

Consultation on the “Draft License for the Provision of Public Satellite Telecommunications Networks and Services to be Issued to ‘Starlink Satellite Qatar for Telecommunications Services’ (SpaceX)”

Summary of Comments Received and CRA’s Responses

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1 Introduction

On June 23, 2022, the Communications Regulatory Authority (CRA) initiated a consultation regarding the “Draft License for the Provision of Public Satellite Telecommunications Networks and Services to be Issued to Starlink Satellite Qatar for Telecommunications Services (SpaceX¹)” (Consultation Document). The consultation was announced by sending either email or an official written communication (in the case of Government stakeholders) to a list of relevant stakeholders. In total, 26 different entities covering the following areas were invited to participate in the consultation:

- Telecommunications service providers in Qatar;
- Government entities:
 - Civil Aviation Authority.
 - Ministry of Communications and Information Technology.
 - Ministry of Defense.
 - Ministry of Interior.
 - Qatar Investment Authority.
 - State Security Bureau.
- Companies engaged in oil, gas and petrochemical industries;
- Transport; and
- Media.

The deadline for the submission of responses to the consultation was established as July 24, 2022 and responses were received from the following entities (listed in alphabetical order):

1. Civil Aviation Authority;
2. Ministry of Interior;
3. Ooredoo Qatar Q.P.S.C. (Ooredoo);
4. Qatar Investment Authority;
5. Qatar Satellite Company (Es’hailSat);
6. RigNet Qatar W.L.L. (RigNet); and
7. Vodafone Qatar P.Q.S.C. (Vodafone Qatar)

The remainder of this document provides a summary of the key relevant comments received

¹ Since the launch of the consultation, it has been clarified that the licensee will be “**Starlink Satellite Qatar W.L.L.**”. However, for ease of reference, this document uses “**SpaceX**” whenever referring to the licensee.

from each of the stakeholders and establishes CRA's position in response to these comments.

2 Key relevant comments

The key relevant comments submitted by each stakeholder are summarized below:

1. Civil Aviation Authority

- The Civil Aviation Authority stated that the subject matter was outside its scope and therefore had no comments to make.

2. Ministry of Interior

- The Ministry of Interior stated it had no comments to make, other than to mention the importance of involving Es'hailSat, the State Security Bureau and the National Cyber Security Agency in the consultation process.

3. Ooredoo

- The consultation document did not provide sufficient information (rationale, objectives, expected benefits, impact assessment) and the consultation period was too short to enable Ooredoo to submit quality responses.
- SpaceX's solution is ideally suited for areas where connectivity has been unreliable or completely unavailable, but Qatar already benefits from strong fiber footprint and country-wide 4/5G services, as well as existing satellite services. The proposed license does not address any market failure, does not encourage investment in the sector and does not support the realization of CRA's statutory objectives – on the contrary, the license undermines Government policies and investments related to social and economic development.
- The introduction of a new player will reduce revenues for existing players and limit their capacity to invest in Qatar, thus endangering the telecommunications sector's performance and decrease customer benefits.
- Clarity is required on the scope of the authorized networks and facilities. For example, what is the need for Points of Presence? This should be removed from clause 5.1.
- The proposed networks and facilities do not appear to be consistent with other satellite licenses in Qatar or with SpaceX's business plans in other countries.

- The scope of authorized services is not clearly defined, too broad and should be limited to 'traditional' satellite services – and only in defined rural areas in support of universal service provision.
- The proposed license imposes few obligations compared to existing satellite licenses. To maintain a level playing field with respect to competition and to avoid discrimination, CRA should impose obligations related to roll-out, coverage, QoS, retail tariffs, consumer protection, environment and security.
- It is unclear what radio frequencies will be used and if these might impact on existing services and radio spectrum users.
- CRA should ensure that SpaceX cannot monopolize the market to stifle competition.
- SpaceX should be required to provide deployment plans and strategies for the mitigation of the risk of collisions between satellites.
- CRA should impose a specific fee on SpaceX as a contribution towards addressing the consequences of the risk of collisions and orbital debris.
- CRA should exercise caution and rigor and an industry meeting (or further written exchanges) to discuss the objectives, impacts and the pros and cons of the license is proposed.
- SpaceX is already advertising the forthcoming service in Qatar and is inviting deposits. Is this in accordance with the Retail Tariff Instruction? CRA should intervene.
- CRA should publish all submissions received in response to this consultation.

4. Qatar Investment Authority

- SpaceX will enhance choice by providing a complementary, alternative telecommunications service for consumers and also enterprise services that will support Qatari businesses globally, including:
 - Qatar Airways – enhanced inflight connectivity.
 - Qatari registered ships – enhanced maritime connectivity.
 - Qatari telecoms service providers – mobile backhaul and connectivity in underserved areas.
 - Milaha – improved maritime connectivity.

