

17 January 2025

GSOA Response to URCA Consultation “Regulatory framework for satellite-based electronic communications services in The Bahamas”

I. Introduction

GSOA and its members thank the Utilities Regulation and Competition Authority (URCA, or Authority) for the opportunity to comment on the draft Regulatory Framework for Satellite-based Electronic Communications Services in The Bahamas (Framework). GSOA commends URCA for its commitment to updating its existing regulatory regime and for considering satellite systems as a contributing factor to economic growth in The Bahamas and looks forward to working with URCA in developing the Framework.

GSOA provides a platform for collaboration between companies involved in the satellite ecosystem globally and serves as a unified voice for the sector. Our vision is to help policymakers improve the state of the world by continuously bridging digital, education, health, social, gender and economic divides across diverse geographies and across mature and developing economies. As a global non-profit association, we serve as a representative body for the satellite industry and engage with regulators, policy makers, and international organizations.

GSOA generally concurs with the tentative findings and discussions in the Framework and particularly emphasizes the importance of Earth Stations in Motion (ESIM) connectivity to customers in The Bahamas, including aeronautical and maritime customers. The comments below address questions on the Framework where it may be helpful to URCA to have additional input or context from GSOA members.

II. Comments

Question 1: Do you have any other comments on the demand and the importance of satellite communication services for The Bahamas? If so, please provide a detailed explanation of these observations, including supporting evidence where available.

GSOA supports URCA’s assessment of the demand and the importance of satellite communication services for The Bahamas. From improving broadband connectivity in underserved areas to disaster and emergency

response to the provision of connectivity for ESIMs¹ and ensuring an “always-there” mobile connection via Direct-to-Device (D2D) technology, satellite is as important today as it has ever been.

The Bahamas' unique geography, with over 700 islands and cays, presents significant challenges when developing a comprehensive terrestrial communication network. Consequently, satellite communication services are indispensable for ensuring nationwide connectivity. Satellite services can also provide reliable broadband connectivity across all islands, facilitating internet access for residents, businesses, and tourists.

With over six million visitors annually, tourism is one of the most important industries in The Bahamas. Tourists increasingly expect seamless, high-speed internet access during their stays and satellite services enable hotels, resorts, and other tourism-related businesses to meet these demands, enhancing guest experiences and supporting the sector's competitiveness.

Furthermore, The Bahamas' strategic location along major shipping and aviation routes necessitates robust communication systems for operational efficiency and safety.

Services provided through aeronautical and maritime Earth Stations in Motion, a Fixed Satellite Service (FSS)² application, ensure that vessels and aircraft have access to reliable communication channels, facilitating real-time data exchange and navigation support.

Additionally, the country's susceptibility to natural disasters, such as hurricanes, further underscores the importance of satellite communications, which provide resilient communications alternatives, maintaining critical connectivity during emergencies and aiding in disaster response and recovery efforts. Satellite networks, including geostationary (GSO) satellites, have been supporting The Bahamas and other Caribbean countries in the aftermath of natural disasters for over five decades.

In addition to recognizing that NGSO systems can present a number of new opportunities, GSOA would like to emphasize that there have also been significant technological advancements in GSO satellite networks, with the development of new generations of High Throughput (HTS) and Ultra High Throughput GSO satellites (UHTS) providing much greater capacity than previously available, improving the affordability of satellite broadband and enabling new applications. Significant technological advancements continue to take place within the satellite industry, including both GSO networks and NGSO systems.

Regarding use cases for satellite services, GSOA would like to add that the Fixed Satellite Service (FSS)¹, as defined in the ITU Radio Regulations, include many services and applications, such as broadband connectivity provided by both GSO and NGSO satellites and ESIMs for aeronautical, maritime and land services. Regarding Mobile Satellite Services (MSS)³ use cases, GSOA would like to add that there are several uses cases, one of which is Direct-to-Device (D2D). D2D refers to the provision of connectivity from

¹ ESIMs are an application of FSS, and not a distinct service, as per RES-156 (WRC-15), RES-169 (WRC-19), RES 121 (WRC-23), RES 123 (WRC-23) and CITEL Recommendation 68, 2024.

² See Article 1.21 of ITU RR

³ See Article 1.25 of ITU RR

satellites directly to commercially available mobile (cellular) phones as well as other devices like those used in Internet of Things (IoT) applications.

