateways in the UK; and
  - c) give operators access to the unassigned spectrum under an approach consistent with that for satellite services.

<sup>&</sup>lt;sup>9</sup> The high frequencies of the 28 GHz band provide several benefits to satellite operators, including access to wider bandwidth enabling high data throughput; use of focused spot or multiple beams which increases frequency reuse and improve system coverage and capacity; and use of a smaller antenna making satellite terminals or earth stations more cost-effective to operate which facilitates new deployment scenarios such as on-the-move, or transportable platforms as smaller antennas are more portable and easier to install.

<sup>&</sup>lt;sup>10</sup> See <u>Amazon</u>, <u>Avanti</u> and <u>Viasat</u> responses to the Arqiva licence variation consultation.

<sup>&</sup>lt;sup>11</sup> See SpaceX responses to our Space Spectrum Strategy <u>here</u> and our Annual Licence Fee consultations <u>here</u> and <u>Amazon</u> and <u>OneWeb</u> responses to the Arqiva licence variation consultation.

<sup>&</sup>lt;sup>12</sup> See <u>SES</u>, <u>OneWeb</u> and <u>Amazon</u> responses to the Satellite Earth Network licence consultation

3.13 In summary, we propose to make available the frequency ranges in Table 1 for satellite gateway use:

Table 11: The frequency bands we propose to make available for satellite gateway use

Bands	Frequency ranges (GHz)	Bandwidth (MHz)
Unassigned spectrum	27.8285 – 28.0525	224
	28.8365 – 29.0605	224
<b>Guard bands</b>	28.1645 – 28.1925	28
	28.3045 – 28.3325	28
	29.1725 – 29.2005	28
	29.3125 – 29.3405	28
Total		560

# Accessing the additional spectrum for satellite gateways

- 3.14 We propose to extend access for satellite gateway use in these bands under the existing NGSO gateway and PES licences applying the respective licensing processes and fees.
- 3.15 With regard to the licensing process, we propose that
  - a) For applications for new sites: operators would <u>apply</u> for access to this spectrum in the usual way. The <u>application process</u> for NGSO gateway licences includes a short (20 days) public commenting period.
  - b) For variation to existing sites: operators wishing to apply for access to this spectrum should email <a href="mailto:spectrum.licensing@ofcom.org.uk">spectrum.licensing@ofcom.org.uk</a> to request a variation to their existing licence. We propose that the licence variation of existing NGSO gateway sites would not require public comment. This is because we have already assessed the interference risk between satellite operators across the whole 28 GHz band in reaching a decision on the original application.
- 3.16 With regard to the licence fees, we propose that existing licence fees would apply.
  - a) The fees associated with licensing a PES are based on an <u>administered incentive pricing</u> algorithm.
  - b) The fees associated with NGSO gateway licences are based on cost recovery and are currently set at £500 per licence per year.
- 3.17 We said in our Space Spectrum Strategy, we will consider the introduction of 'Administered Incentive Pricing' (AIP) licence fees for NGSO earth stations, to reflect the opportunity cost of spectrum denied to other uses and users (rather than just the costs of managing the radio spectrum) when we next review the pricing of our satellite earth station licences in due course.

#### Impact assessment

- 3.18 Impact assessments provide a valuable way of assessing different options for regulation and considering the potential effects of our proposals. They form part of best practice policy making.
- 3.19 This section outlines our assessment of how our proposal may affect the relevant stakeholders which include existing users of the 28 GHz band, possible future users of the unassigned spectrum and citizens and consumers.
- 3.20 Overall, we consider that our proposals to make more spectrum available for satellite gateways would benefit citizens and consumers as this would enable satellite operators to increase their capacity to serve more consumers and businesses with improved services and would not significantly constrain deployment of future users in the unassigned spectrum nor adversely affect existing users.