- Qatar Energy – improved maritime connectivity.
- As well as enhanced connectivity for remote facilities, corporate networks and broadcast services.
- SpaceX will provide network redundancy in the event of outages.
- SpaceX services, with performance close to fiber, will reach customers not currently served by terrestrial networks.
- SpaceX's investment in Qatar will send positive messages to the market and will encourage other entities/hyperscalers to invest in Qatar.
- The proposed Authorized Networks and Telecommunications Services are sufficient for SpaceX to deliver its services and for CRA to achieve its statutory objectives.

5. Es'hailSat

- The proposed license could support CRA in achieving its statutory objectives by fostering competition.
- All licensees should be treated fairly and equally. Es'hailSat stated that the SpaceX license will foster competition and is similar to the existing VSAT licenses in that they operate space-based infrastructure that is not under the control of the State of Qatar. This results in lower annual Industry Fee payments by such licensees and puts Es'hailSat at a competitive disadvantage, and resulting in an outflow in the country's balance of payments.
- The SpaceX infrastructure in Qatar will not contribute to the development of national and institutional capabilities in Qatar.
- SpaceX should use existing infrastructure in Qatar.
- CRA must ensure through the license that SpaceX does not cause harm to existing telecommunications services and radio spectrum users, and that Qatari spectrum filings are protected.
- The scope of the license should be restricted to operating and providing services via, NGSO satellites only, and that a separate CRA approval should be required to authorize the provision of services via a GSO satellite network.
- Clause 7 of the license should state that the provision of services between Qatar and

other countries should also be subject to the Applicable Regulatory Framework and legal and regulatory requirements of the 'other countries'.

- Additional clauses should be added similar to other licenses to include 'Enforcement Powers of CRA' and 'Performance Bonds'.
- Annexures should be included to cover the following;
 - Retail Tariff Filing.
 - Obligations relating to Quality of Service (QoS).
 - Interconnection, Access and Wholesale Services.
 - Secured Obligations and Performance Bonds.
- SpaceX should be required to describe its process for developing a Tariff document or required to deliver it within a fixed time period.
- SpaceX services could be made available via existing Qatar licensees (similar to the practice in Indonesia).

6. RigNet

- The award of this license to SpaceX will not contribute to CRA achieving its statutory objectives without the imposition of appropriate safeguards and conditions.
- The license should not be granted without CRA carrying out an independent assessment of the issues arising from the proposed license award to SpaceX and the required mitigations and safeguards, in the following areas:
 - Monopolizing scarce NGSO resources including radio spectrum to the detriment of Qatar's national interests (including space and telecommunications industries).
 - Effect on sustainable and effective competition in the provision of broadband services.
 - Harmful radio spectrum interference to GSO, NGSO and other radiocommunications systems.
 - Collision risk and orbital debris.
 - Use of space for other systems and applications.
- Consideration should be given to limiting the number of spacecraft SpaceX can use to

serve Qatar to preserve orbital resources so that Qatar may license other NGSO networks in the future.

- The term of the license should be shorter than the proposed 25 years (for example 5 years as in Brazil, or 1 year as in Germany). This would give CRA/MCIT greater flexibility and maintain the onus on the licensee to demonstrate that they can safely operate the network without causing harm to other systems.
- A considerable number of ex-ante measures aimed at avoiding harmful radio frequency interference are proposed and SpaceX should be required to demonstrate its ability to comply with such measures before the license is granted.

7. Vodafone Qatar

- There was insufficient information in the consultation document and the consultation period was too short, to enable an analysis of the merit and impact of the proposed license. There are many key issues that have yet to be considered by CRA and CRA should defer its decision on the award of the license until after a second, fully informed, consultation.
- Vodafone Qatar does not agree that the proposed license will support CRA in achieving its statutory objectives.
- CRA should update its regulations on satellite, including publication of a Satellite Broadband Regulation, prior to issuing the license.
- Given the existing fiber and mobile service coverage in Qatar, it is not understood what market gap is to be addressed by the proposed license and neither is the urgent need for the license understood.
- SpaceX will compete with existing service providers (who have invested significantly in order to meet stringent coverage and roll-out obligations imposed by CRA) – including in the provision of 5G services from its satellite network – and this will undermine the ability of the existing service providers to continue to invest and to deliver world class services at affordable rates in Qatar.
- Regarding Authorised Networks and Facilities:
 - What is the requirement for SpaceX to have a Point of Presence?
 - The license should specify roll-out requirements (e.g., earth station).

