

Appendix II. Decisions on Recommendations (DORs) Matrix from the Second Round of Public Consultation on *Spectrum Management Framework* (October 2022)

The following summarises the comments and recommendations received from the second round of public consultation on the *Spectrum Management Framework* (the Framework). The decisions made by the Telecommunications Authority of Trinidad and Tobago (the Authority) have been incorporated in the revised version (ver. 1.2) of the Framework, where applicable. The Authority wishes to express its thanks for all comments and recommendations received from the following stakeholders:

1. Digicel (Trinidad & Tobago) Limited (Digicel)
2. Telecommunications Services of Trinidad and Tobago (TSTT) Limited
3. 5G Americas

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1	1	Introduction	Digicel	Digicel (Trinidad & Tobago) Limited ("Digicel") thanks the Authority for the opportunity to comment on this second round of this framework document.		The Authority acknowledges Digicel's appreciation for the opportunity to comment on the second round of public consultation on the <i>Spectrum Management Framework</i> (the Framework).
2	2.4	Spectrum Monitoring and Enforcement	Digicel	Digicel believes it would be beneficial to include in the framework the typical timeframes for interference identification and resolution.	Digicel recommends that the Authority include typical timeframes for interference identification and resolution into the framework document.	The Authority agrees that timeframes for interference handling should be published, but believes these will be more appropriately addressed in guidelines developed specifically for this purpose. The Authority proposes to develop these guidelines for interference investigation

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				<p>The interference issue has widespread implications for customer experience. Digicel believes that we should have measurable impact assessment done as this would correspond to acceptable service levels for resolution.</p>		<p>and resolution, and publish them under the interference complaints section on the Authority's website by January 2023. The guidelines will include typical timeframes for the conduct of interference investigations. Section 6.3 has also been updated to provide information on typical timeframes for the conduct of interference investigations. It should be noted that the timeframes for interference identification and resolution will depend on the type and nature of the interference.</p> <p>The Authority understands the correlation between interference and the customer's experience. To alleviate this concern, the Authority has focussed on pro-active spectrum monitoring exercises within its operations to mitigate the occurrence of harmful interference, which are reflected in the Framework.</p>
3	5.2	Enable and Encourage Spectrum to Move to Its Highest Value Use	Digicel	<p><i>The highest value use of a portion of spectrum is the use that enables the highest incremental increase in the value of that spectrum, rather than the use for which the</i></p>	<p>The Authority is asked to clarify this statement.</p>	<p>Section 5.2 has been updated and now reads: "the highest value use of a portion of spectrum is the use that enables the greatest overall benefits to society and may result in a monetary increase in the value of that spectrum. The highest value would factor in the applications, the</p>

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				<p><i>services on offer have the highest absolute value (ACMA, 2017).</i></p> <p>This statement in the framework requires clarification as to its meaning.</p> <p>We also ask that the Authority clarify how the incremental value will be assessed.</p>	Digicel recommends that the Authority outline the process for calculating the incremental value of the spectrum to determine the highest value use.	<p>spectrum being allocated, and the alternative uses of spectrum.”</p> <p>The Framework, as indicated in the Scope which has been added, captures the appropriate spectrum policies, rules and regulations for the management of the national spectrum resources in Trinidad and Tobago. The calculation of the highest value use will be included in those subsidiary documents developed for that purpose.</p>
4	5.5	Balance the Cost of Interference Against the Benefits of Greater Spectrum Utilisation	Digicel	The unauthorized use of repeaters by customers should also be included in this framework as they have historically been a source on interference as well.	Digicel recommends that the Authority include as part of the framework the unauthorized use of repeaters by customers as being a source of interference.	<p>The unauthorised use of repeaters or any other radiocommunications equipment is treated in accordance with the Authority's compliance and enforcement procedures. The Authority shall consider Digicel's recommendation when updating its compliance and enforcement procedures.</p> <p>Additionally, the public shall be informed via a suitable notice on the installation and operation of repeaters for mobile services.</p>
5		General	TSTT	Telecommunications Services of Trinidad and Tobago Limited (“TSTT”) appreciates that the Telecommunications		The Authority acknowledges the appreciation expressed by Telecommunications Services of Trinidad and Tobago Limited (TSTT) for the opportunity to comment on the

