Your response

Question	Your response
Question 1: Do you have any comments on this variation?	*Is this response confidential? – N* Amazon plans to launch and operate Project Kuiper, a constellation of 3,236 non-geostationary satellite orbit ("**NGSO**") satellites in low earth orbit ("**LEO**") that will provide high-

	speed, low-latency broadband services to households, businesses, and other customers, connecting unconnected and under-connected communities around the globe. NGSO fixed-satellite service ("**FSS**") systems can provide high-capacity, low-latency connectivity to hard-to reach places. The Kuiper satellite constellation will operate in the 27.5-30 GHz frequency band (the "**28 GHz band**") for Earth-to-space communications. In Ofcom's consultation paper "*Arqiva's 28 GHz spectrum access licence: Consultation on proposed variation*" ("**Consultation**"), Ofcom indicates that Arqiva Limited ("**Arqiva**") has requested a variation to its spectrum access licence, which currently grants Arqiva exclusive access to the frequencies in the 27.8285-28.0525 GHz band, paired with the frequencies in the 28.8365-29.0605 GHz band ("**Frequencies**"), on a national basis ("**Spectrum Access Licence**"). The requested variation would reduce the scope of the Spectrum Access Licence to cover only three (3) geographic areas ("**Retained Areas**") and establish a licence expiration date of 31 July 2026. If Ofcom accepts Arqiva's request, the Frequencies held by Arqiva under its Spectrum Access Licence will become immediately available for re-authorisation by Ofcom (except for the Frequencies held in the Retained Areas, which will subsequently become available for re-authorisation by Ofcom after 31 July 2026). Ofcom has indicated that its provisional view is to agree to Arqiva's request. Ofcom has not stated how it will re-authorise the Frequencies if it in fact accepts the Arqiva request. **Ofcom approach to re-authorisation** Amazon strongly urges Ofcom to assign the Frequencies for use under the Satellite (NGSO Earth Station) Licence and Satellite (Earth Station Network) Licence types ("**NGSO Licences**"). Making the Frequencies available for use under NGSO Licences would increase available capacity for satellite systems operating or planning to operate in the 28 GHz band. Ofcom has acknowledged that capacity in the 28 GHz band is needed for satellite services:

	• 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 (Ofcom "*Enabling mmWave spectrum for new uses*" Consultation, paragraph 2.22); • use of the Ka Band is expected to increase (Ofcom "*Proposed Annual Licence Fees for 10, 28 and 32 GHz Bands*" Consultation, Paragraph 3.11); and • while the Ka Band is also used for fixed wireless access services, on balance, such services are not the highest value use of the Ka Band (Ofcom "*Proposed Annual Licence Fees for 10, 28 and 32 GHz Bands*" Consultation, paragraph 3.14). Awarding the Frequencies to a new spectrum access licensee on an exclusive basis (such as through auction or assignment) is neither desirable nor required for satellite services. Satellite systems are able to co-exist and share spectrum, and are in fact required to do so pursuant to a condition imposed by Ofcom under the NGSO Licences. If Ofcom did auction the Frequencies, and a single satellite operator were to obtain exclusive use of the Frequencies, any leased access would be granted at the discretion of the licensee. Thus, the licensee could potentially refuse to enter into a commercial spectrum lease with another satellite operator seeking to use the same frequencies. Indeed, such a scenario is possible today under the exclusive assignments that have been made to fixed wireless users (who are not obligated to lease the spectrum to other users) and introduces risk to satellite operators' deployment in the concerned bands. Such exclusive spectrum access is inefficient, and can deprieve satellite operators of access to a much-needed frequency resource. Furthermore, even if a commercial spectrum lease is entered into, a spectrum access licensee can surrender its licence at any time for any reason, which creates uncertainty for the lessee and can impact the provision of services. Conversely, making the Frequencies available for application under the NGSO Licences, in full

	compliance with ECC/DEC(05)01, would simplify and make access to the Frequencies more efficient for satellite operators, as it would: • remove the need to negotiate a commercial spectrum access lease arrangement with a license-holder in order to deploy services, which adds time, cost and uncertainty to deployment; • create a more predictable fee structure using administrative pricing under the NGSO Licence path; and • result in a more predictable application process managed by Ofcom. If implemented, these features will more effectively facilitate Ofcom's broadband policy objectives to ensure coverage for those users that remain un- or under-connected in the UK. It will also foster competition between access services and between satellite operators on a more even basis. In addition, compliance with the ECC/DEC(05)01 will also help ensure harmonization of spectrum use across the region. **Use of the Frequencies by earth station terminals** Ofcom's Consultation only acknowledges demand for the 28 GHz band for earth station gateway use; however, the 28 GHz band is also important for operation of earth station terminals. For satellite operators intending to provide service nationally, earth station terminals will be deployed ubiquitously across the UK, and will require blanket access to spectrum on a national basis. Ofcom should therefore avoid an approach making the Frequencies no longer available for national use (such as assignment of the Frequencies in blocks or smaller segments). **Timing for re-authorisation of the Frequencies** Amazon respectfully requests that Ofcom determine its re-authorisation approach as a priority, noting that many commercial and planning decisions cannot be made by satellite operators in the absence of certainty from Ofcom.

Please provide evidence in support of your views.