**Responses to ICASA Public Consultations**

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| **Public Consultations Subject** | The Proposed New Licensing Framework for Satellite Services |
| **Organization** | Skylo Technologies, Inc. |
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**Responses and Comments:**

| **No.** | **Question** | **Response** |
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| Q1 | These are the policy principles from the ATU that ICASA seeks to align with.  Kindly provide comment(s) on the proposed policy principles and any further recommendations listed in the above section? | Skylo supports ICASA’s alignment with ATU policy principles for satellite licensing frameworks and we encourage ICASA to adopt a flexible, light-touch regulatory approach for mobile-satellite services licensing. Such an approach will promote innovation, investment, and the rapid deployment of satellite services, particularly in rural and underserved areas, that are in most need of advanced connectivity.  Skylo’s ‘direct-to-device’ (D2D) service is live across four continents, with more than 50 million square kilometers of coverage, which has given Skylo a unique opportunity to assess regulations for D2D services in a wide range of countries. Because Skylo is a D2D Non-Terrestrial Network (NTN) service provider that powers end-to-end satellite service for phones, wearables and Internet of Things (IoT) devices using dedicated, licenced mobile-satellite service (MSS) L- and S-band spectrum and geostationary satellites, Skylo has found that often the same regulatory framework applies for D2D using MSS spectrum as for existing mobile-satellite services. The ‘user terminal’ is simply a standard smartphone or IoT device, as the case may be, allowing existing regulations for mobile-satellite service to perfectly cover the scope of D2D. However, in most countries, there is no regulatory framework for type acceptance or type approval of the actual devices, particularly for D2D, that are being deployed using 3GPP Release-17 NTN standards. This can create a delay in obtaining the appropriate licences or equipment certification for the devices which are becoming available on a day-to-day basis. Therefore, Skylo encourages ICASA to adopt a light-touch regulatory framework to allow all capable cellular devices to take advantage of D2D/NTN, by using a blanket licence approach consistent with how terrestrial-only cellular devices are licensed today.  One of the most important benefits for people and businesses in South Africa is that D2D networks like Skylo’s make satellite connectivity affordable, reliable, ubiquitous, and – most importantly – that it works from the same device that consumers have today. Because Skylo uses standardized cellular modems to connect to satellites, these services benefit from much greater economies of scale and therefore can be deployed into many more devices because of the lower cost compared to traditional satellite phones that are more limited in scale and therefore more costly. Additionally, by building to 3GPP standards, Skylo is fully interoperable with the terrestrial mobile ecosystem, allowing satellite and terrestrial mobile services to operate no differently than standard roaming today.  D2D services offer a crucial enhancement to connectivity across South Africa, especially in areas where terrestrial networks fall short, and in geographies such as mountains, the highveld, the bushveld or deserts where terrestrial networks are not economically viable. By providing reliable connectivity in vast regions with limited or no coverage, D2D services can significantly improve emergency and disaster response. D2D services also support IoT applications across industries like shipping, mining, energy and environmental monitoring, animal tracking, logistics, agriculture, fishing, healthcare, and enabling data-driven decision-making and operational improvements. These are all critically important sectors of South Africa’s vibrant economy, therefore Skylo encourages the ICASA to adopt a regulatory framework for D2D using MSS spectrum that allows for the efficient deployment of a widespread proliferation of new devices.  Skylo has seen an exponential increase in the take-up of its service and the interest in deploying Skylo’s connectivity has skyrocketed with the recent introduction of Skylo in all Google Pixel 9 smartphones ([https://www.skylo.tech/newsroom/skylo-connectivity-enables-new-satellite-sos-feature-on-google-pixel-9-series](http://?)), and recent partnership announcement with Verizon [(https://www.verizon.com/about/news/verizon-skylo-launch-direct-device-messaging-customers](http://?)). Given these recent developments and the market opportunity for D2D services in South Africa, Skylo is interested in providing D2D services in South Africa as quickly as possible. |
| Q2 | Do you agree with the exclusions of radio navigation satellite services, amateur satellite services, earth exploration, space research satellite services and radio astronomy services indicated above and others if applicable? If not, please explain your reasoning and propose an alternative to this proposal. | Skylo agrees with the exclusions of radio navigation satellite services, amateur satellite services, earth exploration, space research satellite services and radio astronomy services.  In the Table above Question 2 in the row designated for 2 GHz MSS, Skylo would strongly recommend that ICASA follow the global ITU allocation for MSS in the 2 GHz band which encompasses the entire 1980-2010 MHz and 2170-2200 MHz bands. To also include the 2010-2020 MHz band will give South Africa the flexibility to encompass part of the Region 2 allocation that is being reviewed for a global allocation by the ITU before WRC-27.  Skylo currently operates mobile-satellite services in the L-band and the S-band using the following band pairings:   |  |  | | --- | --- | | **UE Rx** | **UE Tx** | | 1525-1559 MHz | 1626.5-1660.5 MHz | | 2170-2200 MHz | 1980-2010 MHz | | 2180-2200 MHz | 2000-2020 MHz |   Skylo is also interested in providing mobile-satellite services in additional frequencies, which may be eligible for allocation now or in the near future:   |  |  | | --- | --- | | **UE Rx** | **UE Tx** | | 2120-2160 MHz | 2010-2025 MHz | | 2160-2170 MHz | | 1518-1525 MHz | 1668-1675 MHz |   Skylo encourages ICASA to include these bands for the assignment to GSO/ NGSO based mobile-satellite services as soon as practicable to increase the amount of spectrum available for Non-Terrestrial Network (NTN) ‘direct-to-device’ (D2D) services. |