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				<p>Authority of Trinidad and Tobago (“the Authority”) has given operators the opportunity to comment on these matters. It should be noted that TSTT's comments on this document do not preclude TSTT from making further comments in the future.</p> <p>In the Decisions on Recommendations Matrix for the First Round of Public Consultation, TSTT notes that in response to Digicel’s request for a table of changes made to be published, the Authority stated, that “<i>in the interest of transparency, the Authority agrees to publish the tracked changes as well as a clean version of the Framework following each round of public</i></p>	<p>The Authority to ensure that all changes to the document are identified in the marked-up version in the interest of transparency.</p>	<p>Framework, and its position relating to future comments.</p> <p>The Authority accepts TSTT’s recommendation and is committed to ensuring that changes made to consultation documents are properly identified in the published marked-up version.</p>

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				<p><i>consultation.</i>” TSTT is grateful that the Authority has indeed published a marked-up version of the consultation, however, we noted that all the changes made to the document have not been identified, such as the changes made to page six (6).</p> <p>In that regard, TSTT is requesting that the Authority ensures that all amendments to the document are highlighted in the interest of transparency.</p>		
6	5.2	Enable and Encourage Spectrum to Move to Its Highest Value Use	TSTT	The Authority advises that as it relates to Spectrum Management, mechanisms are to be put in place to move spectrum to its highest value use, however, no details regarding this important matter have been provided.	The Authority to clarify these mechanisms and allow for them to be commented upon via a full consultation process or by adding another round to this consultation, to ensure transparency and agreement with S18. of the Act.	<p>The Framework captures the appropriate spectrum policies, rules and regulations for management of the national spectrum resources in Trinidad and Tobago, as indicated in the Scope which has been added for clarification.</p> <p>Subsidiary documents developed by the Authority in support of the implementation of the policies will</p>

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						<p>provide details on the mechanisms to enable and encourage spectrum to move to its highest value use.</p> <p>Subsidiary documents that require consultation will be consulted upon, in keeping with the Authority's Consultation Procedures.</p>
7	5.3	Use of a Light-Handed Approach to Achieving Policy Objectives	TSTT	The Authority advises that it intends to utilise the least cost and least restrictive approach to achieve its spectrum management goals and objectives, however, it has provided no information on what this least cost and least restrictive approach is meant to be, and how it will be achieved.	The Authority to clarify the least cost and least restrictive method to be utilised and allow for it to be commented upon via a full consultation process or by adding another round to this consultation, to ensure transparency and agreement with S18. of the Act.	<p>As indicated in the Scope which has been added for clarification, the Framework determines the appropriate spectrum policies, rules and regulations for the management of the national spectrum resource in Trinidad and Tobago. Subsidiary documents developed by the Authority in support of these policies will provide details on the least cost and least restrictive method to be used.</p> <p>Subsidiary documents that require consultation will be consulted upon, in keeping with the Authority's Consultation Procedures.</p>
8	5.4	Promote Both Certainty and Flexibility Through	TSTT	In this section, the Authority indicates its intention to establish, inter alia, pluralistic licences. TSTT considers	The Authority to confirm the need to amend the Fees Regulations, pursuant to the introduction of more contemporary spectrum	The Authority will establish and amend all relevant regulations necessary in support of the implementation of the Framework.