D2D can be provided using two main variants to enable direct communications between satellites and mobile devices:

(i) The first variant is based on the use of spectrum allocated to the MSS, such as the L- and S-bands, and standardized by the 3GPP in Release 17⁴. This standardization allows integrating additional modem capabilities into mobile handsets to support satellite-specific frequency bands allocated to the MSS. In this approach, communications provide complementary coverage to terrestrial mobile networks and allow satellite operators to provide mobile, voice and data services. In addition, the ITU has included a number of Agenda Items at the upcoming World Radio Conference 2027, such as 1.13, that address the potential allocation of new MSS spectrum for the provision of D2D and other applications.

(ii) The second variant of D2D uses mobile International Mobile Telecommunication (IMT) spectrum and leverages the deployment of user equipment currently used in terrestrial mobile networks. Since IMT spectrum is generally allocated to MNOs on an exclusive basis, this approach requires partnerships between satellite operators and MNOs, as stated by URCA.

GSOA has released the following paper on this matter “The Future of Satellite Connectivity: Various Approaches to Direct-to-Device Services⁵”.

In summary, satellite communication services are not merely supplementary but are essential components of The Bahamas' telecommunications landscape as they can help address inherent geographical challenges, bolster key economic sectors, enhance disaster resilience, and contribute to the nation's overall socio-economic development. Recognizing and supporting the expansion of these services aligns with national interests and the evolving needs of both residents and visitors.

Question 2: Do you agree with the regulatory and policy objectives to consider in this review and the resulting five key objectives guiding URCA's review?

GSOA supports URCA's regulatory and policy objectives for satellite-based electronic communications services in The Bahamas. However, we have recommendations regarding the licensing requirements for maritime and aeronautical ESIM services. Please, see Question 3 for more details.

For the sake of clarity, GSOA recommends including “Geostationary Earth Orbit (GEO) networks” in the following statement: “... the Government specifically states that all emerging technologies should be considered and that it *“recognizes the emergence of and technological advancement in Geostationary Earth Orbit (GEO) networks and Low Earth Orbit (LEO) satellite systems to provide high bandwidth and low communication latency.”*

⁴ See <https://www.3gpp.org/specifications-technologies/releases/release-17>

⁵ <https://gsoasatellite.com/wp-content/uploads/GSOA-D2D-Paper-Aug-24.pdf>

Question 3: Do you agree with URCA's preliminary assessment of the current licence regime meeting Objective 1. If not, please clearly specify any potential gaps or issues that should be addressed to achieve this objective. In doing so, please provide a detailed explanation of these observations, including supporting evidence where available.

GSOA acknowledges URCA's preliminary assessment that the current licensing regime facilitates the provision of satellite-based electronic communications services across all regions of The Bahamas, including the Family Islands.

To further facilitate the development and deployment of satellite-based electronic communications in The Bahamas, GSOA recommends the implementation of a blanket licensing regime for user terminals, including ESIMs, with identical technical characteristics to be used by local satellite service providers, both for FSS and MSS. Blanket licensing allows for the authorization of multiple earth stations under a single license, streamlining the regulatory process and reducing administrative burdens, an approach successfully adopted in many jurisdictions to facilitate the deployment of satellite services.

As stated by URCA, a technology-neutral and transparent licensing regime is essential for fostering innovation and fair competition in The Bahamas' electronic communications sector.

To further enhance this framework and better support satellite operators and service providers, GSOA recommends a streamlined application process. While the current application forms are designed to be straightforward, further simplification and digitization could reduce administrative burdens. Implementing an online portal for submissions and tracking could enhance efficiency and accessibility for all stakeholders.

GSOA would encourage strengthening regular dialogue between URCA and industry stakeholders including formal consultations on the different relevant matters. This proactive dialogue ensures that the regulatory environment remains responsive to technological advancements and customer needs.

Furthermore, it is important to consider that there may be different entities serving as the satellite operator and as the satellite service provider and the regulations should reflect this. For instance, in cases where the satellite operator merely provides satellite capacity to duly licensed service providers, we believe that there should be no additional licensing requirement applicable to the satellite operator. This will ensure that foreign satellite operators can still offer their satellite resources to local partners, without the need to have a legal presence / local incorporation in The Bahamas.

Question 4: Do you agree with URCA's preliminary assessment of the current licence regime meeting Objective 2? If not, please clearly specify any potential gaps or issues that should be addressed to achieve this objective. In doing so, please provide a detailed explanation of these observations, including supporting evidence where available.

