



**Document Name: *Framework for the Authorisation of Amateur Radio Services (September 2021)***

**Appendix II. Decisions on Recommendations (DoRs) Matrix for Single Round Public Consultation**

The following summarises the comments and recommendations received from the single round of public consultation on the *Framework for the Authorisation of Amateur Radio Services* (the Framework). The decisions made by the Telecommunications Authority of Trinidad and Tobago (the Authority) have been incorporated in the final approved version (January 2021), where applicable. The Authority wishes to express its thanks for all comments and recommendations received from the following stakeholders:

- i. Radio Emergency Associated Communications Team Trinidad and Tobago Council (REACT Council) – Mr. Ravindranath Goswami
- ii. Mr. Clifford Harroo

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1	1.1	Rationale	Mr Ravindranath Goswami (REACT Council)	<p>The Radio Emergency Associated Communications Teams (REACT) is a voluntary, non-profit, service-oriented organization established in 1964, geared toward providing assistance in times of emergencies and disasters as well as cultural, sporting, and national events.</p> <p>REACT thanks TATT for the invitation to participate in the recently held targeted stakeholder sessions and for the opportunity to make comments and recommendations during that stage of the process.</p>		The Authority notes REACT's appreciation for the invitation to participate in the targeted stakeholder consultation and for the work done to revise the Framework.

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				<p>REACT acknowledges and congratulates TATT on the initiative to revise the Amateur Radio Services Framework with this round of public consultation.</p> <p>REACT would also like to record its appreciation for the diligent work and professional approach by the staff of the Authority.</p>		
2	1.1	Rationale	Mr Ravindranath Goswami (REACT Council)	<p>The scope of experiments and application to emergency and disaster communications continues to expand. There is a tendency for the deployment of amateur radio equipment onboard a variety of vehicles.</p> <p>REACT also collaborates with other entities towards the attainment its motto "<b>Public Service Through Communications</b>". This include amateur radio organizations, disaster relief organizations and other entities</p>	REACT recommends including arrangements for amateur radio to be used, in addition to marine vessels, on aircraft, UAS, high-altitude balloons, micro-satellites, and satellites, once all other relevant authorizations are in place.	The Authority wishes to confirm that arrangements are already in place for use of amateur equipment on board these platforms and vessels. The Authority's Authorisation <sup>1</sup> and Equipment Standardisation and Certification <sup>2</sup> Frameworks currently accommodate the use of amateur equipment on the platforms and vessels stated, once the equipment adheres to local and international regulatory requirements. This is usually accommodated via the equipment certification process. Therefore, in the Authority's view, these arrangements are already catered for in the Frameworks identified. There is no need for specific arrangements, in this Framework or other

<sup>1</sup> *Authorisation Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago* <https://tatt.org.tt/Portals/0/Documents/Authorisation%20Framework.pdf>

<sup>2</sup> *Equipment Standardisation and Certification Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago*

<https://tatt.org.tt/Portals/0/Documents/Equipment%20Standardization%20Framework.pdf>.

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				that use specialized vehicles such as 4 x 4 off-road and motorcycles.		documents, for the use of amateur radio on these platforms or vessels.  More details can be found in the Authorisation and Equipment Standardisation and Certification Frameworks.
3	1.3	Background	Mr Ravindranath Goswami (REACT Council)	REACT recognizes the inclusion of the self-training, intercommunication, and technical investigations aspects of the amateur radio service.	REACT suggests that the amateur radio service be recognised for suitable treatment, one that is differentiated from the commercial services, with the attendant flexibility and latitude to facilitate the technical investigations aspect of the service as well as to be able to operate in disaster scenarios.  This concept should also apply when the Authority considers requests for Equipment Certification, particularly when evaluating specifications in relation to the transmit portions of the bands.	The Authority understands the “technical investigations aspect of the service as well as to be able to operate in disaster scenarios” may require the modification of equipment. The Authority agrees that amateur operators can conduct technical investigations, as stated in clause A10 of the amateur licence.  The Authority will be flexible in its approach to accommodating the investigation aspect of the amateur radio services. This will be reflected in how the Authority processes applications for equipment certification for amateur equipment to be imported into Trinidad and Tobago. The importing of commercial equipment to be modified under clause A10 of the amateur licence will be allowed by the Authority. The modification or repurpose of equipment already in the country to be used for home-brewed experiments, would not require recertification. The Authority's <i>Equipment</i>