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		Procedural Reforms		<p>this to be a laudable contemporary approach to managing this scarce resource. We do however note that one of the objectives of utilising pluralistic licences is to incentivise primary occupants to obtain these licences via a reduced license fee. TSTT notes however that while the Fees Regulations have been identified as a related document to this consultation, the Authority has been silent on amending the Fees Regulations to facilitate the reduced fee associated with a pluralistic licence.</p> <p>TSTT also notes the Authority's commitment to establishing "<i>a stable and predictable regulatory and spectrum management regime</i>". However, in the DoRs to the first round of</p>	<p>licences such as pluralistic licences, to ensure that primary occupants benefit from the incentive of reduced licence fees as necessary. This is in keeping with the required consultation process.</p> <p>TSTT insists that the Authority commits to the completion of the appropriate Regulations to entrench the proposals outlined in this document - one elaborated in detail</p>	<p>Prior to the implementation of the secondary licences, the relevant technical criteria and fees will be established by the Authority and subject to public consultation if required, in keeping with the Authority's Consultation Procedures.</p> <p>The Authority is committed to recommending all regulations and any amendments where necessary in support of the implementation of the Framework.</p>

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				<p>consultation, the Authority repeatedly states that it will consider the implementation of Regulations if deemed necessary. TSTT avers that the most stable and predictable regime would be engendered through the establishment of Regulations which are enforceable and applicable to all spectrum users. This is further necessary given that the majority of the changes and reforms recommended by the Authority are not elaborated upon, and thus remain unclear.</p>	<p>pursuant to consultation – in law.</p> <p>TSTT reaffirms that it does not endorse any recommendations that have not been elaborated upon at this time.</p>	<p>The Authority acknowledges TSTT's position and shall consider the same when developing subsidiary documents in support of the implementation of the Framework.</p>
9	6.1.2	Spectrum for National Security, Law Enforcement and Emergency Services	TSTT	<p>TSTT reiterates that the Authority should clearly define spectrum bands for use by National Security, Law Enforcement and Emergency Services that are distinct and do not commingle with spectrum bands for commercial</p>	<p>The Authority to affirm in policy that there will be specific bands for National Security, Law Enforcement and Emergency Services which are distinct and do not commingle with spectrum</p>	<p>The Authority acknowledges TSTT's recommendation but does not agree that such a policy statement is warranted at this time. Spectrum eligible for commercial use may also serve a national security purpose and be allocated accordingly. TSTT is assured that spectrum bands allocated for national</p>

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				<p>telecommunications services. TSTT reaffirms that this policy statement should not be adopted, as there has already been a precedent that commercial spectrum bands have been cannibalised inefficiently to facilitate Emergency Services. This is more egregious as the stated Emergency Services have not been deployed.</p> <p>Indeed, TSTT avers that such distinction will facilitate more ready policing of illegal users of such bands, as transmission (or reception) in these distinct bands would be more readily isolated for enforcement.</p>	bands used by commercial service providers.	<p>security, law enforcement and emergency services are clearly defined in the respective spectrum plans of the Authority, where appropriate.</p> <p>Additionally, all spectrum plans developed or amended that include spectrum for national security, law enforcement and emergency services will be consulted upon, in keeping with the Consultation Procedures.</p> <p>The Authority acknowledges TSTT's position and shall consider such when developing or amending spectrum plans for government, commercial and non-commercial users.</p>
10	6.1.4	Spectrum for Universal Service	TSTT	TSTT objects to this section as drafted as it does not accurately reflect the findings of the Authority's DII2021	TSTT believes that this section is otiose and irrelevant. Accordingly, we recommend that this section be deleted.	<p>The Authority acknowledges but does not agree with TSTT's recommendation.</p> <p>Apart from those communities that have a low ICT Access sub-index that are</p>

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				<p>Survey. The citation of the IDI in isolation is misleading, as it does not provide the context that the ICT Access elements of the score are quite high.</p> <p>Indeed, the DII2021 Survey demonstrated that less than 0.1% of households in Trinidad and Tobago are without access to broadband services.</p> <p>The Authority's own site surveys of areas it thought were in the access gap demonstrated that (1) the areas were competitively serviced by ISPs; and (2) the preferred modality was through the use of wireless communications</p> <p>In that regard, TSTT queries why the Authority would so mischaracterise the impressive access</p>		<p>identified in the Digital Inclusion Survey (DIS), the Authority is aware of additional unserved and underserved areas through customer complaints and its own field surveys, and in this regard, will support Universal Service Fund (USF) projects through spectrum allocation where applicable.</p> <p>While the Authority is not clear on the site surveys to which TSTT is referring, the Authority disagrees that the modality preferred by consumers in any rural community would be wireless communications, when in fact, only wireless communications are available, as opposed to being preferred. The Authority advises that universal service does not only address a minimal level of service being widely available (and even that minimal level needs to be relevant to the digital society and economy), but also addresses a level of equity of the services available between urban and rural areas. In this regard, the Authority has discovered that the services available in areas in the access gap are materially</p>

