

Recommendations on Telecom Regulatory Authority of India Consultation Paper on Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India.

Reference on TRAI's Consultation paper dated on 10/12/2022.

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Chapter 1

Objective of ITU-APT Foundation of India (IAFI)

We, the ITU-APT Foundation of India (IAFI), are a registered non-profit and non-political industry association registered under the Cooperative Societies Act of India. IAFI has been recognized by the International Telecommunication Union (ITU), the UN Organisation for ICT issues, as an international/ regional Telecommunications organisation and has been granted the sector Membership of the ITU Radio Communications Bureau (ITU-R), ITU Development Bureau (ITU-D) and ITU Telecommunication Standardisation Bureau (ITU-T). IAFI is also an affiliate member of the APT. IAFI has been working for the last 20 years to encourage the involvement of professionals, corporate, public/private sector industries, R&D organisations, academic institutions, and other agencies in the activities of the ITU. For more details on IAFI please visit <https://www.itu-apt.org/>.

Chapter 2

Question 1 - Whether there is a need to bring data communication services between aircraft and ground stations provided by organizations other than Airport Authority of India under service licensing regime? Kindly provide a detailed response with justification

Answer-

Yes, Data communication services between aircraft and ground stations provided by organization other than AAI should be under Unified License.

This is a critical communication that is being used for commercial services, hence it should be licensed with suitable technical, security and operational conditions.

There are three types of data communications between the aircraft and ground stations

1. Air Traffic Control (ATC)
2. Aeronautical Operational Control (AOC)
3. Airline Administrative Control (AAC)

ATC messages include aircraft requests for clearances and ATC issue of clearances and instructions to aircraft. They are often used to deliver Pre-Departure, Datalink ATIS and enroute Oceanic Clearances. However, normal data communications as envisaged under this consultation is not seen as a suitable system for the more widespread ATC use provided by the Airport Authority of India. Such communications should therefore be kept out of this consultation

On the other hand, AOC and AAC messages are used for communications between an aircraft and its base. These messages may be of standard form or as defined by users, but all must meet the guidelines. Any message content is possible including such examples as:

- Upload to the aircraft of final load and trim sheets;
- Upload of weather or NOTAM information;
- Download from the aircraft of status, position, eta, and any diversion;
- Download of spot weather observations from aircraft sensors;
- Download of technical performance data including automatically triggered exceedance or abnormal aircraft system status information, and
- 'Housekeeping' information such as catering uplift requirements, special passenger advice and ETA.
- Free Text messaging is also possible.

Question 2- In case your answer to Q1 is in the affirmative, should the providers of data communication services between aircraft and ground stations be licensed through –

- (a) An authorization under Unified License; or
- (b) A separate service license.

Kindly provide a detailed response with justification.

Answer-

Our view is that the providers of data communication services between aircraft and ground stations be licensed through a separate service authorization under UL.

Question 3- What should be the broad terms and conditions of the licensing framework for data communications services between aircraft and ground stations, such as-

- (a) **Licensed service area,**
- (b) **Validity period of the license,**
- (c) **Scope of the license,**
- (d) **Technical conditions,**
- (e) **Operating conditions,**
- (f) **Security conditions, and**
- (g) **Financial conditions (such as application processing fee, entry fee, license fee, bank guarantees, etc.)?**

Kindly provide a detailed response with justification.

Answer- The broad terms and conditions for the licensing framework be as below:

- a) Licensed service area: National
- b) Validity: 20 years.
- c) Scope—to establish, install and/or use radio transmitting and/or receiving stations and/or radio apparatus/Radio equipment onboard Aircraft.
- d) Usage of frequencies assigned in the band 117.975 to 137 MHz should be restricted within the cockpit of the Aircraft and restricted to only Flight Crew Members.
- e) In no-case spectrum should be used to provide services of any sort to customers onboard the flight.
- f) Technical, operating, security and financial conditions be in line with the international practices.

Question 4- What should be the methodology for assignment of the spectrum in frequency range 117.975-137 MHz to the providers of data communication services between aircraft and ground stations? Should the spectrum be assigned administratively, or through auction, or through any other method? Kindly provide a detailed response with justification.

Answer-

We believe that it will be appropriate that administrative assignment method should be adopted

NFAP 2022 has allocated band 117.975-137 MHz for Aeronautical Mobile (R) service on shared basis. Since multiple flights cross paths over sky (of specific countries) as well as same flights travel to different foreign countries it is critical to have harmony in frequency bands with international countries to facilitate flight operators with same frequency bands in

different countries over different make and models of airplanes. For example, frequency 121.5 MHz is meant only for Aeronautical emergency situation across the globe for all Aircrafts. Hence, spectrum in 117.975-137 MHz to the providers of data communication services between aircraft and ground stations should continue to be assigned on administrative basis.

Question 5- In case administrative assignment is to be followed, what should be the mechanism for charging the VHF spectrum in the frequency range 117.975-137 MHz to be assigned to the providers of data communication services between aircraft and ground? Whether the auction determined prices for other frequency bands can be accounted for estimating the value of VHF spectrum in the frequency range 117.975-137 MHz? Kindly provide a detailed response with justification.

Answer- Regarding mechanism for charging the VHF spectrum in the frequency range 117.975-137 MHz, to be assigned to the providers of data communication services between aircraft and ground, the administrative cost recovery should be ensured - in a fair, objective and transparent manner.

Question 6- If auction methodology is to be followed, whether the valuation of VHF spectrum in frequency range 117.975-137 MHz assigned to the providers of data communication services between aircraft and ground stations should be derived by relating it to the valuation of other frequency bands by using technical efficiency factor?

If yes, with which frequency band, should these frequencies be related to and what efficiency factor or formula should be used for estimating the value of VHF spectrum in frequency range 117.975-137 MHz? Kindly justify your suggestions.

Answer- No. We do not support auctions for such services.

Question 7- What are the prevalent international practices being followed in other countries for assignment and charging (including other applicable charges and fees) of spectrum in the frequency range 117.975-137 MHz, which is used for providing data communication services between aircraft and ground stations? Please provide a detailed response.

Answer- A Data Service Provider (DSP) is usually responsible for the movement of messages via a radio link, usually to/from its own ground routing system. The main primary DSPs in the world are ARINC and SITA. Until quite recently, each part of the world was covered by a single DSP but competitive offerings are now increasingly available. The Ground System provision for such data communications is the responsibility of the Aircraft Operator. Aircraft Operators often contract out the function to either DSP or to a separate service provider. Messages from aircraft, especially automatically generated ones, can be pre-configured according to message type so that they are automatically delivered to the appropriate recipient just as ground-originated messages can be configured to reach the correct aircraft.

The international practice is to assign such spectrum on administrative basis.

Question 8- Whether the valuation of VHF spectrum assigned to the providers of data communication services between aircraft and ground stations be derived using the

methodologies used internationally in this regard? If yes, which of the methodologies can be followed? Please provide a detailed response.

Answer- No comments.

Question 9- Apart from the approaches highlighted above, which other valuation approaches should be adopted for valuation of the VHF spectrum in the frequency range 117.975-137 MHz? Kindly support your suggestions with detailed methodologies, related assumptions, and other relevant factors.

Answer- The administrative cost recovery should be ensured - in a fair, objective and transparent manner.

Question 10- Whether there are any other issues/ suggestions relevant to the subject? The same may be submitted with proper explanation and justification.

Answer- No comments.