GSOA acknowledges URCA's preliminary assessment that the current licensing regime facilitates the provision of satellite-based electronic communications services across all regions of The Bahamas, including the Family Islands.

However, GSOA would like to clarify that many satellite operators provide services within Bahamian national waters and airspace to vessels and aircraft in temporary transit, without directly serving local users. Recognizing this operational nuance in the licensing regime would prevent unnecessary regulatory burdens and facilitate smoother service provision.

Internationally, it is customary for administrations to exempt foreign visiting terminals on vessels and aircraft (aeronautical or maritime ESIMs) from additional local licensing if (i) they hold the necessary authorizations from their flag country, (ii) they operate on a non-interference basis and (iii) they do not require connection to a local network. This approach facilitates seamless global operations and is supported by international frameworks.

The current regulations create complexities that hinder the deployment of aeronautical and maritime ESIM services, potentially affecting the quality and availability of connectivity for such users. We recommend that URCA consider aligning its licensing framework with international best practices to facilitate smoother operations for ESIM services, thereby enhancing connectivity and supporting The Bahamas' position as a key hub in regional transportation networks.

The benefits of doing this are:

- **International Harmonization:** Adhering to international conventions (ICAO, IMO, ITU) ensures alignment with global standards and promotes international cooperation.
- **Operational Efficiency:** Streamlines communication and reduces interruptions for international transport, enhancing operational reliability.
- **Reduced Redundancy:** Eliminates the need for redundant local licensing, thereby reducing administrative burdens for both regulators and operators.
- **Enhanced Connectivity:** Improves communication services for passengers and crew, enhancing the overall travel and shipping experience.

Question 5: Do you agree with URCA's preliminary assessment of the current licence regime meeting Objective 3? If not, please clearly specify any potential gaps or issues that should be addressed to achieve this objective. In doing so, please provide a detailed explanation of these observations, including supporting evidence where available.

GSOA appreciates URCA's assessment that the licensing regime should allow the deployment of disaster-resilient network solutions utilizing hybrid terrestrial and satellite architectures. Satellite-based communications services have consistently demonstrated the critical role these technologies play in maintaining connectivity during natural disasters.

Further discussions between industry stakeholders and relevant Government agencies on scope and timelines are needed to determine the overall disaster response plan that will integrate both terrestrial and satellite solutions.

Additional considerations to further enhance the resilience of The Bahamas' communication infrastructure include the following considerations:

- **Integration of Hybrid Network Solutions:** Encouraging the development of hybrid networks that combine terrestrial and satellite components can provide seamless connectivity and ensure service continuity during disasters.
- **Establishment of Pre-Approved Emergency Protocols:** Implementing predefined protocols for rapid deployment of satellite services during emergencies can expedite response times and restore critical communications more efficiently.
- **Regular Training and Simulations:** Conducting joint training exercises with relevant government entities and service providers can enhance preparedness and ensure effective utilization of satellite resources during crises.

GSOA members have supported emergency situations and will continue to do so in collaboration with governments and agencies and other operators.

Detailed requirements could be premature without prior input from all stakeholders. GSOA suggests a dedicated consultation on this matter to ensure efficient and aligned response to emergency situations.

Question 6 - Do you agree with URCA's proposed way forward on licensing regime to accommodate satellite-based services in The Bahamas? If not, please provide a detailed explanation of your suggestions, including supporting evidence where available.

GSOA agrees with URCA's proposal to maintain the existing licensing regime for satellite-based services in The Bahamas and respectfully provides recommendations to strengthen aspects of the proposed licensing regime. Specifically, GSOA respectfully requests that URCA consider the following:

1. Include blanket licensing for user terminals with identical technical characteristics for services to be provided by local service providers, including fixed and ESIM.
2. Explicitly exempt ESIMs onboard foreign aircraft and vessels from licensing when (i) they hold the necessary authorizations from their flag country, (ii) they operate on a non-interference basis and (iii) they do not require connection to a local network.

Question 7: Do you agree with URCA's preliminary views on the expected spectrum demand in low-frequency and high-frequency bands from satellite-based communication services in The Bahamas? Do you have any other comments on the precise bands that should be opened in priority to satellite-based communications services in The Bahamas?

GSOA appreciates URCA's recognition that increased access to spectrum for satellite-based communication services can enhance bandwidth, capacity, and service quality for customers in The Bahamas. Further, GSOA applauds URCA's recognition of the importance of global coordination in allocating spectrum bands for satellite-based communication services. GSOA supports harmonization of national frequency allocations with the decisions of the ITU.