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				<p>development evident in its own data. TSTT again reiterates that the Authority's data suggests that there is no access gap in Trinidad and Tobago. Consequently, the relevance of this section is questioned.</p> <p>The Authority should consider whether this section is otiose as the effluxion of time, and the investment of the market has made this policy position irrelevant in 2022.</p>		<p>deficient compared to those widely available in urban and suburban areas.</p> <p>While the Authority agrees that there has been impressive access development in broadband availability, the Authority categorically disagrees with TSTT's comment that there is no access gap in Trinidad and Tobago and that the policy position is irrelevant.</p>
11	6.2	Spectrum Authorisation	TSTT	<p>TSTT notes with concern that the Authority's actions seem to veer away from the regulatory framework established by the Act.</p> <p>In this regard, TSTT notes the Authority's reference to Secondary Access users registering with the database in its</p>	<p>The Authority to clarify its modalities of implementing the proposals related to its</p>	<p>The Authority is acting within the confines of the Telecommunications Act, Chap. 47:31 (the Act) and is in no way overreaching its statutory powers.</p> <p>Section 41 (1) of the Act states: "The Authority shall regulate the use of the spectrum in order to promote the economic and orderly utilisation of</p>

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				<p>indicative Model in Fig. 3, and wonders where any legal requirement for either registration of parties or adherence to “on-demand restriction by incumbents” is outlined in law. Until these procedures are enshrined in law by Regulations, the Authority is overreaching its statutory powers by suggesting a requirement for parties to act in such a fashion.</p> <p>This issue, which on the face of it seems innocuous, becomes a significant concern when TSTT notes the Authority’s media release of July 22nd 2022, where the Authority announced its “approval” of a geolocation database administrator. TSTT could find nowhere in the Act where the Authority</p>	<p>secondary access licence regimes.</p>	<p>frequencies for the operation of all means of telecommunications and to recover the cost incurred in the management of the spectrum.”</p> <p>The Authority executes its mandate, as stated under section 41 (1) of the Act, through the development and adoption of new licensing schemes, such as the Secondary Access Licences that prescribe the rules and terms and conditions for the orderly utilisation of the radio frequency spectrum.</p> <p>The Authority does not agree with TSTT’s recommendations. The Authority is mandated under section 18(1)(i) of the Act, to:</p> <p>“plan, supervise, regulate and manage the use of the radio frequency spectrum, including —</p> <p>(i) the licensing and registration of radiofrequencies and call signs to be used by all stations operating in Trinidad and Tobago or on any ship,</p>

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				<p>has the authority to authorise or approve any software system or the administration of such software systems. Even if it did – and neither S.21 or 36 provides such authority – the geolocation database administrator is not a public service provider. At best, this party operates a Closed User Group, which is also outside of the Authority's remit for approval or authorisation.</p> <p>In the face of the above-referenced release by the Authority, wherein the Authority touts that it is bold-facedly operating in a manner that is <i>ultra vires</i> the Act, TSTT has grave reservations about the Authority establishing a policy that is so broadly drafted that it seems to</p>	<p>TSTT requests that the Authority in the preamble to this section:</p> <p>(i) Clarify the legal authority which it seems to abrogate unto itself to authorise software;</p>	<p>aircraft, or other vessel or satellite registered in Trinidad and Tobago.”</p> <p>The Authority executes this mandate through the development of authorisation frameworks and spectrum plans that prescribe the rules and terms and conditions for the orderly utilisation of the radio frequency spectrum.</p> <p>One such framework developed by the Authority is the <i>Authorisation Framework for the Accommodation of White Space Radiocommunications Devices</i>. In keeping with section 3.5.2 of that framework, the Authority approved the first geolocation database administrator (GLDA) for white space devices (WSDs) in Trinidad and Tobago and the region.</p> <p>In relation to (i), in keeping with section 41(1) of the Act, the Authority approved a geolocation database administrator to enable the use of TV WSDs via a geolocation database, which is necessary to promote the economic and orderly utilisation of frequencies without causing</p>