- The scope of the Authorised Services in Clause 5.2 is not clear, and:
 - Any license granted to SpaceX should be restricted to areas where ‘traditional’ telecommunications services are not available and the ARF and its obligations should apply in a non-discriminatory manner.
 - The definition of “ancillary service” is vague and could mean different undefined services, making it more difficult to assess the market impact.
 - Mandatory services should be defined (and be subject to performance bonds).
 - All international traffic must go through existing licensed operators to address security concerns.
- Clause 5.3 makes the scope of the proposed license unclear as it provides the possibility for SpaceX to provide purely terrestrial Public Telecommunications Services over an entirely terrestrial Telecommunications Network with written approval from CRA. CRA should not have such discretion to extend the scope.
- Has the impact on national security and lawful intercept been evaluated?
- How resilient to cyber security threats is the SpaceX network?
- The proposed license does not include a proposed award fee (whereas Vodafone Qatar made significant payments for its licenses) and neither does it include obligations (e.g., QoS, customer registration, security requirements), including secured obligations, which are placed on other licensees – the proposed license should include the same obligations as other licenses, otherwise it will be discriminatory.
- SpaceX customers need to install the receiver and antenna and obtain necessary permits themselves. This requires the customer to take all responsibility for the rules and restrictions associated with the installation, and any possible damages that may result from the installation.
- SpaceX’s current Terms and Conditions are not clear, confusing and they do not comply with Consumer Protection Policy of Qatar. Will CRA require SpaceX to bring these into compliance?
- In the interests of interference avoidance and to assess the availability of radio spectrum for other users, CRA should consult with effected parties prior to assignment of spectrum to SpaceX.

3 CRA responses

Having carefully considered all the above inputs, CRA's responses are as follows:

Regarding the scope of Authorized Networks and Services:

- Given the extensive fiber and 4/5G coverage in Qatar, SpaceX will enhance the availability of Telecommunications Services in remote locations away from the mainland (e.g., to oil/gas platforms at sea, yachts, ships, aircraft), as well as provide important back-up communications throughout the State of Qatar in the event of major outages. However, as SpaceX will also provide complementary, alternative telecommunications service for consumers and enterprises, CRA does not intend to limit the scope of the license to such areas or scenarios.
- The Point of Presence (PoP) included within the Authorized Networks and Facilities was requested by SpaceX in order to be able to *“establish a PoP at a data center in Qatar. This will be rack space rented from a data center provider which will include typical telecommunications equipment (servers, packet processors, transmission equipment, etc). SpaceX will use this PoP to interface with the Internet, which will be provided by operators licensed in Qatar (i.e., Ooredoo, Vodafone Qatar, etc.)”*.
- The Telecommunications Services authorized by the proposed license are very different to those of the three VSAT licenses. CRA therefore does not agree that the SpaceX license is similar to the existing VSAT licenses.
- The Authorized Networks and Facilities proposed are consistent with the scope of the Authorized Services. This is non-discriminatory as it is consistent with the other similar license (Es'hailSat), the same applies to the decision not to include mandatory services and associated performance bonds.
- CRA agrees that it would be appropriate to specify that the license authorizes satellites in non-geostationary orbit only. The draft license will be amended accordingly. However, as satellites in Geostationary Orbit (GSO) will not be authorised by the proposed license, it is implicit that written approval of the Minister of Communications and Information Technology (the Minister) would be required in order to extend the scope of the proposed license to include GSO satellites. CRA therefore considers it unnecessary to add text to this effect in Clause 5.3.
- SpaceX can determine if it wishes to establish its own infrastructure on the ground in

Qatar or reach commercial arrangements with owners/operators for the use of existing infrastructure in Qatar. No deadlines are considered necessary in the proposed license, but “use it, or lose it” provisions will be considered for inclusion in the spectrum license to ensure the efficient use of radio spectrum assigned to SpaceX.

- Regarding the Authorized Services, the scope of the license is clearly defined and is restricted to the provision of Public Telecommunications Services via satellite. The text in Clause 5.3 which enables the scope to be amended in writing by CRA is consistent with the text of the other existing Individual Licenses including the three VSAT licenses and the license of Es’hailSat. This is also non-discriminatory and consistent. However, it would be more accurate for the license to state that the Minister may amend the scope (instead of CRA). Clause 5.3 of the licence will therefore be amended accordingly.
- Regarding the authorization of ancillary services, the same provision exists in all the existing Individual Licenses.
- CRA recognises the option of SpaceX services being made available in Qatar via the existing licensees but considers that licensing SpaceX directly will realize the benefits discussed above to a greater extent.

Regarding obligations included within the license:

- Under the proposed license, SpaceX is required to comply with all aspects of the regulatory framework that are applicable under the proposed license. This is clearly stated in Clause 4 of the license. Therefore, as an example, SpaceX will be required to update its terms and conditions as they apply to Qatari customers if this is necessary to achieve compliance with the Consumer Protection Policy. The license therefore does not discriminate in favor of SpaceX.
- Further, it should be noted that the content and structure of the proposed license is consistent with CRA’s new approach and template for the new Individual Licenses as agreed with the Minister in the past years. In order to simplify the Individual Licenses and to enable the regulatory framework to adapt more readily to changing market needs, the new Individual Licenses will not include regulatory instruments embedded in annexures to the license.

