29 June 2026

Independent Communications Authority of South Africa

For attention: Mr Mandla Mchunu — Project Manager
Independent Communications Authority of South Africa
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RE: Written Representations on the Draft Amendment of the Radio Frequency Spectrum Fees Regulations, 2010 (Notice 3926 of 2026, Government Gazette No. 54677, 15 May 2026)

Dear Sirs

Space Exploration Technologies Corp. ("**SpaceX**") submits its written representations in response to the draft Amendment of the Radio Frequency Spectrum Fees Regulations, 2010 (Notice 3926 of 2026, published in Government Gazette No. 54677 on 15 May 2026) (the "**Draft Regulations**"), published for public comment by the Independent Communications Authority of South Africa (the "**Authority**").

SpaceX is a leading provider of low Earth orbit ("**LEO**") satellite broadband services. SpaceX has been actively engaged with the Authority's satellite licensing inquiry process as well as the Authority's Inquiry into New Individual Electronic Communications Network Service Licences.

SpaceX's written representations are set out in the Enclosure to this letter.

SpaceX would appreciate an opportunity to make oral representations to the Authority on the Draft Regulations, should the Authority elect to hold public hearings.

Yours faithfully,

Ryan Goodnight
Senior Director, Market Access and Development
[redacted]

Enclosure

1. SpaceX written representations on the Draft Regulations

Enclosure 1: SpaceX Written Representations on the Draft Regulations

1. **Introduction**

1.1 Space Exploration Technologies Corp. ("**SpaceX**") submits these written representations (this "**Submission**") in response to the draft Amendment of the Radio Frequency Spectrum Fees Regulations, 2010 (Notice 3926 of 2026, Government Gazette No. 54677, 15 May 2026) (the "**Draft Regulations**"), published by the Independent Communications Authority of South Africa (the "**Authority**") pursuant to section 4(1) of the Electronic Communications Act, 2005 (Act No. 36 of 2005) (the "**ECA**").

1.2 As a leading provider of low Earth orbit satellite broadband services, SpaceX has a direct and material interest in the regulatory framework that the Draft Regulations seek to establish. SpaceX's Starlink service is one of the most widely deployed non-geostationary orbit ("**NGSO**") satellite broadband systems in the world, and SpaceX intends to provide Starlink services to South African consumers and businesses in future through its South African subsidiary. The Draft Regulations will directly govern the spectrum fees payable in respect of SpaceX's Gateway Earth Station and User-Terminal Network operations in South Africa.

1.3 SpaceX acknowledges the extensive consultation process conducted by the Authority following its Satellite Services Licensing Framework Inquiry (Government Gazette No. 51044, 14 August 2024) and commends the Authority for the inclusive and thorough nature of this process.

1.4 SpaceX's representations address the following matters:

1.4.1 the Gateway Earth Station fee formula introduced by the amendment to regulation 5(d) of the Radio Frequency Spectrum Licence Fees Regulations, 2010 (the "**RFS Regulations"**) (section 2 of this Submission);

1.4.2 the User-Terminal Network fee formula introduced by the amendment to regulation 5(e) (section 3 of this Submission);

1.4.3 the treatment of ESIM terminals under the amended reference table in regulation 9 (section 4 of this Submission);

1.4.4 the extension of the FREQ factor table to higher frequency bands, including Q/V Band and bands above 50 GHz (section 5 of this Submission);

1.4.5 minimum licence duration for Gateway Earth Station licences and User-Terminal Network licences (section 6 of this Submission); and

1.4.6 the inseparability of the spectrum fee framework from the broader licensing and ownership framework applicable to satellite service providers in South Africa (section 7 of this Submission).

2. Gateway Earth Station Fee Formula (Amendment to Regulation 5(d))

2.1 The Draft Regulations amend regulation 5 of the RFS Regulations, by substituting sub-regulation (5)(d) with a revised Satellite Hub Ground Station formula:

*Hub ground station Fee = Max (RUL; UNIT * FREQ * BW * SEC)*

2.2 The fee is calculated as the multiplication of the unit price (UNIT), the frequency factor (FREQ), and the bandwidth in MHz (BW), subject to a minimum fee of RuL (the minimum fee for satellite uplink connections). The Security factor (SEC) provides a discount for satellite operations in the security sector.