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				<p>validate actions which seem unlawful per se.</p> <p>In that regard, TSTT requests that the Authority in the preamble to this section:</p> <p>(i) Clarify the legal authority which it seems to abrogate unto itself to authorise software;</p> <p>(ii) Where such authority can be defined, the Authority should clarify the limits to this power; or</p> <p>(iii) Where such authority cannot be defined, the Authority should unwind all such actions which were beyond its statutory remit; and</p> <p>(iv) The Authority should redraft this section and all its subsections to be clear on the limits of its functions with respect</p>	<p>(ii) Where such authority can be defined, the Authority should clarify the limits to this power; or</p> <p>(iii) Where such authority cannot be defined, the Authority should unwind all such actions which were beyond its statutory remit; and</p> <p>(iv) The Authority should redraft this section and all its subsections to be clear on the limits of its functions with respect to service providers that are not licensees or concessionaires.</p>	<p>harmful interference. The geolocation database coordinates the assignment of frequencies in the shared bands for WSDs.</p> <p>The Act does not distinguish between whether services are provided by software or hardware but empowers the Authority to authorise persons providing radiocommunications or public telecommunications and broadcasting services, or operating radio-transmitting equipment or public telecommunications networks, regardless of whether by software or otherwise.</p>

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				to service providers that are not licensees or concessionaires.		
12	6.2.1.2	Secondary Access Licences	TSTT	<p>TSTT avers that these sections still do not provide sufficient clarity into how this model of oversight will be managed by the Authority.</p> <p>Significant questions regarding primacy, which will determine the Authority's actions in times of dispute, remain undefined.</p> <p>Accordingly, these sections need significant expansion to provide the necessary clarity as to how this system is proposed to work. These concerns extend to how the spectrum will be costed to ensure fairness and equity among users.</p>	<p>These sections have to be elaborated upon to provide a clear understanding of how this system of administration will function.</p> <p>The Authority's insistence on being non-transparent in this regard is deeply concerning and a cause for reticence.</p> <p>TSTT does not endorse any proposal which is not</p>	<p>The Scope which has been added for clarification, indicates that such information will not be contained within the Framework.</p> <p>TSTT is assured that subsidiary documents developed by the Authority in support of the implementation of the Framework will provide the details requested. This is captured in the amendments to policy statements 28, 33 and 38, which state "the Authority shall adopt.....and develop the relevant authorisation framework."</p> <p>In the interest of transparency and clarity, subsidiary documents that require consultation will be consulted upon, in keeping with the Authority's Consultation Procedures.</p> <p>The Authority acknowledges TSTT's position and shall consider the same when</p>

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					transparently delineated and outlined.	developing or amending regulatory instruments.
13	6.3	Spectrum Monitoring	TSTT	<p>TSTT reaffirms its reservations about the crafting of this section.</p> <p>TSTT reiterates the fact that more information should be provided at this stage about the Authority's track record of interference identification, mitigation and resolution, and its planned and achieved service level in terms of timeliness and responsiveness.</p> <p>TSTT does not believe the reference to unseen, "internal" documents provide sufficient context or transparency into the approaches currently pursued by the Authority.</p>		<p>The Authority's track record of interference identification and resolution has informed the proposed policies on spectrum monitoring to ensure licensees use the radio spectrum as assigned in their licences.</p> <p>Section 6.3 has been updated to provide information on typical timeframes for the conduct of interference investigations. It should be noted that timeframes for interference identification and resolution will depend on the type and nature of the interference.</p> <p>The Authority's Annual Report summarises the Authority's performance in relation to interference complaint handling. The Authority also proposes to develop guidelines for interference investigation and resolution, and publish them under the interference complaints section on the Authority's website by January 2023. These guidelines will</p>