Regarding radio spectrum licensing:

- Licenses authorizing the use of Radio Spectrum are granted by CRA separately to

Telecommunications Network and Service licenses. Therefore, the proposed license does not authorize the use of radio spectrum.

- Radio spectrum licensing will be subject to a separate application, technical evaluation and licensing process, leading to the award of a separate radio spectrum license to SpaceX. As part of this process, CRA will ensure the protection of existing Qatari filings, that SpaceX does not monopolize spectrum resources and can co-exist with other spectrum users in order to avoid harmful interference to existing services (including the specification of ex-ante measures to avoid harmful interference). During the preparation of the related radio spectrum licenses, CRA will take into consideration all spectrum related comments and issues raised by the stakeholders in their responses to this consultation.

Regarding security matters:

- Clause 20 of the proposed license requires SpaceX to comply with the requirements of the authorized security agencies of the State of Qatar. Further, it is CRA's understanding that relevant matters are in hand through direct discussions between SpaceX and the official relevant entities in Qatar.

Regarding other matters:

- The SpaceX constellation has been authorized through the regular ITU processes and will exist irrespective of whether or not the license is awarded in Qatar. Further, the size of the constellation will not increase as a result of any license awarded in Qatar. Therefore, the risks associated with the network's resilience to cyber security threats, collisions and production of space debris are not matters which can be influenced via the Qatar national licensing regime. Nevertheless, CRA will raise these matters with SpaceX to make sure that measures are in place prior to the award of the license.
- As mentioned above, the proposed license is based on CRA's new license template which does not include detailed regulatory annexures (contrary to the existing Individual Licenses). In addition, the draft license uses revised/updated text in many clauses. This text was previously subject to review by stakeholders during a consultation in 2021 about another draft Individual License.
- CRA considers 25 years to be appropriate and non-discriminatory as it aligns with the similar license awarded to Es'hailSat. Further, irrespective of the license term, Clause

23 of the license provides the authority for the Minister to intervene in the event that the licensee consistently fails to comply with license conditions.

- Three licenses for the provision of Very Small Aperture Terminal (“VSAT”) Networks and Services (VSAT Licenses) were granted in 2011 and 2012, and the license for the provision of Public Satellite Telecommunications Networks and Services was awarded to Es’hailSat in 2013. In the meantime, no failings of the applicable regulatory regime were noted in relation to satellite services. CRA therefore does not accept the need to prepare any satellite specific regulations and to delay the award of the proposed license to SpaceX until after the adoption of such regulations.
- The decision on whether or not to impose a fee for the issuance of the proposed license to SpaceX lies solely with the Minister who determines all telecommunications fees including the licensing fees. However, SpaceX will be liable for the annual License Fee and the annual Industry Fee, as set by the Minister, in accordance with the regulations, rules and procedures set forth in the Applicable Regulatory Framework (which are outside the scope of this consultation).
- With respect to SpaceX inviting fully refundable deposits in advance of license award, CRA will consider this matter in the light of the current consumer protection requirements and take any necessary actions.
- CRA is not concerned regarding the requirement for customers to install the receiver antenna themselves. Should the customer reside in a typical domestic setting, this would be similar to the installation of a satellite TV receiver antenna and third party companies are available to support less practically minded customers. Of course, the installation of the receiver antenna on an oil or gas platform, yacht or aircraft would be conducted by suitable specialist companies as with any other telecommunications equipment installed in such environments.
- The establishment of SpaceX in Qatar will be consistent with other recent investments in Qatar by major international players and will further enhance Qatar’s reputation as an attractive destination for foreign investment.
- CRA continues to consider the award of the proposed license to SpaceX to be beneficial to Qatar and consistent with CRA’s statutory objectives.
- The decision on whether or not to issue the license to “Starlink Satellite Qatar W.L.L.”

lies solely with the Minister of Communications and Information Technology.

In summary, as a result of comments received from stakeholders, CRA has determined that the draft license will be amended as shown in the table below (in addition to other minor editorial changes to enhance and clarify the text):

Clause number	Change
5.1 a)	Non-Geostationary Orbit will be added as follows: Satellites <u>in Non-Geostationary Orbit</u> ;
5.3	This clause will be amended as follows (replacing CRA with the Minister): Notwithstanding any other provision of the License to the contrary, the License does not authorize the Licensee to provide inter alia, the following except with the specific prior written approval of CRA <u>the Minister</u> .
Annex A	The definition of Non-Geostationary Orbit (NGSO) will be added.

- End of document -