

ICASA
Eco Point Office Park
350 Witch-Hazel Avenue
Eco Park
Centurion
0157

For Attention: Mr Mandla Mchunu satlicensing@icasa.org.za

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CSIR NGEI Response to proposed new licensing framework for satellite services

Dear Mr Mchunu

Please find herewith our response to ICASA's discussion document "Consultation on the proposed new licensing framework for satellite services", contained in Notice 2678 of 2024.

We look forward to remaining involved in the discussion.

Regards



Chris R. Burger MEng BEng BCom
Senior Researcher
Spectrum Access and Management Innovation Group
012 841 4151 crburger@csir.co.za

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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?

A1: The proposed policy principles appear to be pragmatic and sensible.

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?

A2: Yes. These services appear to already be subject to an adequate regulatory framework.

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.

A3: Partly. The User Terminal Earth Station Licence appears to overlap largely with the existing telecommunications service provider licences. The upstream access technology appears to be irrelevant in this context, as the end user need not be aware of the actual access mechanism being used (especially in the case of LEO networks with relatively low latency).

Q4: Please provide your comments on the proposals in the preceding paragraph and the duration of the Gateway Earth Station licences.

A4: It appears that a period of five years could be somewhat short to an investor intending to build infrastructure in the hopes of recovering the investment over a period of years. A relatively short period may hinder free competition, possibly serving to escalate market prices to levels higher than necessary.

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.

A5: A simpler numerical model might be more appropriate to make provision for the greater availability of spectrum at higher carrier frequencies. A simple approach might be to simply state the ratio between the centre frequency of the band concerned to the amount of bandwidth. In this way, an operator using 1 GHz of bandwidth at 10 GHz (10:1 ratio) would pay a similar fee to an operator using 4 GHz of bandwidth at 40 GHz (also a 10:1 ratio). This model would provide a strong incentive for operators to explore the technology to gain access to higher frequencies, making available ample additional bandwidth in the process. It would also reduce competition in the lower bands without eroding ICASA's revenue from existing frequency bands.

The publishing of specific amounts for each frequency band also appears to be detrimental, as it makes no provision for the modification of fees due to inflation or competitive factors. Perhaps a formula with provision for a scaling factor might be more appropriate.

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.

A6: The requirement to disclose the identity of users seems to go beyond the requirements of existing operators w.r.t. their users, raising obvious privacy concerns. It may make sense to rephrase the requirement as having a duty to disclose user information subject to a court order or warrant, alleviating some of the privacy concerns without hampering legitimate requirements of law enforcement and similar legitimate governmental requirements.

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.

A7: The approach seems to make sense. Existing flight plan systems may be used as a notification mechanism, by introducing the requirement to list such satellite systems in Field 18 of the Air Traffic Control flight plan. Such information can readily be obtained from air traffic systems.

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?

A8: The proposed policy that no legal presence should be required in South Africa to obtain landing rights is to be applauded.

The use of the term “List of Authorised Space Stations” appears to be confusing. On the one hand, it seems to imply the recording of each individual satellite, whereas the intention appears to be to register entire constellations of satellites forming a unified system. If indeed the intention is to register each satellite separately, this approach seems to be heading for a huge administrative quagmire. If not, perhaps the term “List of Authorised Space Networks” might be more appropriate.

The stated intention not to insist on a ground station in the country is likewise applauded. However, this approach reinforces the argument made previously that service providers to end users can be accommodated under existing service provider licensing mechanisms, as the actual transport mechanism is transparent to the user, and perhaps even to the service provider.

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.

A9: In CSIR NGEI’s work (supporting the government programmes mentioned in the question), it has become apparent that satellite services can play a key role in providing broadband access in rural areas. The ability of satellite operators to address this market with virtually no marginal cost is potentially transformative. Government programmes could conceivably encourage the use of small ground stations providing distributed user access, without imposing any requirements on satellite operators and offering a viable revenue stream from their point of view, without imposing a cost burden on the end user.