R. Edward Price
Senior Counsel
+1 585.455.6672
ted.price@spacex.com

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Mr. Steve Williams
Assistant Director
Transmission and Facilities Access
Infrastructure Division
Australian Competition & Consumer Commission
Email: steve.williams@accc.gov.au
Copy: luis.martinez@accc.gov.au

Submission: *Audit of Telecommunications Infrastructure Assets – Record Keeping Rules Consultation Paper*

Dear Mr. Williams

Space Exploration Technologies Corp. (**SpaceX**) welcomes the opportunity to provide comments to the Australian Competition & Consumer Commission (**ACCC**) consultation paper on the *Audit of Telecommunications Infrastructure Assets – Record Keeping Rules* dated 20 October 2021 (**RKR Proposal**).

This submission responds to question 3 of the RKR Proposal:

> 3) Should satellite service providers be included in the list of record-keepers? If so, which providers should be included?

SpaceX considers that satellite service providers should not be included on the list of record-keepers, for the following reasons explained further in this submission:

- the low-earth orbit (**LEO**) satellite broadband market is still nascent in Australia. LEO satellite broadband services do not yet serve any significant role in complementing terrestrial networks in Australia;
- imposing additional regulatory burdens such as the record-keeping obligations in the RKR Proposal could create barriers to entry for LEO satellite operators into the Australian market which, though not prohibitive, may lead such LEO satellite operators to deprioritise Australia as compared to other jurisdictions with a less burdensome regulatory regime; and
- given the role that LEO satellite operators are projected to serve in the future to expand connectivity options in underserved areas, the ACMA should not be taking any steps at this stage that could delay or interfere with the network rollouts of those providers.

Background

The business of SpaceX is to provide launch services to both government and commercial satellite customers. SpaceX was founded in 2002 to revolutionise space technologies, with the ultimate goal of enabling humanity to become a multiplanetary species. The company designs, manufactures, and launches advanced rockets and spacecraft. It has over 9,000 employees based in the USA at the company's headquarters in Hawthorne, California, and facilities located across the USA.

SpaceX's business and operations in Australia are limited to the business and operations of Starlink Australia, a wholly owned indirect subsidiary of SpaceX. Starlink Australia holds a carrier licence under the Telecommunications Act and currently provides high speed satellite broadband services in Australia.

Satellite broadband services in the Australian telecommunications sector

The RKR Proposal notes "*the impending deployment of low earth orbit (LEO) satellites*" as part of what it describes as "*the increasing importance of satellite services in complementing terrestrial networks through the supply of connectivity in regional and remote areas.*"

SpaceX is excited about the opportunities that its satellite broadband services can offer to end users, particularly in traditionally underserved regions. This is true in Australia as well as globally.

However, LEO satellite services are still in a very emergent state. For example, after launching commercial service in Australia in April 2021, Starlink now has **[c-i-c] [c-i-c]** end users in the country. This nascent nature of satellite services, particularly LEO, means that satellite does not yet serve any significant role in complementing terrestrial networks in Australia.

This limited competitive effect of satellite services is further diluted by the technical characteristics of satellite services, which typically launch and operate on an Australia-wide basis. This means that satellite end users tend to be widely dispersed across Australia. End users are typically not clustered in particular geographic areas. This limits the competitive constraint exercised by satellite services on existing broadband services. This is an important difference between satellite and new fixed networks (which tend to be built in defined geographic areas on an incremental basis) and mobile networks (which are similarly rolled out tower by tower).

As a hypothetical example, if a new entrant constructed a new fixed network in a single town and attracted (say) 10,000 end users, that would clearly be a competitive constraint on other operators in that town. By comparison, a satellite provider with 10,000 end users spread across Australia would likely have minimal effect on competition in any one geographic market.

Accordingly, the information proposed to be supplied by satellite service providers is unlikely to be relevant to the ACCC's administration of its regulatory functions and responsibilities. In

particular, the information is unlikely to usefully inform the ACCC's understanding and analysis of competition in relevant telecommunications markets. Accordingly, it is our view that the collection of information from LEO satellite service providers such as Starlink does not fall within the scope of the ACCC's powers under section 151BU(4) of the Competition and Consumer Act 2010.