| Q3 | Do you agree with the proposed approach of having a separate licence/authorisation (where applicable) for each segment of the Satellite Communication value chain? Please elaborate. | Skylo agrees with the proposed approach of having a separate licence/authorisation for each segment of the Satellite Communication value chain. This aligns with international best practices as many countries are adopting a segmented approach to satellite licensing, recognizing the unique characteristics of each segment and the need for specialized regulations. Aligning with this global trend can facilitate international cooperation and interoperability. In addition, separate licences allow smaller companies and new entrants to focus on specific segments of the satellite market, reducing the financial and regulatory burden of obtaining a comprehensive licence. This encourages greater participation and competition, ultimately benefiting consumers. |
| Q4 | Please provide your comments on the proposals in the preceding paragraph and the duration of the Gateway Earth Station licences. | Skylo agrees with ICASA’s proposals regarding the regulatory framework for satellite gateways in South Africa. |
| Q5 | Please comment on the above-mentioned alternative proposals to levy the spectrum fees for Gateway Earth Stations and indicate your preferred option. The Authority understands that there are other spectrum fee calculation methodologies used elsewhere in the world. Please give details of the methodologies which you believe would be most suitable for South Africa. | Skylo agrees with ICASA’s proposals for Gateway Earth Station Spectrum Licences where it proposes to implement the spectrum licence fees, applied per licence, not per Earth  Station in the Table above Question 5 in the Consultation document. |
| Q6 | Kindly comment on the section above and on the proposal for blanket licensing with a fee for a set number of terminals under a new proposed licence regime to be referred to as “Satellite User Station Network Licence”. If possible, please provide a breakdown of the number of terminals with the corresponding spectrum fee values in South African  Rands. | Skylo agrees with the proposed Satellite User Station Network Licence or a blanket licence. However, the licence fee for wireless stations operating under satellite services should be imposed based on a per licence basis instead of on a per station basis. This is especially important because as more and more devices with both terrestrial and satellite connectivity are being brought to market, there will be more ‘stations’ (i.e., devices) that have connectivity through the NTN component but may not be using the satellite component nearly as much as the terrestrial component.  Because 3GPP standardized NTN devices will quickly become ubiquitous and will be in the same hand-held devices used for terrestrial cellular communications, we encourage ICASA to not assess additional fees just because these devices can provide both terrestrial cellular and satellite access. The public policy benefits of access to emergency, location-based, and messaging services anywhere – even when outside the coverage of terrestrial networks -- far outweigh any possible monetary benefit to the government from fees on satellite connectivity. As mentioned earlier, this ubiquitous connectivity will benefit those who are the most unconnected and vulnerable in South Africa. |
| Q7 | Kindly comment on the appropriateness of using regulation 37 of the ICASA radio regulations (“Recognition of licences issued by other countries”) to recognize ESIM licences issued by other countries. | Skylo encourages ICASA to implement a framework that allows not only the free circulation of ESIM devices but also other devices, particularly NTN devices, that may be brought into South Africa for short-term duration. |
| Q8 | Please provide your comments and details of the best practices in other jurisdictions to fulfill the intentions of the Authority as indicated in the above section. Furthermore, considering the provision set out in the Astronomy Geographic Advantage (AGA) Act of 2007, and the requirements of the Radio Quiet Zone, what measures and techniques do you propose to be employed in mitigating the possible interference that may be caused by the satellites within the Astronomy radio frequency bands in South Africa? | Skylo supports ICASA's proposal to avoid imposing landing rights and local gateway obligations on space station operators. This eliminates unnecessary infrastructure, reduces operational complexity, and promotes a more streamlined and efficient satellite communications environment in South Africa. |
| Q9 | Please provide proposals on the role the Satellite operators can play in ensuring that broadband connectivity reaches the areas of the country in terms of community networks with Satellite connectivity as a backhaul.  Kindly provide a regulatory solution that can be applied by Satellite operators to address the shortcomings of terrestrial networks in providing to unserved and underserved areas of the country. This may include collaboration with government programs to reach out to those unserved and underserved areas of the country. | Skylo agrees that broadband satellite connectivity certainly can benefit communities with little or no access to the Internet, but Skylo would like to emphasize the critical role that satellite narrowband connectivity provides as well. Skylo’s system uses 3GPP standardized NTN devices that are the same as terrestrial cellular devices on the market but have the added satellite capability for emergency SOS, location-based, and messaging services when outside the coverage of terrestrial networks. When terrestrial networks are inoperable for whatever reason, being able to communicate with the same device normally used for cellular connectivity but by satellite becomes even more important. For example, the introduction of Skylo in all Google Pixel 9 smartphones gave Pixel 9 customers the option to access emergency SOS services even when the terrestrial networks were knocked out during recent natural disasters in the United States. Those same customers could also send their location and messages to loved ones using Skylo connectivity on their Pixel 9 phones.  While South Africa has very high cellular phone penetration by population, there are large areas within the country where terrestrial networks do not reach or are not economically viable so NTN D2D services offer a crucial enhancement for hand-held connectivity across South Africa, particularly in geographies such as mountains, the highveld, the bushveld and the desert. By providing reliable connectivity in vast regions with limited or no coverage, NTN D2D services can provide critical communications, not just during emergency and disaster responses. |