2.3 SpaceX welcomes the introduction of the frequency factor (FREQ) as a meaningful improvement over the previous bandwidth-only formula. The FREQ factor recognises that operators of high-throughput satellite systems requiring large bandwidths in higher frequency bands should not be disproportionately penalised relative to operators in lower frequency bands.

2.4 Notwithstanding this welcome development, SpaceX raises the following concerns:

2.4.1 *Bandwidth-based methodology.* SpaceX maintains its position, expressed in previous submissions, that a purely bandwidth-based fee structure is not the most appropriate methodology for satellite spectrum licensing. Unlike terrestrial mobile spectrum, where bandwidth is a reasonable proxy for capacity and commercial value, satellite systems require very large bandwidths to achieve commercially viable throughputs and the cost of providing services does not scale proportionally with bandwidth. SpaceX respectfully encourages the Authority to consider whether alternative or supplementary fee approaches — such as a flat annual licence fee per Gateway Earth Station, or a fee benchmarked against capacity actually made available to South African users — would better reflect the economics of satellite gateway operations and more effectively promote South Africa's attractiveness as a gateway hub. In that context, a flat fee that reflects a minimal cost recovery amount, would incentivise the deployment of network infrastructure in South Africa.

2.4.2 *Fee calculation based on uplink bandwidth only.* SpaceX notes and welcomes the Authority's confirmation in the explanatory memorandum (paragraph 2.6 of the Draft Regulations) that only the frequency band and bandwidth in the uplink direction will be considered when calculating the fee. This is consistent with the "Open Sky" approach and with the existing Hub Ground Station Fee formula. SpaceX requests that this limitation be expressly reflected in the regulation text itself (rather than only in the explanatory memorandum), so that the uplink-only basis is clear on the face of the operative provisions.

2.4.3 *Publication of UNIT values and RuL.* The formulae in the Draft Regulations refer to a unit price (UNIT) and a minimum uplink fee (RuL), the values of which are not set out in the Draft Regulations themselves. SpaceX requests that the Authority confirm, in the final regulations or in accompanying guidance, the current values of UNIT and RuL applicable to satellite Gateway Earth Station licences, so that operators can assess the practical fee quantum arising from the revised formula.

2.4.4 *Scope of the formula: what constitutes a "principal hub station".* The revised regulation 5(d) heading refers to a "Satellite Hub Ground Station" and the formula applies to "a principal hub station for uplink". SpaceX notes that NGSO satellite systems, including Starlink, typically operate multiple gateway earth stations simultaneously to maintain continuous satellite visibility as satellites pass overhead — a characteristic acknowledged in the explanatory memorandum to the Authority's Satellite Services Licensing Framework Consultation Notice. SpaceX requests confirmation that the fee formula applies on a per-licence basis (as proposed in the Authority's consultation documents), rather than on a per-earth-station basis, and that a single Gateway Earth Station licence covering multiple co-located or distributed gateway sites within South Africa will attract a single application of the formula.

3. **User-Terminal Network Fee Formula (Amendment to Regulation 5(e))**

3.1 The Draft Regulations amend regulation 5 of the RFS Regulations, by substituting sub-regulation (5)(e) with a revised Satellite Terminal Network formula:

*Terminal network Fee = (UNIT * BW * SEC)*

3.2 The fee applies to a blanket licence to operate a satellite terminal network, calculated on the basis of uplink bandwidth in MHz. As noted in the explanatory memorandum (paragraph 2.7 of the Draft Regulations), this formula is substantively unchanged from the existing VSAT Fee formula, save that it is extended to apply to all satellite terminal networks (not only VSAT networks), the Security factor (SEC) is added, and only uplink bandwidth is used for the calculation.