If the ACCC does proceed to include satellite service providers in the list of record-keepers (which SpaceX does not consider is justified), this should not extend to LEO satellite service providers.

The RKR Proposals would disincentivise entry and expansion in Australia by satellite providers

It would be premature to impose additional formal regulation on LEO providers, in the form contemplated by the RKR Proposal, at a time when those providers are already weighing up the considerable commercial risks involved in launching a LEO service with substantial upfront capex and unclear long-term revenue certainty.

LEO constellations offer near-global geographic coverage thanks to the number of satellites involved and the speed at which they orbit. This means that LEO satellite providers are necessarily forced to prioritise jurisdictions for entry and expansion. It is simply not possible to launch services in all covered countries at once.

Additional regulatory burdens such as the record-keeping obligations in the RKR Proposal could create barriers to entry for LEO satellite operators into the Australian market which, though not prohibitive, would be one factor that could lead LEO satellite operators to deprioritise rollout in Australia as compared to other jurisdictions with a less burdensome regulatory regime.

Imposing unnecessary obligations on satellite risks harm to regional and remote end users

As the RKR Proposal recognises, satellite providers have the potential to benefit end users by offering fast, cost-effective services in regional and remote areas where fixed line or fixed wireless networks may not be economic.

SpaceX recognises the importance of high-speed Internet to those users and is excited to connect more people to the SpaceX network. However, the formative state of the satellite market (as discussed above) means that the benefits for regional and remote users have not yet been fully crystallised. There is some way still to go.

If the ACCC imposes the obligations on satellite providers set out in the RKR Proposal, and that disincentivises entry and expansion, the harms will be most keenly felt by end-users in regional and remote regions who lack competitive alternatives to incumbent legacy services.

The ACCC should exercise a high level of caution in taking any steps, such as the RKR Proposal, that could delay or interfere with the network rollouts of satellite providers in these areas.

The proposed drafting would apply more broadly than just fixed satellite services

The RKR Proposal contains proposed changes to the Audit of Telecommunications Infrastructure Assets Record Keeping Rules in mark-up.

In addition to SpaceX's core concerns discussed above, SpaceX considers some of the proposed drafting requires amendment and raises other comments. Specifically:

- "End-user's equipment" is defined in a way that could capture IoT devices that use satellite connectivity, as well as capturing other mobile satellite terminals. This is presumably not the intent, given the proposal to require disclosure of the location of end-user's equipment.

- "Ground station" is defined as "*the facilities on the ground that support the sending of radio signals to an associated satellite*". This appears to capture more than just the large terrestrial radio stations (or "earth stations") that this term ordinarily refers to. For example, it would capture end user equipment such as the satellite dishes installed on end user premises and even IoT terminals on vehicles and land equipment that use satellite technology. These types of equipment are facilities on the ground, and they send radio signals to an associated satellite.

- Further, if it is the case that the ACCC does intend to capture "earth stations", it seems to be duplicative to require disclosure of that detail, given that earth stations already require an earth licence and earth receive licence under the *Radiocommunications Act 1992* (Cth.). Those licences are public and disclose the address and co-ordinates of the earth station. Section 151BU(4B) of the Competition and Consumer Act 2010 requires the Commission to have regard to whether information is publicly available when reviewing record keeping rules. We submit the same regard should be had in the making of record keeping rules.

- The presence and location of earth stations has only limited relevance to the location, density or popularity of the associated satellite services and their end users. A satellite service to an end-user in (say) New South Wales could use an earth station in (say) Queensland. Requiring information on the location of earth stations will not support the ACCC in analysing competition in the telecommunications sector.

- "Radio (satellite)" is defined broadly and appears to capture IoT satellite services and other mobile-satellite services. As noted above, we presume this is not the ACCC's intent.

- As discussed above, if the ACCC does extend the RKR to include satellite services, SpaceX considers that this should not include LEO satellite services. The list of record-keepers and the definition of "Radio (satellite)" should reflect this.

Thank you for the opportunity to provide inputs to this consultation. Please do not hesitate to contact me with any questions. We look forward to our ongoing work with the ACCC on the shared goal of connecting all of Australia's citizens to high-speed Internet services.

Very truly yours,

R. Edward Price