#### Impact on existing users of the 28 GHz band

#### Existing satellite users in the unassigned spectrum

- 3.21 In the UK, there are currently six sites authorised to operate satellite gateways in the unassigned spectrum. These are the three locations authorised to Arqiva for NGSO gateways (27.8285 28.90605 GHz and 28.8365 29.0605 GHz band) and three locations licensed to Avanti for PES (27.5 30 GHz)<sup>13</sup>. There is no other user in the unassigned spectrum.
- 3.22 Coexistence between current and planned satellite networks by different satellite operators are currently managed through the international satellite coordination process <sup>14</sup>. Furthermore, we have implemented additional licensing processes to coordinate NGSO networks due to their size and complexity compared to those of the GSO networks. These international regulatory and national licensing processes will also apply for access to the unassigned spectrum by new satellite gateways. Therefore, we do not consider that our proposal would affect existing satellite users in the unassigned spectrum.

# Existing fixed wireless users in bands adjacent to the unassigned spectrum and guard bands

- 3.23 The unassigned spectrum and the four guard bands lie adjacent to the 28 GHz Spectrum Access licensed blocks which are used for fixed wireless services in the UK.
- 3.24 We do not consider that our proposal would affect adjacent fixed use because we expect a limited number of gateways in the band. However, satellite operators should be mindful of existing fixed links in adjacent bands in the vicinity of their proposed gateway and we reserve the right to reject any application, or a variation to an existing licence, where we have concerns regarding the risk of interference from NGSO gateways and PES to these services.

<sup>&</sup>lt;sup>13</sup> The Avanti PES licences were authorised prior to the 2008 auction and grandfathered as part of that Statement. Their licence contains conditions of use within the frequencies licensed to 28 GHz licence holders.

<sup>&</sup>lt;sup>14</sup> Satellite coordination is a bilateral/multilateral process between administrations aimed at interference-free operation of existing and planned satellite systems.

#### Impact on future users of the unassigned spectrum

- 3.25 We have considered how making the spectrum available for satellite gateways now may affect spectrum availability for other potential future licensees in the band. We consider that our proposal would not significantly constrain deployment of future users for the following reasons:
  - a) We anticipate a limited number of satellite gateways: As satellite gateways act as a data hub, we expect there to be a limited number in operation in the UK and these mainly operate in rural locations.
  - b) Existing measures to prevent spectrum hoarding by satellite operators: As part of the existing licensing process for NGSO gateways, applications are reviewed and subject to public comment to assess how they may affect competition in the market including that they are for real services and not being used to hinder market entry. All gateways must begin transmission within 12 months of receiving a licence as set out in the NGSO licence conditions. When reviewing applications for new PES licences we reserve the right to refuse them if we have any concerns regarding how many we receive.

#### Impact on citizens and consumers

- 3.26 Our proposal to make available additional spectrum for satellite gateways in the unassigned spectrum including the guard bands would enable satellite operators to access an additional 560 MHz of bandwidth to provide services to consumers. This would allow them to offer services to more consumers and businesses, including those in hard-to-reach areas.
- 3.27 We have also considered whether our proposals will affect persons sharing protected characteristics (broadly including race, age, disability, sex, sexual orientation, gender reassignment, pregnancy and maternity, marriage and civil partnership, and religion or belief in the UK, and in Northern Ireland also dependents and political opinion), and whether they may discriminate against such persons or affect equality of opportunity or good relations. This assessment helps us comply with our duties under the Equality Act 2010 and the Northern Ireland Act 1998.33 We do not consider that our proposals have equality implications under the 2010 Act or the 1998 Act.

**Question 1**: Do you agree with our proposal to open access to the bands shown in Table 1 for satellite gateway use under the existing NGSO gateway and PES licences with the associated licensing process and fees? Are there other uses of these frequencies which you would prefer to be authorised in these bands?

**Question 2**: Do you agree with our initial assessment that our proposals would benefit citizens and consumers and would not materially affect existing users of the 28 GHz band as well as future users of the unassigned spectrum?