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					<p>In this regard, it is recommended that within the background section, a statement to the effect that repurposed commercial equipment and/or home-brewed equipment are occasionally used by amateurs to operate on the bands allocated to amateur radio services.</p>	<p><i>Standardisation and Certification Framework for the Telecommunications and Broadcasting Sectors of Trinidad and Tobago</i> will be updated to reflect this new approach.</p> <p>The Authority agrees with REACT's recommendations and the background, page two (2) of the document, has been revised to include the point that amateur operators can use repurposed and home-brewed equipment.</p>
4	1.7	The Consultation Process	Mr Ravindranath Goswami (REACT Council)	<p>The DoRs from the stakeholder consultation is included in Appendix I of the framework. Several responses to recommendations are included in respect of how the Authority will treat with certain matters. REACT thanks the Authority for the open and transparent approach as well as the kind consideration of the recommendations made. Due to the clear responses in the DoRs and the assumption that they will be carried forward in the final framework, REACT has sought to avoid repeating any of the accepted recommendations in this round of responses.</p>	<p>REACT seeks clarification that Appendix I containing the DoRs from the stakeholder consultation phase will be carried forward with the final framework and that the DoRs from this public consultation phase will perhaps be annexed as another appendix.</p>	<p>The Authority confirms that the DoRs matrix from the targeted stakeholder consultation will remain as Appendix I to the final approved version of the Framework and the DoRs matrix from the single round public consultation is annexed as Appendix II. This has been indicated in section 1.7 of the final approved version of the Framework.</p>

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5	3.1.4	Special Operation Station Licence	Mr Ravindranath Goswami (REACT Council)	REACT appreciates the inclusion of guidance on the type of devices that require frequency coordination for special operation station licences, and explicitly stating the types that do not.	REACT reiterates its recommendation for the Authority to consider tapping into the amateur radio community and stakeholder organizations in the process of frequency coordination perhaps via a frequency coordination committee.	The Authority is pleased that the amateur community is interested in participating in the frequency coordination process. The participation of the amateur community in the frequency coordination process will be considered during the next review cycle of this Framework, in accordance with the Authority's consultation procedures.
6	3.1.5	Emergency Station Licence	Mr Ravindranath Goswami (REACT Council)	REACT is thankful to the Authority for establishing the Emergency Station licensing regime and for the overall posture in support of the National Emergency Communications Plan (NECP).	N/A	The Authority thanks REACT for its support in this regard.
7	3.2	Class of Amateur Radio Licence	Mr Clifford Harroo	I am a member of TTARS, and we are on a drive to encourage mostly young people to become members if the local mature radio club/s. It may not be well known, but the Amateur Radio hobby is a highly disciplined activity, that is self-policing, it teaches especially young members to be law-abiding, and felt disciplined because there are so many rules and regulations to abide by, not only to obtain an Fcc license but also to keep that license. I think the earlier a young person gets involved in this discipline the sooner	I would also like to see especially the young inductees into the hobby after studying for and obtained their FCC license which affords them some HF privileges, that you would allow them to enjoy those privileges and not continue to deny them the use of it, especially now	The Authority agrees with your comment that the removal of the age limit for eligibility to obtain an amateur licence has created the regulatory environment to allow young persons to become amateur operators.  The Authority understands this comment to be a recommendation that young persons who obtain the examination credits for examination element 2, based on the qualification criteria of the Federal Communications Commission (FCC), should be allowed to operate on the HF bands allowed by the FCC when granted a basic class licence by the Authority.

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				<p>their mines will be opened to the world of science and technology, history has a lot to say about the influence of this hobby in the development of science and technology.</p>	<p>that the higher frequency bands are mostly closed.</p>	<p>The Authority currently limits the use of bands below 30 MHz. These bands have propagation characteristics that allow signals to travel well beyond the borders of Trinidad and Tobago. To limit the risk of harmful cross-border interference, only the amateur operators that the Authority deems suitably qualified, are given the privilege to operate in bands below 30 MHz.</p> <p>Therefore, while the Authority accepts the certificates granted by the FCC-approved Volunteer Examination Coordinators (VECs), the privileges associated with the certificates for operation in the United States of America are not applicable in Trinidad and Tobago. The following is a mapping of the FCC's examination elements to the Authority's licence classes and privileges for operation in Trinidad and Tobago:</p> <ul style="list-style-type: none"> <li data-bbox="1892 1062 2542 1182">i. Element 2 (Technician Class): Basic class licence with operations limited to bands above 30 MHz</li> <li data-bbox="1892 1190 2542 1310">ii. Elements 2 and 3 (General Class): Advanced class licence with operations allowed in all amateur radio service bands</li> </ul>

