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February 27, 2026 via email: spectrumplanning-planificationduspectre@ised-isde.gc.ca

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Re: Canada Gazette, SMSE-016-25: Consultation on a Policy, Licensing and Technical Framework for Remotely Piloted Aircraft Systems (RPAS) in the 5030-5091 MHz Band and Certain Bands Used to Provide Commercial Mobile Services

Ms. Scott, Ms. Gallant,

Rogers Communications Canada Inc. (Rogers) is pleased to provide Innovation, Science and Economic Development Canada (ISED) with the following comments in response to *SMSE-016-25: Consultation on a Policy, Licensing and Technical Framework for Remotely Piloted Aircraft Systems (RPAS) in the 5030-5091 MHz Band and Certain Bands Used to Provide Commercial Mobile Services*, published in the Canada Gazette, Part I, January 17, 2026.

Rogers thanks the Department for the opportunity to provide input on this important issue.

Sincerely,

A handwritten signature in black ink, appearing to read 'Howard Slawner', written in a cursive style.

Howard Slawner
Vice President - Telecom
HS/pg

Attach.

Consultation on a Policy, Licensing and Technical
Framework for Remotely Piloted Aircraft
Systems (RPAS) in the 5030-5091 MHz
Band and Certain Bands Used to Provide
Commercial Mobile Services
SMSE-016-25

Comments of
Rogers Communications Canada Inc.
February 27, 2026



Executive Summary

- E1. Rogers supports Innovation, Science and Economic Development Canada's (ISED or the Department) proposal to establish a licensing and technical framework for Remotely Piloted Aircraft Systems (RPAS) operations in the 5030-5091 MHz band and in commercial mobile spectrum bands. A clear, enabling framework will accelerate safe, scalable RPAS integration into Canada's telecommunications ecosystem, leverage existing national mobile network investments, and unlock high-value services across urban, rural, remote, and Indigenous communities. As Canada's largest single-network operator and the first to commercially launch satellite-to-mobile services, Rogers is committed to working with ISED, Transport Canada, and industry stakeholders to enable reliable RPAS connectivity that enhances public safety, economic productivity, and innovation, while protecting licensed services and ensuring spectrum efficiency.
- E2. RPAS aerial user equipment (UE) is expected to support a wide range of high-value use cases enabled by the reliable, low-latency links of commercial mobile networks. These include Beyond Visual Line-Of-Sight (BVLOS) emergency and public safety operations; first-responder support for situational awareness and search-and-rescue; remote infrastructure inspection (including energy, utilities, rail, and pipelines); precision agriculture; environmental and wildlife monitoring; logistics, and autonomous research missions. Enabling these capabilities at scale will deliver substantial economic, safety, and sustainability benefits to Canadians and help close service and opportunity gaps across remote and underserved regions.
- E3. The Department should adopt its proposals to allow RPAS to operate under unmodified commercial mobile spectrum licences, including bands and services that support Supplemental Mobile Coverage by Satellite (SMCS), provided that access is authorized by the primary mobile licensee. This authorization should cover both Command and Non-Payload Communications (CNPC) and payload (application) traffic, even if the Department ultimately elects to restrict the 5030–5091 MHz band to CNPC-only traffic. At the same time, the framework must explicitly state that RPAS use of commercial mobile bands does not create any unilateral right of access for RPAS operators, nor SMCS satellite operators, and does not impose a mandated obligation on licensees to support RPAS operations. All RPAS connectivity must remain fully subject to the authorization, service offerings, and network policies of the primary licensee. Maintaining this principle

aligns with current licensing regimes, protects network integrity and safety, and preserves licensees' ability to manage spectrum efficiently in the public interest.

E4. Leveraging nationwide 4G and 5G commercial mobile networks for RPAS delivers immediate, practical advantages for both CNPC and payload communications, including:

- **Coverage and Availability:** Wide-area terrestrial footprints, augmented by in-building and rural coverage solutions, as well as SMCS-coverage, support safe BVLOS corridors for public safety, remote inspection, and medical logistics.
- **Reliability and Quality of Service:** Mature mobility management, redundancy, and service-level engineering enable robust CNPC links with low latency and prioritized traffic where appropriate.
- **Security and Resilience:** Carrier-grade authentication, encryption, SIM-based identity, and cyber safeguards protect command links and sensitive payload data.
- **Performance for Advanced Missions:** 5G uplink capacity, network slicing, and edge computing support real-time video, telemetry, and autonomous navigation for use cases such as disaster assessment, precision agriculture analytics, and live environmental sensing. 4G networks offer even greater coverage currently, combined with several narrow bandwidth technologies that are well suited to providing position and identification information.
- **Scalability and Cost Efficiency:** Use of existing, standards-based infrastructure accelerates deployment, simplifies device certification, and lowers total cost for Canadian enterprises and public agencies, and, ultimately, consumers.

