Your response

Question	Your response
Q1: 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?	SES S.A. (SES) fully supports Ofcom's proposal to make available the unassigned 28 GHz spectrum and the four "guard bands" for use by Non-geostationary satellite (NGSO) Earth station gateways and Geostationary satellite (GSO) gateways. Granting access to these frequencies for gateway operations holds significant potential for both satellite operators and UK citizens. Ofcom's proposal will enable satellite operators to provide more satellite capacity for innovative satellite services to customers in the UK. As highlighted by Ofcom, access to the 28 GHz frequencies will also assist in addressing the demand for satellite services in the UK. This includes connecting more households and businesses in remote areas, supporting offshore energy facilities and utilities, and facilitating transportation applications (such as aircraft, drones, and maritime vessels) across the entire UK.[1]

[1] Consultation, paragraph 1.4.

Question	Your response
Q2: 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?	SES agrees with Ofcom's initial assessments regarding the impact on current users and the advantages accruing to UK citizens and consumers. There should be no impact on current users, since the bands have now been vacated, and there is little indication of any terrestrial requirements for this spectrum that could not be met using other available spectrum, such as the 26 GHz band (24.25-27.5 GHz). As discussed above, UK citizens are poised to see substantial benefits as a result of these proposals. Authorizing expanded access to the 28 GHz band for the Fixed Satellite Service (FSS) will enhance satellite-enabled connectivity services available to citizens and consumers across the country. The primary demand for these frequency bands is clearly emanating from the Fixed Satellite Service (FSS). In response to the "Arqiva's 28 GHz spectrum access license" consultation, feedback was received exclusively from satellite operators, all of whom endorsed Ofcom's intention to repurpose the underutilized 28 GHz spectrum for satellite services.[2]

[2] Consultation: "Arqiva's 28 GHz spectrum access license", (15 February 2023) ("Arqiva License Variation Consultation"), https://www.ofcom.org.uk/__data/assets/pdf_file/0030/253794/Arqivas-28-GHz-spectrumaccesslicence.pdf; *see* Amazon response to Arqiva License Variation Consultation, https://www.ofcom.org.uk/__data/assets/pdf_file/0028/255538/amazon.pdf; *see also* Avanti response to Arqiva License Variation Consultation, https://www.ofcom.org.uk/__data/assets/pdf_file/0029/255539/avanti.pdf; *see also* Viasat response to Arqiva License Variation Consultation, https://www.ofcom.org.uk/__data/assets/pdf_file/0021/255540/viasat.pdf. [4] Consultation, paragraph 3.7.

Question	Your response
Q3: Do you have further views / comments that you wish to make in respect of this consultation?	SES fully supports Ofcom's proposal to explore additional options for expanding the use of these frequencies by uncoordinated satellite terminals in a future consultation. Granting satellite gateway access to the unassigned 28 GHz spectrum and the four "guard bands" is certainly a step in the right direction in terms of enabling satellite operators to offer more advanced services and address growing demand for satellite spectrum. Furthermore, allowing uncoordinated satellite terminals to use these bands would even better address connectivity needs and result in more intensive and efficient use of the same spectrum, as explained below. As noted by Ofcom, the 28 GHz band is allocated on a primary basis to the FSS both globally in the Radio Regulations and specifically within the UK, and is "ideal for the delivery of global satellite services."[4] This band is indeed extensively used worldwide by both GSO FSS and NGSO FSS satellite systems, many of which are licensed by the UK, and rely on the 28 GHz band to deliver vital services to customers not only in the UK but also across the globe. SES operates its UK-licensed O3b NGSO system exclusively within the Ka-band to provide high-throughput, low-latency services both in the UK and internationally. SES also operates multiple Ka-band GSO FSS satellites to provide connectivity for customers across the globe. The synergy between the GSO and NGSO fleets enables SES to cater to customer requirements across industries and geographic regions, offering efficient and reliable satellite services while extending satellite connectivity to underserved areas. SES is not alone in our need for access to Kaband frequencies to deliver our services to customers both in the UK and globally. As noted by Ofcom both in this Consultation and in others,[3] the demand for 28 GHz satellite

[3] Consultation, paragraphs 1.1 and 1.4; *see also* Consultation: "Enabling mmWave spectrum for new uses" (9 May 2022) (noting "the 28 GHz band is a core band for satellite services and there is growing demand for frequencies in the 27.5-29.5 GHz band"),

	services is strong and growing as "[s]pace based connectivity is increasingly important for UK consumers and businesses, with an ever-growing number of satellite operators offering a range of services."[4] Opening up these frequencies to uncoordinated satellite terminals in addition to gateways will better enable satellite operators to meet the escalating demand for FSS services in the UK reliant on high-capacity 28 GHz spectrum. From an operational perspective, the coexistence of uncoordinated satellite terminals and satellite gateways within these uplink Ka-band frequencies would foster the efficient utilization of these frequencies. Indeed, coordinating between satellite gateway operations and satellite terminal operations is less complicated compared to coordinating with non-satellite services. Therefore, SES urges Ofcom to open these frequencies for both gateways and uncoordinated satellite terminal operations whilst restricting access to these frequencies by non-satellite services. As discussed above in response to Question 2, it is abundantly clear that satellite operators exhibit a pronounced and undeniable demand for these frequencies, while there appears to be minimal interest from alternative service providers, including fixed service providers. Satellite operators depend on access to the 28 GHz bands for both existing and future service deployments and have been transparent with Ofcom and other regulatory bodies concerning our spectrum requirements necessary to deliver these services. In the event that fixed service operators express new interest in additional spectrum in this frequency range, any such requests can be addressed using the 26 GHz band rather than the 28 GHz band. This approach is consistent with spectrum allocation rules in the UK as well as with the CEPT deliverables,[5] and would

https://www.ofcom.org.uk/__data/assets/pdf_file/0027/237258/mmwave-spectrum-condoc.pdf; *see also* Consultation: "Proposed Annual Licence Fees for 10, 28 and 32 GHz Bands" (19 July 2022) (noting "use of the Ka Band is expected to increase"), https://www.ofcom.org.uk/__data/assets/pdf_file/0021/241752/alf-10-2832-ghz-condoc.pdf.

[4] Consultation, paragraph 1.1.

[5] *See* ECC Decision (18)06, allocating the 24.25-27.5 GHz band to mobile/fixed communications networks), https://docdb.cept.org/download/1459.

	ensure a pragmatic and efficient utilization of available spectrum resources.