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				<p>TSTT believes that the Authority must identify the performance deficit that it is seeking to mitigate against with its policy proposals.</p>	<p>TSTT believes that the Authority should identify the performance deficit that it is seeking to address and mitigate against with its policy proposals.</p>	<p>include typical timeframes for the conduct of interference investigation.</p> <p>The policy statements in section 6.3 <i>Spectrum Monitoring</i> do not address the performance deficits of licensees but, rather, the general management of the radio spectrum and the activities necessary to deter or eliminate any harmful interference. Performing scheduled monitoring activities encourages licensees to comply with the terms of their licence and thus avoid harmful interference proactively.</p> <p>The objectives of section 6.3 are captured in policy statements 46 and 47, which state:</p> <p>“46. The Authority shall perform both responsive and scheduled monitoring activities, in accordance with its objective to manage the national spectrum resource, and act to deter or eliminate any harmful interference.</p>

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					TSTT does not endorse any proposals which are not transparently delineated and outlined.	47. The Authority shall ensure that its “real-time” computerised spectrum monitoring and management system is effectively managing the use of the radio frequency spectrum resources in Trinidad and Tobago.” The Authority acknowledges TSTT’s position and shall consider the same when developing or amending regulatory instruments.
14	5.1	Allocate Spectrum to the Highest Value Use	5G Americas	<u>Policy Statement 1: Spectrum shall be allocated to the highest value use, to ensure that maximum benefits to society are realized.</u> 5G Americas suggests considering assignment mechanisms that offer spectrum in adequate timeframes and conditions (free from harmful interferences), with clearly defined terms that promote transparency, legal certainty, and participation. The		The Authority thanks 5G Americas for its comments and suggestions on the Framework. Consideration of assignment mechanisms that offer spectrum within adequate timeframes and conditions (free from harmful interferences) are considered by the Authority in the development and revision of spectrum plans, such as the <i>Public Mobile Telecommunications Service (PMTS) Spectrum Plan</i> . The approval and publication of the Authority’s 5G Framework will also inform the revision of the PMTS and Broadband Wireless Access Spectrum

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				<p>benefits from licensing additional spectrum are not limited to economic payments as there are undirect effects related to technology adoption, employment creation, productive efficiencies, and a broader use of digital services. Also, some countries in Latin America (Brazil, Colombia, Mexico, The Dominican Republic) have conducted recent spectrum auctions with investment goals and/or coverage obligations tethered to the new licences to promote internet access in remote areas or advance connectivity projects. Some of these governments (see answer to Policy Statement 2) have admitted coverage/connectivity investments in lieu of economic payments for at</p>		<p>Plans as it relates to identifying additional bands and the benefits of licensing additional spectrum for International Mobile Telecommunications (IMT) services.</p>

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				<p>least a portion of the calculated spectrum value.</p> <p>5G Americas suggests considering a policy statement that defines if the spectrum value and benefits to society recognise the indirect effects of frequency assignment in its value and if the benefits to society component implies the inclusion of investment/coverage goals. In defining spectrum value, the method or methods selected by the Authority should reflect the physical properties of the bands, the rural-urban asymmetries, and infrastructure needs/availability.</p>		<p>The Authority notes the suggestions of 5G Americas and agrees in principle with the points made on spectrum value and its benefits to society. Such consideration is accounted for throughout the Framework. For example, spectrum value and its benefits to society are recognised in section 4, in the definition of spectrum efficiency which states that “Economic efficiency, as it relates to national spectrum resources, can be defined as the allocation of frequency bands to specific groups, through the use of various economic and technical assignment mechanisms, in such a way as to maximise the outputs and benefits to the citizens of Trinidad and Tobago”, as well as in section 6.1.4, where consideration will be given to provide direct incentives for the use of spectrum to provide services in unserved and underserved areas.</p> <p>Additionally, the frequency bands and infrastructure required to meet the coverage obligations defined in the concession documents for rural and urban</p>