Consistent with the outcomes of the 2023 World Radiocommunication Conference (WRC-23), GSOA encourages URCA to allocate the 17.3-17.7 GHz band to FSS (space-to-Earth) operations. At WRC-23, the ITU allocated the 17 GHz frequency band spectrum to fixed-satellite service (FSS) systems for space-to-Earth communications in Region 2.⁶ Adoption of the outcomes of this decision at WRC-23 regarding the 17.3-17.7 GHz band would not only promote harmonization on the use of these bands in the Region and align with Region 1, but also increase regulatory certainty for satellite operators and service providers and facilitate the deployment of critical connectivity services for customers in The Bahamas.

Allocation of the spectrum in the 17.3-17.7 GHz band to FSS (space-to-Earth) would further align with emerging regional best practices. In September 2024, The U.S. Federal Communications Commission (FCC) released a Report and Order permitting the use of the 17.3-17.7 GHz band by non-geostationary satellite orbit (NGSO) systems, resulting in an allocation of a contiguous 1,300 MHz of spectrum for NGSO downlink operations.⁷ Specifically, the FCC permitted NGSO use for FSS downlink operations "on a co-primary basis with incumbent services and on a shared, co-primary basis with geostationary satellite orbit (GSO) space stations."

Also in 2024, the Inter-American Telecommunication Commission (CITEL) published a Recommendation urging member states to adopt the use of the 17.3-17.7 GHz frequency band for space-to-Earth operations of GSO and NGSO systems.⁸ In making this Recommendation, CITEL recognized that the allocation of the 17.3-17.7 GHz frequency band for space-to Earth FSS operations "shall contribute to meeting growing demand for connectivity in Ka-band for broadband applications and shall provide greater flexibility in designing new satellite systems thus ensuring more efficient spectrum use."⁹

⁶ See International Telecommunications Union WRC-23 Final Acts, Article 5, (Aug. 19, 2024), https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.16-2024-PDF-E.pdf.

⁷ See *Amendment of Parts 2 and 25 of the Commission's Rules to Enable NGSO Fixed-Satellite Service (Space-to-Earth) Operations in the 17.3-17.8 GHz Band*, Report and Order, IB Docket No. 22-273, FCC 24-97 (Rel. Sept. 27, 2024), <https://docs.fcc.gov/public/attachments/FCC-24-97A1.pdf>.

⁸ *Use of the Band 17.3-17.7 GHz (s-E) For Fixed-Satellite Service in Region 2*, PCC.II/Rec. 69 (XLIII-24), Organization for American States, Inter-American Telecommunication Commission (2024), <https://www.oas.org/citevents/en/Documents/ByDocumentType/4>.

⁹ *Id.*

Along similar lines, GSOA also encourages The Bahamas to adopt **Resolution 121 (WRC-23)** for the operation of maritime and aeronautical ESIM communicating with geostationary space stations in the Ku-band and **Resolution 123 (WRC-23)** for the operation of maritime and aeronautical ESIM communicating with NGSO systems in the Ka-band, as well as **Resolution 156 (WRC-15)** and **Resolution 169 (WRC-19)** which collectively provide a regulatory framework to enable aeronautical and maritime GSO Ka-band ESIMs.

As URCA considers updating the Framework, GSOA encourages the Authority to ensure access to sufficient spectrum for satellite-based communication services in The Bahamas. Access to spectrum for satellite-based communication services enables satellite operators and service providers to provide higher quality connectivity services to consumers in support of critical applications such as education, emergency response, e-commerce, government services, and healthcare, among others. GSOA wishes to highlight the importance of having access to the full Ka-band (17.3-21.2 GHz and 27.5-31.0 GHz) for critical satellite services, including use in the Caribbean region for broadband connectivity in difficult-to-reach places, and disaster response and recovery, both of which are necessary in The Bahamas. As satellite networks grow in importance, scale, and use, it is critical to ensure that the increasing need for spectrum for satellite-based communication services is met through flexible, forward-looking regulations that are harmonized according to regional and global frameworks set by the ITU and organizations like CITELE. GSOA encourages URCA to continue monitoring spectrum demand and evaluate allocations in-line with industry and global trends.

Question 10: Do you have any comments on the principles and revised structure proposed by URCA for satellite-based electronic communications services in The Bahamas?