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						<p>iii. Elements 2, 3 and 4 (Amateur Extra Class): Advanced class licence with operations allowed in all amateur radio service bands</p> <p>This mapping will be placed on the Authority's webpage that lists the approved certifying agencies.</p>
8	3.4	Minimum Age Requirement	Mr Ravindranath Goswami (REACT Council)	As an advocate for youth and having a Youth Arm/Junior REACT division, REACT acknowledges and applauds the removal of the age restriction for acquiring an amateur radio licence by issuing the licence to the parent or legal guardian.	It is recommended that TATT states explicitly whether the parent or legal guardian to whom the licence will be issued (on behalf of the minor) is also required to be a licensed amateur.	<p>The Authority thanks REACT for its support in this regard.</p> <p>The Authority agrees with this recommendation and section 3.4 of the Framework has been updated to explicitly state that the parent or legal guardian issued the licence on behalf of the minor is not required to be a licensed amateur operator.</p>
9	3.7.2	Recognised Certification	Mr Ravindranath Goswami (REACT Council)	<p>With the COVID-19 pandemic resulting in restrictions on in-person meetings and gatherings, the FCC has permitted exams to be undertaken remotely by VECs/VE using virtual technologies. Remote testing was confirmed by the FCC on 30<sup>th</sup> April 2020 via record 35 FCC Rcd 4504 (6).</p> <p>REACT has undertaken to provide virtual amateur radio training sessions for the Technician Class, comprising of sixteen (16) one-hour sessions. These</p>	<p>Given the remote testing options available, REACT recommends the addition of the following VECs approved by the FCC.</p> <ol style="list-style-type: none"> <li>1. W5YI Group</li> <li>2. Greater Los Angeles Amateur Radio Group</li> <li>3. Anchorage Amateur Radio Club</li> </ol>	<p>The Authority agrees with REACT's comment and recommendations and confirms that all FCC-approved VECs are recognised by the Authority as certifying agencies. To avoid confusion, the Authority will remove the examples of VECs listed on its website and add a link to the FCC page with all the approved VECs.</p>

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				<p>sessions have been packaged and are available online via YouTube (accessible at <a href="http://tech.ttreact.com">http://tech.ttreact.com</a>) to facilitate and encourage more persons to become licensed amateurs. Reasonable access to examinations is, therefore, an essential part of the process.</p> <p>Currently listed within the framework and on the TATT website is the Amateur Radio Relay League (ARRL), a Volunteer Examiner Coordinator (VEC) approved by the FCC. However, there are several other VECs approved by the FCC.</p> <p>The TATT website also states that amateur radio certificates are recognized from:</p> <p><i>“iii. Federal Communications Commission (FCC) Approved Volunteer Examiner Coordinators which include but are not limited to:</i></p>	<p>While the website has the proviso of “include but not limited to” in respect to the FCC VECs, for the avoidance of doubt and to give comfort to prospective candidates, it is recommended that the above remote testing VECs are explicitly included in the listing on the website and within the framework give the current revision opportunity.</p>	



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				<ul style="list-style-type: none"> <li>- <i>ARRL</i></li> <li>- <i>Laurel Amateur Radio Club</i></li> </ul>		
10	3.9.1	Spectrum Allocations	Mr Ravindranath Goswami (REACT Council)	<p>Moon bounce or Earth-Moon-Earth (EME) is a technique employed by amateurs. Given the challenges with EME operations, while optimized antenna systems are used (Yagi, arrays, etc.), higher power is often required to achieve communications.</p> <p>Schedule B of the Operator/Station Licence document states that the maximum RF output power for 2m (144-148 MHz) is 100 W.</p> <p>Other jurisdictions within IARU Region 2 permit a maximum RF output power at the transmitter of 1500 W for 2m.</p> <p>With the limitations in Trinidad and Tobago at 100 W, this creates an asymmetric disadvantage when communicating with stations that are permitted 1500 W.</p>	Special consideration is requested for operation on 2m for EME operations at a higher power than the currently stipulated 100 W.	<p>The Authority agrees with this recommendation and will review the RF output power limits for the amateur radio service bands, to ensure alignment between the limits and usage in the bands. This review will be done in consultation with the amateur community.</p> <p>Any changes to these limits will be reflected in schedule B of the licence document issued to amateur radio licensees.</p>

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11	3.9.3	Frequency Assignments to Special Operation Stations	Mr Ravindranath Goswami (REACT Council)	REACT appreciates the frequency coordination role of the Authority.	REACT reiterates its recommendation for the Authority to consider tapping into the amateur radio community and stakeholder organizations in the process of frequency coordination perhaps via a frequency coordination committee.	The Authority is pleased that the amateur community is interested in participating in the frequency coordination process. The participation of the amateur community in the frequency coordination process will be considered during the next review cycle of this Framework, in accordance with the Authority's consultation procedures.