3.3 SpaceX supports the blanket licensing approach, which is consistent with international best practice and with the Authority's stated objective of facilitating the deployment of satellite user-terminal networks without imposing terminal-by-terminal licensing burdens. SpaceX raises the following specific concerns:

3.3.1 *Liability for the Terminal Network Fee: provider vs. customer.* The Draft Regulations provide that the Terminal Network Fee applies to the satellite terminal network operator (i.e. the provider who holds the blanket licence for the terminal network), rather than to individual end-user customers. The explanatory memorandum notes (at paragraph 2.7) that "this approach will ensure accountability of operations even in an event where the satellite network's gateway is not located in South Africa". SpaceX accepts in principle that provider-level accountability is the appropriate approach.

3.3.2 However, the Draft Regulations do not address the allocation of the Terminal Network Fee obligation in a vertically disaggregated value chain — that is, where the satellite network operator and the licensed service provider to end-users are different entities. In SpaceX's case, Starlink services would be provided to South African customers through a locally licensed I-ECNS or reseller entity, while the satellite network infrastructure is operated by SpaceX (or an affiliated entity) as the foreign space segment operator. It is unclear whether, in this structure, the Terminal Network Fee is payable by SpaceX as network operator, by the local licensee as service provider, or by both. SpaceX requests that the Authority expressly clarify this allocation in the final regulations, and submits that the obligation should rest with the entity holding the blanket User-Terminal Network licence, avoiding any risk of double-charging.

3.3.3 *Definition of "Blanket Licence".* The Draft Regulations insert a definition of "Blanket Licence" in regulation 1, defined as an authorisation covering the operation of a network connecting an unlimited number of terminals with similar technical and operational characteristics. SpaceX notes that Starlink's user terminals operate across a range of hardware versions and configurations. SpaceX requests that the Authority confirm that the "similar technical and operational characteristics" requirement is to be applied at the level of the terminal type or generation (e.g. all Starlink standard residential terminals), rather than at the level of individual terminal specifications, so that a single blanket licence can cover the full range of Starlink user terminals deployed in South Africa.

3.3.4 *ESIM terminals under the Terminal Network Fee.* As discussed further in section 4 of this Submission, the amended regulation 9 reference table confirms that the Terminal Network Fee applies to satellite terminal networks including ESIM terminals. SpaceX notes that this would result in the Terminal Network Fee applying to SpaceX's ESIM-equipped platform operators (aircraft and maritime vessel operators) that obtain a South African service licence. SpaceX requests that the Authority clarify whether a single blanket Terminal Network licence can cover both fixed and mobile (ESIM) terminals operating under the same network, or whether separate blanket licences are required for each category.

4. **Treatment of ESIMs under the Amended Regulation 9 Reference Table**

4.1 The Draft Regulations amend the reference table in regulation 9 by replacing item 6 (Satellite) with a revised table. Item 6.1 of the revised table reads:

"6.1 Satellite terminal networks (including VSAT networks and ESIM terminals) — Terminal Network Fee"

4.2 SpaceX notes that the inclusion of ESIM terminals within the Terminal Network Fee category represents the first express regulatory recognition of ESIMs in the South African spectrum fee framework, and broadly welcomes this clarity. SpaceX understands that the Terminal Network Fee under item 6.1 will apply to “Local ESIMs” — that is, ESIMs receiving service pursuant to a South African service licence — rather than to “Foreign ESIMs” that are exempt from South African licensing requirements. SpaceX requests that the final regulations confirm this understanding, and that the fee provisions applicable to ESIM terminal networks expressly cross-reference the licensing exemption applicable to Foreign ESIMs, so that the relationship between the two instruments is clear and that fees are not payable in respect of Foreign ESIMS.