**Question 3**: Do you have further views / comments that you wish to make in respect of this consultation?

#### Next steps

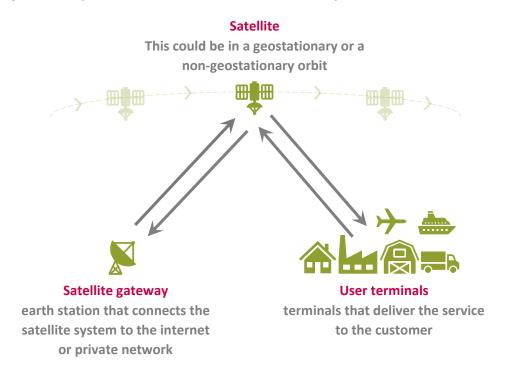
3.28 Following this consultation period, we plan to publish a Statement outlining our decision in autumn 2023. Should we decide to proceed with our proposals, we intend to make the spectrum available for satellite gateways at the same time we publish the Statement.

- 3.29 We will consult on authorisation options for wider use of the unassigned spectrum for other users, such as fixed services or uncoordinated satellite terminals, later this year. As part of this work and in view of satellite stakeholder responses to previous consultations referenced in paragraph 3.10, we are also considering whether to bring forward proposals to make it easier for satellite gateways to access other 28 GHz spectrum on a shared basis with existing licensees.
- 3.30 We expect to consult on adding other frequencies such as Q/V band to the PES and NGSO gateway licences by March 2024 as outlined in our 2023/24 Plan of Work.

# A1 How satellite networks operate

- A1.1 A satellite communication network (Figure A1) is made up of three main components:
  - a) One or more earth stations gateways which connect the satellite broadband network to the internet or private network.
  - b) Several satellites either in GSO or NGSO used to relay traffic between the gateway and user terminals and,
  - c) User terminals to provide broadband connectivity to end users, typically comprising of an antenna and user equipment.

Figure A1: Key elements of a satellite communication system



# A2 Responding to this consultation

#### How to respond

- A2.1 Of com would like to receive views and comments on the issues raised in this document, by 5pm on September 29, 2023.
- A2.2 You can download a response form from <a href="https://www.ofcom.org.uk/consultations-and-statements/category-2/expanding-spectrum-access-for-satellite-gateways-in-the-28-ghz-band">https://www.ofcom.org.uk/consultations-and-statements/category-2/expanding-spectrum-access-for-satellite-gateways-in-the-28-ghz-band</a>. You can return this by email or post to the address provided in the response form.
- A2.3 Responses may alternatively be posted to the address below, marked with the title of the consultation:

Spectrum Management and Authorisation Ofcom Riverside House 2A Southwark Bridge Road London SE1 9HA

- A2.4 We welcome responses in formats other than print, for example an audio recording or a British Sign Language video. To respond in BSL:
  - send us a recording of you signing your response. This should be no longer than 5 minutes. Suitable file formats are DVDs, wmv or QuickTime files; or
  - upload a video of you signing your response directly to YouTube (or another hosting site) and send us the link.
- A2.5 We will publish a transcript of any audio or video responses we receive (unless your response is confidential)
- A2.6 We do not need a paper copy of your response as well as an electronic version. We will acknowledge receipt of a response submitted to us by email.
- A2.7 You do not have to answer all the questions in the consultation if you do not have a view; a short response on just one point is fine. We also welcome joint responses.
- A2.8 It would be helpful if your response could include direct answers to the questions asked in the consultation document. The questions are listed at Annex A5. It would also help if you could explain why you hold your views, and what you think the effect of Ofcom's proposals would be.
- A2.9 If you want to discuss the issues and questions raised in this consultation, please contact us by email at 28GHz@ofcom.org.uk.

#### Confidentiality

- A2.10 Consultations are more effective if we publish the responses before the consultation period closes. This can help people and organisations with limited resources or familiarity with the issues to respond in a more informed way. So, in the interests of transparency and good regulatory practice, and because we believe it is important that everyone who is interested in an issue can see other respondents' views, we usually publish responses on the Ofcom website at regular intervals during and after the consultation period.
- A2.11 If you think your response should be kept confidential, please specify which part(s) this applies to and explain why. Please send any confidential sections as a separate annex. If you want your name, address, other contact details or job title to remain confidential, please provide them only in the cover sheet, so that we don't have to edit your response.
- A2.12 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A2.13 To fulfil our pre-disclosure duty, we may share a copy of your response with the relevant government department before we publish it on our website.
- A2.14 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's intellectual property rights are explained further in our Terms of Use.

