

**Appendix I: Decisions on Recommendations (DORs) Matrix from the Second of Two Rounds of Public Consultation on the *Framework for the Authorisation of Standalone Ancillary Terrestrial Component (ATC) Systems***

The following summarises the comments and recommendations received from the second of two rounds of public consultation on the *Framework for the Authorisation of Standalone Ancillary Terrestrial Component (ATC) Systems* (the Framework), which was initially posted from 1<sup>st</sup> August 2024 to 29<sup>th</sup> August 2024, and extended for a further 4 weeks until 27<sup>th</sup> September, 2024. The decisions made by the Telecommunications Authority of Trinidad and Tobago (the Authority) have been incorporated in the final version of the Framework, where applicable. The Authority expresses its thanks for all comments and recommendations received from the following stakeholder:

1. Globalstar Inc.

Item	Stakeholder	Policy Section	Comments	Recommendations	TATT's Decision
1	Globalstar	General	<p>Globalstar, Inc. (“Globalstar”) hereby submits these comments to the Second Round of the Consultative Document on the Framework for the Authorization of standalone Ancillary Terrestrial (ATC) Systems in Trinidad and Tobago.</p> <p>Globalstar commends the Authority on its diligence in considering comments and inputs in the first round, and greatly appreciated the opportunity to provide additional contributions in this second round.</p> <p>Globalstar has carefully reviewed the updated consultative document as published, and would like to express its strong support for the proposed policy statements and licensing conditions presented in the document. These revised new rules as would apply to ATC operating in MSS bands, such as Globalstar’s, display a deep understanding by the Authority of the technical, operational, and commercial aspects of such services. Further, there is a clear commitment to regional and global harmonization of rules, and a recognition of continued evolutions in the technology and the surrounding regulatory frameworks, both in Trinidad and Tobago and around the world.</p>		<p>The Authority acknowledges Globalstar’s appreciation for its responses to the comments received in the first round of public consultation on the <i>Framework for the Authorisation of Standalone Ancillary Terrestrial (ATC) Systems</i> (the Framework) and welcomes Globalstar’s additional contribution in this second round of consultation.</p>
2	Globalstar	3.3 ATC Licenses, Fees, and Annual Reporting	<p>3.3 ATC Licenses, Fees, and Annual Reporting</p> <p><i>ATC Systems Licenses, Fees, and Annual Reporting</i>, the Authority proposes to license individual base stations operating in the ATC as point-to-multipoint stations, and to apply the same fees as defined in the “Telecommunications (Fees) Regulations, 2006”<sup>1</sup>. Whilst Globalstar strongly supports a “per station” fee regime, it is</p>		<p>The Authority notes Globalstar’s support for its proposed decision to license individual base stations operating in the ATC as point-to-multipoint stations, in keeping with the fees regime and the concern regarding the proposed calculated fees.</p>