4.3 In the context of ESIMs, SpaceX encourages the Authority to expand the frequency ranges that may be utilised by ESIMs to include:

4.3.1 Ku DL spectrum, including:

4.3.1.1 12.7-13.25 GHz

4.3.1.2 17.3- 20.2 GHz

4.3.2 Ku UL spectrum, including

4.3.2.1 13.75 -14.0 GHz

4.3.2.2 14.5-14.8 GHz

4.3.2.3 15.43- 15.63 GHz

4.3.3

5. **Extension of the FREQ Factor Table to Higher Frequency Bands**

5.1 The Draft Regulations adopt a FREQ factor table that covers frequency ranges from 1 kHz to 50 GHz, with the following factors applicable to satellite-relevant bands:

Frequency Range (From)	**Frequency Range (To)**	**FREQ Factor**
1 kHz	174 MHz	1
174 MHz	880 MHz	0.75
880 MHz	1.8 GHz	0.5
1.8 GHz	5 GHz	0.4
5 GHz	10 GHz	0.3
10 GHz	17 GHz	0.2
17 GHz	23 GHz	0.15
23 GHz	30 GHz	0.1
30 GHz	50 GHz	0.05

5.2 SpaceX notes that the FREQ table already extends to 50 GHz — which captures Q/V Band operations up to approximately 50 GHz — and welcomes this inclusion. However, the FREQ table does not extend beyond 50 GHz, and therefore does not cover:

5.2.1 E-Band frequencies (71–76 GHz paired with 81–86 GHz), which are increasingly used by next-generation satellite systems for high-capacity feeder links; and

5.2.2 millimetre-wave and higher frequency bands (above 86 GHz, including frequencies approaching and above 90 GHz), which are currently being deployed in very-high-throughput satellite systems.

5.3 SpaceX submits that the FREQ table should be extended to cover frequency ranges above 50 GHz. Consistent with the logic of the existing table — under which higher, less congested frequency bands attract a lower FREQ factor to incentivise their use — SpaceX proposes that the Authority consider extending the table with at minimum two additional rows:

5.3.1 50 GHz to 90 GHz: FREQ factor of 0.025 (reflecting E-Band and higher V-Band); and

5.3.2 Above 90 GHz: FREQ factor of 0.01 (reflecting millimetre-wave and future-band operations).

5.4 SpaceX acknowledges that the exact factor values are a matter for the Authority's discretion, informed by spectrum management and policy considerations, and is available to provide further technical input to assist the Authority in calibrating these figures. The key submission is that the FREQ table should not leave bands above 50 GHz in a regulatory vacuum, which would create uncertainty for operators planning to invest in next-generation satellite infrastructure that makes use of these frequencies.

5.5 As this spectrum is ultimately a shared resource, SpaceX urges the Authority to consider a cost recovery model that incentivises use and deployment within South Africa for satellite spectrum, as this would yield dividends to South Africa as a welcoming destination for investment.

6. Minimum Licence Duration

6.1 SpaceX notes that the Draft Regulations do not address the duration of Gateway Earth Station licences or User-Terminal Network licences. SpaceX's prior submission to the Authority recommended that a minimum licence term of 10 years be adopted, with the option of renewal for further periods.

6.2 The importance of longer licensing periods for satellite infrastructure investment is significant. Gateway earth stations represent material capital expenditure, and operators require reasonable certainty of licensed tenure to justify and recover that investment. SpaceX notes that the Authority's own Satellite Services Licensing Framework Consultation Notice referenced international practice, including DotEcon's report for Ireland, which identified that longer radio spectrum licence terms and renewal options are among the most significant factors influencing satellite operators' decisions as to where to locate gateway earth station infrastructure.

6.3 SpaceX submits that the final regulations should:

6.3.1 provide for a minimum licence term of 10 years for Gateway Earth Station licences and User-Terminal Network licences, with clear renewal provisions that specify the criteria for renewal and the timeline within which the Authority will determine a renewal application; and

6.3.2 confirm that licence terms for Gateway Earth Station licences are not automatically tied to the duration of any corresponding service licence held by the licensee or its affiliated service provider, given that the satellite network infrastructure (the space segment) will continue to operate regardless of changes to the local service licensing structure.

7. Inseparability of the Spectrum Fee Framework from the Broader Licensing and Ownership Framework

7.1 SpaceX notes that the Draft Regulations are confined to spectrum fee matters and do not address the broader licensing and ownership framework applicable to satellite service providers in South Africa. SpaceX is concerned that this approach risks creating an incomplete regulatory picture, and submits that the matters addressed in the Draft Regulations cannot be meaningfully separated from the licensing and ownership considerations that will govern SpaceX's entry into the South African market.