#### Ofcom's consultation processes

- A2.15 Ofcom aims to make responding to a consultation as easy as possible. For more information, please see our consultation principles in Annex x.
- A2.16 If you have any comments or suggestions on how we manage our consultations, please email us at consult@ofcom.org.uk. We particularly welcome ideas on how Ofcom could more effectively seek the views of groups or individuals, such as small businesses and residential consumers, who are less likely to give their opinions through a formal consultation.
- A2.17 If you would like to discuss these issues, or Ofcom's consultation processes more generally, please contact the corporation secretary:
- A2.18 Corporation Secretary

Ofcom

**Riverside House** 

2a Southwark Bridge Road

London SE1 9HA

Email: corporationsecretary@ofcom.org.uk

# A3 Ofcom's consultation principles

Ofcom has seven principles that it follows for every public written consultation:

#### Before the consultation

A3.1 Wherever possible, we will hold informal talks with people and organisations before announcing a big consultation, to find out whether we are thinking along the right lines. If we do not have enough time to do this, we will hold an open meeting to explain our proposals, shortly after announcing the consultation.

#### During the consultation

- A3.2 We will be clear about whom we are consulting, why, on what questions and for how long.
- A3.3 We will make the consultation document as short and simple as possible, with an overview of no more than two pages. We will try to make it as easy as possible for people to give us a written response.
- A3.4 We will consult for up to ten weeks, depending on the potential impact of our proposals.
- A3.5 A person within Ofcom will be in charge of making sure we follow our own guidelines and aim to reach the largest possible number of people and organisations who may be interested in the outcome of our decisions. Ofcom's Consultation Champion is the main person to contact if you have views on the way we run our consultations.
- A3.6 If we are not able to follow any of these seven principles, we will explain why.

#### After the consultation

A3.7 We think it is important that everyone who is interested in an issue can see other people's views, so we usually publish the responses on our website at regular intervals during and after the consultation period. After the consultation we will make our decisions and publish a statement explaining what we are going to do, and why, showing how respondents' views helped to shape these decisions.

# **A4 Consultation coversheet**

Basic details								
Consultation	title:							
To (Ofcom co	ontact):							
Name of respondent:  Representing (self or organisation/s):  Address (if not received by email):								
						Confid	entiality	
Please tick be	elow what part of your response you co	nsider is confidential, giving your reasons why						
•	Nothing							
•	Name/contact details/job title							
•	Whole response							
•	Organisation							
•	Part of the response $\qed$							
If you selecte	ed 'Part of the response', please specify	which parts:						
still publish a	reference to the contents of your responsary that does not disclose the specific No $\square$	r organisation not to be published, can Ofcom onse (including, for any confidential parts, a information or enable you to be identified)?						
that Ofcom c publish all re- obligations. I	an publish. However, in supplying this r sponses, including those which are mar	s cover sheet is a formal consultation response esponse, I understand that Ofcom may need to ked as confidential, in order to meet legal om can disregard any standard e-mail text about						
response is n		during and after the consultation period. If your dyou would prefer us to publish your response re.						
Name	Signed (	if hard copy)						

# **A5 Consultation questions**

**Question 1**: Do you agree with our proposal to open access to the bands shown in Table 1 for satellite gateway use under the existing NGSO gateway and PES licences with the associated licensing process and fees? Are there other uses of these frequencies which you would prefer to be authorised in these bands?

**Question 2**: Do you agree with our initial assessment that our proposals would benefit citizens and consumers and would not materially affect existing users of the 28 GHz band as well as future users of the unassigned spectrum?

**Question 3**: Do you have further views / comments that you wish to make in respect of this consultation?