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						areas are taken into consideration in the spectrum planning process for IMT and all other services.
15	5.2	Enable and Encourage Spectrum to Move to its Highest Value Use	5G Americas	<p><u>Policy Statement 2: Mechanism shall be put in place to enable and encourage spectrum to move to its highest value use.</u></p> <p>5G Americas is respectful of the spectrum assignment mechanism selected by the TATT. These procedures should provide legal certainty, transparency and fair terms to potential participants. 5G Americas suggests considering recent auctions in Latin America that provided a reference spectrum but prioritized payments with investment goals and/or connectivity projects.</p> <p>Colombia's Law 1978/2019 authorized non-economic</p>		<p>The Authority thanks 5G Americas for the information.</p> <p>The information provided on spectrum assignment mechanisms used by other administrations is very enlightening and will be considered by the Authority during the revision of the concession document and other regulatory instruments associated with the authorisation of spectrum for the provision of IMT and other services.</p> <p>The Authority acknowledges the information provided for the</p>

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				<p>components for spectrum tenders, and in 2019 the Government auctioned the 700 MHz with a mechanism that required an economic and coverage bid. In 2022, the Colombian Government extended the 1.9 GHz licenses of two mobile network operators admitting coverage goals as payment for a portion of the spectrum calculated value. In 2021, the 5G tender in Brazil licensed new spectrum and less than 10% of the total spectrum value will be calculated in economic payment fees (“canon de especto”).</p>		<p>administration of Colombia and will consider the same.</p>
16	5.4	Promote Both Certainty and Flexibility Through Procedural Reforms.	5G Americas	<p><u>Policy Statement 4: The Authority shall promote both certainty and flexibility through procedural reforms.</u></p> <p>A stable and predictable spectrum management</p>		<p>The Authority shares the sentiments of 5G Americas and shall continue to provide a</p>

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				<p>regime is necessary to provide legal certainty to license holders and spectrum users in general. Licensed spectrum remain essential for mobile broadband networks (4G, 5G) and can be complemented with a secondary market for spectrum and a clear regulations for operations with secondary rights that ensure protection for primary license holders and effectively prevent harmful interferences.</p>		<p>spectrum management regime that is stable and predictable, with the necessary legal certainty to encourage investment in the telecommunications and broadcasting sectors of Trinidad and Tobago.</p> <p>As highlighted in section 6.2.1.2, to allow for the shared use of spectrum and to protect the primary licence holders, the relevant technical conditions shall be established before the implementation of the secondary access licence types. This is captured in policy statements 30, 35 and 40 which state that “minimum technical standards and conditions shall be established before the implementation...”.</p>
17	5.5	Balance the Cost of Interference Against the Benefits of Greater Spectrum Utilisation	5G Americas	<p><u>Policy Statement 5: The risk and cost of interference shall be balanced against the benefits gained from greater spectrum utilization, to ensure the most efficient use of the spectrum.</u></p> <p>IMT spectrum must be made available in</p>		<p>The Authority agrees with 5G Americas' comments on making spectrum available</p>

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				<p>reasonable timeframes and the spectrum offered should have effective protections against harmful interferences. IMT-2020 networks (5G) have the potential to advance digital transformation processes in Trinidad and Tobago in the upcoming years by leveraging a diversity of spectrum bands that will support a variety of use cases. 5G networks will require access to spectrum in low, mid, and high bands with enough flexibility to allocate their frequency portfolio to different applications. Regulatory protection against harmful interferences is necessary to promote the effective use of the spectrum deemed adequate for 5G deployments.</p> <p>In cases where spectrum sharing is permitted, 5G</p>		<p>in reasonable timeframes and protecting it from harmful interference.</p> <p>As part of its interference mitigation strategies, the Authority has plans for both responsive and scheduled monitoring activities, to reduce the possibility of harmful interference to IMT and other services.</p> <p>The Authority has developed a framework for IMT-2020 (5G) called the <i>Framework for Fifth Generation (5G) Public Mobile Telecommunications Networks (5G Framework)</i>. This document is currently out for public consultation and has considered the spectrum needs in the low, mid, and high bands for 5G network deployment.</p>