7.2 In particular, SpaceX submits that the following matters remain unresolved or unclear and interact directly with the spectrum fee framework being established by the Draft Regulations:

7.2.1 *HDG equity requirements.* The RFS Regulations, impose a minimum 30% Historically Disadvantaged Group ("**HDG**") equity requirement on applicants for, and holders of, radio frequency spectrum licences. The Draft Regulations do not address how this requirement applies to the new Gateway Earth Station licence and User-Terminal Network licence categories. SpaceX requests that the Authority confirm, in the final regulations or in accompanying guidance, the HDG equity requirements applicable to these licence categories, and how they interact with any space segment registration obligations applicable to the foreign satellite operator.

7.2.2 *Local entity and ownership requirements for service provision.* The requirement that a locally licensed entity be incorporated in South Africa and maintain its principal place of business within South Africa (in accordance with section 5(8)(b) of the ECA) creates important structuring considerations for foreign satellite operators that wish to provide services directly to South African consumers. These requirements interact with, and are not separable from, the spectrum licensing obligations imposed by the Draft Regulations. SpaceX submits that the Authority should address these interactions in a consolidated manner, so that the complete picture of regulatory requirements for a satellite operator entering the South African market is accessible in a single place.

7.2.3 *B-BBEE and sector code alignment.* SpaceX notes that the Policy Direction issued by the Minister of Communications and Digital Technologies on 12 December 2025 identifies the need to align the Authority's spectrum licensing requirements with the ICT Sector Code under the Broad-Based Black Economic Empowerment Act, 2003. The Draft Regulations do not address this alignment. SpaceX submits that the finalisation of the spectrum fee and licensing framework should not occur in isolation from the ongoing process of aligning the spectrum licensing regime with the B-BBEE and sector code requirements applicable to the broader telecommunications sector.

7.3 SpaceX acknowledges that some of these matters fall beyond the strict scope of the current consultation. However, SpaceX submits that the Authority should use the current consultation as an opportunity to signal clearly how these matters will be addressed, so that satellite operators and investors can plan their South African market entry strategies with confidence in the overall regulatory framework.

8. **Conclusion**

8.1 SpaceX welcomes the Draft Regulations as a meaningful and important step toward establishing a modern and commercially viable spectrum fee framework for satellite services in South Africa. SpaceX is committed to working constructively with the Authority to finalise a framework that achieves the Authority's stated objectives of facilitating satellite services, promoting efficient use of spectrum, and ensuring regulatory certainty for market participants — while also enabling SpaceX to bring the benefits of the Starlink broadband service to South African consumers and businesses.

8.2 SpaceX's key requests, in summary, are as follows:

8.2.1 that the uplink-only basis for the Gateway Earth Station fee calculation be reflected expressly in the regulation text, that the UNIT and RuL values be published, and that the per-licence (rather than per-earth-station) basis for the fee be confirmed;

8.2.2 that the allocation of the Terminal Network Fee obligation in a vertically disaggregated value chain be clarified, and that the scope of the "Blanket Licence" definition and its application to ESIM terminal networks be confirmed;

8.2.3 that the treatment of Local ESIMs under the Terminal Network Fee (item 6.1 of the amended regulation 9 reference table) be expressly cross-referenced to the Foreign ESIM exemption under the Draft Regulations;

8.2.4 that the FREQ factor table be extended beyond 50 GHz to cover E-Band and higher frequency bands, with proposed factors of 0.025 (50–90 GHz) and 0.01 (above 90 GHz);

8.2.5 that a minimum licence term of 10 years be adopted for Gateway Earth Station licences and User-Terminal Network licences, with clear renewal provisions; and

8.2.6 that the interactions between the Draft Regulations and the broader HDG equity, local entity, and B-BBEE framework be addressed in a consolidated manner.

8.3 As noted in the cover letter to this Submission, SpaceX would welcome an opportunity to make oral representations to the Authority, should the Authority elect to hold public hearings in connection with the Draft Regulations. SpaceX appreciates the opportunity to engage in this consultation and remains available to provide further technical or legal input at the Authority's request.