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			<p>concerned that the proposed fees may be prohibitive for private network applications.</p> <p>According to the published table, the applicable annual fee would be of TTD 4,000.00 per MHz pair per station deployed. Globalstar would like to express two main concerns on this:</p> <ul style="list-style-type: none"> <li>- Globalstar's ATC systems do not use frequency division, but rather operate on time division protocols. This enables a high rate of flexibility in dynamically allocating capacity in the system based on use case, applications, and network load. Accordingly, Globalstar does not require paired assignments, but rather a single assignment across the entire operational band. Globalstar seeks clarification from the Authority on this issue and how it would impact the proposed spectrum fees.</li> <li>- If the Authority adopts the current fee structure applicable to point-to-multipoint stations, the total annual fee per base station operating in the full 3GPP standardized Band 53 (2483.50 – 2495.00 MHz) is proposed to be TTD 46,000.00. If a factor of 0.5 were applied to mimic the band pairing factor in the regulations (see previous point), the total annual fee per base station is proposed to be TTD 23,000.00.</li> </ul> <p>Globalstar notes that such fees would challenge the viability of its ATC system-based private network commercial offerings in Trinidad and Tobago. Globalstar's clients for ATC systems and services are generally seeking cost-effective alternatives to less reliable wireless technologies for critical applications, and its base stations operating as ATC may only generate a few hundred dollars of revenue per month for Globalstar. Further, the existing regulations seem to suggest that such fees are reserved for "low capacity, long distance" applications, which does not align with ATC Systems: in fact, these systems are quite the opposite in that they are designed to provide very high-capacity, short distance links. Additionally, the reduced power limits applied to base stations operating as ATC as compared to those operating in the point-to-multipoint service should be reflected in the proposed fees, possibly</p>	<p>If the Authority adopts the current fee structure applicable to point-to-multipoint stations, the total annual fee per base station operating in the full 3GPP standardized Band 53 (2483.50 – 2495.00 MHz) is proposed to be TTD 46,000.00. If a factor of 0.5 were applied to mimic</p>	<p>Globalstar is advised that the discount methodology in accordance with the published <i>Telecommunications Fees Methodology</i> is applicable based on the principle of spectrum efficiency. Subsection 3.3 has been revised and the revised policy statement (#4) states:</p> <p>"The Authority shall issue a point-to-multipoint station licence for the operation of an ATC base station, which shall be subject to licence fees, in keeping with the <i>Telecommunications (Fees) Regulations, 2006</i> and the <i>Telecommunications Fees Methodology</i>."</p> <p>The Authority confirms that the annual fee of TT\$4,000 per MHz pair per station, subject to the <i>Telecommunications (Fees) Regulations, 2006</i>, when applied to a time division duplex (TDD) system would be equivalent to TT\$2,000 per MHz.</p> <p>The Authority acknowledges the comments from Globalstar regarding the reference in the Fee Regulations to fixed (low capacity and long distance) type service. This reference is in comparison to similar systems in higher bands, which support higher capacity.</p> <p>The Authority confirms that the annual licence fee per base station will be TT\$23,000 (prior to the application of the existing discount methodology, based on frequency reuse that will reduce the licence fee per base station by up to 50%).</p>

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			by the application of an additional reduction factor.	<p>the band pairing factor in the regulations (see previous point), the total annual fee per base station is proposed to be TTD 23,000.00.</p> <p>Additionally, the reduced power limits applied to base stations operating as ATC as compared to those operating in the point-to-multipoint service should be reflected in the proposed fees, possibly by the application of an additional reduction factor.</p>	As mentioned above, the Authority will apply its discount methodology based on frequency reuse where stations are eligible for those further discounts.
3	Globalstar	3.4 Technical Operating Parameters	<p>3.4 Technical Operating Parameters</p> <p>In Section 3.4 – <i>Technical Operating Parameters for ATC Systems</i>, the Authority references 3GPP Band 53 standards for ATC systems operating in the 2483.50 – 2495.00 MHz. Globalstar would like to make clear that additional 5G standards have been adopted by 3GPP for the 2483.50 – 2495.00 MHz band, dubbed Band n53. Globalstar would like to ensure that the new rules as adopted in Trinidad and Tobago include both Band 53 and Band n53.</p>		<p>The Authority notes the information provided by Globalstar on the additional 5G standards that have been adopted by 3GPP for the 2483.50–2495.00 MHz band, namely, Band n53. The Authority agrees with the adopted 5G standards by 3GPP and has updated subsection 3.4 to include 3GPP additional Band n53 as part of the new rules to be adopted in Trinidad and Tobago, and has revised policy statement (#7), which states:</p> <p>“The Authority may authorise the development of standalone, low-power ATC systems in the 3GPP Band 53 and Band n53 specifications (2483.5–2495 MHz) for private or closed user group use, in keeping with the adopted FCC § 25.149 rules and ISED’s technical and operational requirements for low-power ATC systems.”</p>