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				<p>Americas suggests considering a clear and transparent management regime with the necessary regulations to allow coordination, interference protection methods and guarantees for primary users in case secondary rights are allowed. Coordinated spectrum sharing with secondary rights can be considered to utilize spectrum surpluses and/or temporary idle frequencies, but these alternatives should be analyzed only in cases where interference risks are already minimal.</p>		<p>5G Americas' suggestions are duly noted. The Authority supports a spectrum management regime that is transparent, fair, open and balanced. Processes that encourage stakeholder participation and network investments are promoted.</p> <p>The need for coordination to protect primary users in cases where secondary rights are allowed shall be considered in the drafting of the necessary framework to authorise secondary licences.</p>
18	6.1.5	Spectrum for Commercial Radiocommunications Services	5G Americas	<p><u>Policy Statement 12: Radio frequency spectrum shall be provided for commercial radiocommunications services, using an appropriate administrative costing</u></p>		

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				<p><u>methodology or market-based approach, to ensure an economical value for use of the spectrum resources.</u></p> <p>5G Americas is respectful of the methods chosen by the Authority to determine the spectrum value and suggests considering the physical properties of the bands, asymmetries in urban-rural scenarios, infrastructure needs/availability and the recent experiences in Latin America to allow investments in lieu of economic spectrum payments (see answers to Policy Statement 1-2)</p>		<p>The frequency bands and infrastructure requirements to meet the coverage obligations defined in the concession document for rural and urban areas, as well as the experiences of other administrations, are taken into consideration in the spectrum planning process for all services.</p>
19	6.1.10	Spectrum for Emerging Radiocommunications Services	5G Americas	<p><u>Policy Statement 20: Radio frequency spectrum shall be made available to enhance the delivery of emerging radiocommunications services within an</u></p>		<p>The Authority refers to its responses to policy statements 4 and 5 above.</p> <p>The Authority shall continue to provide a spectrum management regime that is</p>

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				<p><u>enhancing spectrum licensing framework.</u></p> <p>See answers to policy statements 4-5.</p>		<p>stable and predictable, with the necessary legal certainty to encourage investment in the telecommunications and broadcasting sectors of Trinidad and Tobago.</p> <p>As highlighted in section 6.2.1.2, to allow for the shared use of spectrum and to protect the primary licence holders, the relevant technical conditions shall be established before the implementation of the secondary access licence types. This is captured in policy statements 30, 35 and 40 which state that “minimum technical standards and conditions shall be established before the implementation...”.</p>
20	6.2.1.1.1	Spectrum Licence	5G Americas	<p><u>Policy Statement 24: Exclusive assignment under a spectrum licence shall mean the right to use the spectrum without precluding other productive uses of the spectrum, in areas or at times where the primary use is dormant, or where underutilised capacity can be shared.</u></p>		<p>The Authority refers to its responses to policy statement 5 above.</p> <p>The Authority shall make spectrum available in reasonable timeframes and protected from harmful interference.</p> <p>As part of its interference mitigation strategies, the Authority has plans for both responsive and scheduled monitoring activities, to reduce the possibility of</p>

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				See answer to Spectrum Policy 5		harmful interference to IMT and other services.
21	6.2.2	Mechanism for the Granting of Licences	5G Americas	<p><u>Policy Statement 43: Where the spectrum is scarce (i.e., demand is greater than supply), the Authority shall utilise competitive licensing mechanisms, such as auctions or beauty contests, as the main tools for awarding licences.</u></p> <p>5G Americas is respectful of the spectrum assignment mechanisms selected by the TATT. Ideally, these procedures should provide legal certainty, transparency and fair terms to potential participants. On considerations suggested for specific licensing mechanisms see answer to Policy Statement 1-2.</p>		<p>The Authority refers to its responses to policy statements 1 and 2 above on spectrum assignment mechanisms.</p> <p>Consideration of assignment mechanisms that offer spectrum in adequate timeframes and conditions (free from harmful interferences) are considered by the Authority in the development and revision of spectrum plans like the PMTS Spectrum Plan</p>