GSOA commends URCA's proposed revisions to the fee structure for satellite-based electronic communications services. The proposed fee structure simplifies existing regulatory procedures, thereby expediting the practical, widespread, and affordable deployment of customer terminals, network gateway stations, and ESIM. Additionally, GSOA welcomes URCA's proposal to exempt from the annual fee applicants seeking to test service prior to commercial launch in The Bahamas. As URCA notes, this will facilitate the deployment of innovative satellite broadband services in the country. As mentioned in earlier responses, GSOA recommends the implementation of a blanket licensing regime for User Terminals with similar technical characteristics, including ESIMs. Blanket licensing allows for the authorization of multiple earth stations under a single license, streamlining the regulatory process and reducing administrative burdens. This approach has been successfully adopted in other jurisdictions to facilitate the deployment of satellite services. It is further submitted that the fees relating to this license should be reasonable and fixed, rather than depending on the number of terminals used, or the size of the fleet in the case of ESIMs, which implies additional reporting obligations for the satellite service providers, as well recognized by URCA in para. 6.2.3 of the consultation.

As noted above, we would further like to suggest that visiting ESIMs onboard foreign aircraft or vessels which have been duly licensed by the home administration of the flag State, should be exempted from

local licensing requirements. The current regulations create complexities that hinder the deployment of ESIM services, potentially affecting the quality and availability of connectivity for maritime and aeronautical users. We recommend that URCA considers aligning its licensing framework with international best practices to facilitate smoother operations for ESIM services, thereby enhancing connectivity and supporting The Bahamas' position as a key hub in regional transportation networks.

Question 11: Do you have any comments on the proposed requirements for satellite service providers conducting the administration and management of their business from premises outside of The Bahamas?

GSOA understands URCA's focus on national security. However, GSOA respectfully requests that URCA avoid applying license requirements for local data storage and local representation to foreign-licensed satellite operators. Such requirements are burdensome and costly for satellite operators seeking to deploy critical connectivity services to consumers in The Bahamas and could dampen investment in the market at a time when such investment is critical.

As URCA contemplates updates to the Framework, GSOA encourages URCA to consider that satellite operators and service providers are typically able to meet domestic lawful intercept obligations and maintain the protection and security of network traffic without locating the data in a given jurisdiction. Requiring local operations does not appropriately reflect the modern network capabilities of existing and future satellite systems and will result in significant operational costs for satellite operators and service providers, ultimately raising the cost of satellite broadband for consumers in The Bahamas and delaying the deployment of satellite broadband services.

Further, minimizing local representation requirements would be consistent with international recommendations and greatly benefit customers in The Bahamas. CITELE, in recognizing the burdens placed upon operators, recommended member states "[t]o the extent allowed by national laws, [to] minimize the local presence requirements in-country."¹⁰ Regulatory frameworks that promote participation of foreign satellite operators can drive innovation and can result in increased choice, lower prices and higher quality of service. Establishing a regulatory environment that allows foreign-licensed satellite operators to provide service with reduced barriers to entry will position The Bahamas to benefit from new satellite-based offerings at a variety of developmental stages.

Question 12: Do you have any comments on other topics related to the provision of satellite-based communication services in The Bahamas which should be considered by URCA?

¹⁰ *Guidelines for the Implementation of National Regulations that Facilitate the Deployment of Satellite Services, Particularly Broadband Services, in the Americas*, PCC.II/Rec. 6 (II-03), Organization for American States, Inter-American Telecommunication Commission (2003), <https://www.oas.org/citevents/en/Documents?page=106>.

GSOA notes and appreciates URCA's use of Class Licences Requiring Registration and urges the Authority to continue its practice of considering applications for registration approved unless URCA objects within 45 days. Well-defined processing procedures and timelines provide transparency and regulatory certainty for satellite operators and service providers as they plan to deploy services to customers in The Bahamas. Such certainty allows for more efficient resource allocation, faster deployment, lower costs, and a better experience for consumers in the country.

Similarly, as URCA solicits stakeholder feedback and considers updates to its existing Framework, GSOA encourages URCA to ensure that any changes to the Framework are communicated and adopted in a timely manner to facilitate the further development and deployment of satellite-based communication services in The Bahamas.

III. Conclusion

GSOA appreciates the opportunity to contribute to this consultation proceeding and remains at URCA's disposal should there be any questions about this submission.