E5. Rogers generally supports alignment and harmonization with United States band plans and technical standards to the greatest extent practical, in order to maximize border coexistence and promote a North American equipment ecosystem. For RPAS specifically, enhancing cross-border operational consistency can also aid public-safety cooperation during emergency events. We support developing a new drone-specific Radio Standards Specification for RPAS equipment across all applicable spectrum bands (both commercial mobile and 5030-5091 MHz); however, in commercial mobile bands, applying the existing technical rules and coexistence measures in the relevant Standard Radio System Plans is sufficient. We support that RPAS accessing commercial mobile networks should, at least initially, be restricted to 122 metres (400 feet) Above Ground

Level, to minimize any intra-network challenges (i.e., self-interference). Any potential intermittent inter-network interference from aerial UEs can be mitigated using established 3GPP-based measures (e.g., power control, mobility management, and interference mitigation features). If the Department adopts a Dynamic Frequency Management System to coordinate the 5030–5091 MHz band, that system must physically reside in Canada and apply Canadian spectrum rules to protect Canadian sovereignty and ensure operational accountability under Canadian law.

- E6. Rogers supports a technology-neutral and service-neutral framework that enables CNPC and payload traffic in commercial mobile bands, subject to primary licensee authorization and the protection of incumbent services. We recommend that the framework explicitly: (a) confirm that commercial mobile bands may be used for RPAS without modification to existing licences for both CNPC and payload traffic, (b) specify that RPAS access is contingent on primary licensee permission and network policies, (c) allow CNPC-only or CNPC-plus-payload operation in 5030–5091 MHz consistent with international developments, and (d) leverage existing technical standards and regulations and mitigations for aerial UEs, while pursuing targeted, harmonized updates to equipment standards and certification to streamline market entry and ensure safety.
- E7. Finally, to accelerate safe deployment, the Department should encourage standards-based implementations (3GPP for aerial UEs; applicable aviation safety guidance for CNPC), promote information-sharing with Transport Canada and NAV CANADA on operational risk, and maintain regulatory clarity that preserves licensee discretion, network safety, and spectrum efficiency. With a balanced framework in place, Canada can rapidly scale RPAS services that improve public safety outcomes, strengthen critical infrastructure oversight, advance environmental stewardship, and drive innovation for the benefit of all Canadians.

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Introduction

1. Rogers Communications Canada Inc. (Rogers) is pleased to provide Innovation, Science and Economic Development Canada (ISED or the Department) with the following comments in response to *SMSE-016-25: Consultation on a Policy, Licensing and Technical Framework for Remotely Piloted Aircraft Systems (RPAS) in the 5030-5091 MHz Band and Certain Bands Used to Provide Commercial Mobile Services*¹ (the Consultation), published in the *Canada Gazette*, Part I, January 17, 2026.
2. As Canada's largest single national network operator with a proud history of bringing technological innovations to all Canadians, Rogers welcomes the Department's proposal to enable RPAS, also known as Unmanned Aircraft (UA), Unmanned Aircraft Vehicles (UAV), Unmanned Aircraft Systems (UAS) or, more colloquially, "drones", in commercial mobile spectrum bands. Effective spectrum policy frameworks are needed for Canadian network operators to meet the increasing demand for innovative new wireless services. Canada stands to gain substantially from policies that enable the full potential of RPAS. When supported by high-quality mobile connectivity, RPAS can benefit Canadian consumers and businesses through new and improved business operations across industrial verticals, enhanced public sector capabilities, and contributing to public safety. This new service will benefit all Canadians no matter where they live, while particularly benefiting those living in rural and remote areas, including remote Indigenous communities. Drones will become especially beneficial with the proposal to extend Supplemental Mobile Coverage from Space (SMCS) licences to including RPAS.
3. The Department should adopt the Consultation proposals to allow RPAS in unmodified commercial mobile spectrum licences, including SMCS bands/services. All RPAS connectivity must remain fully subject to the authorization, network policies, and service offerings of the primary licensee. Maintaining this principle will ensure alignment with existing licensing regimes, protect network integrity, and preserve the ability of licensees to manage their spectrum efficiently. Drone usage should include both Command and non-Payload Communications (CNPC) and payload types of traffic, even if the Department ultimately elects to restrict the

¹ ISED, *SMSE-016-25: Consultation on a Policy, Licensing and Technical Framework for Remotely Piloted Aircraft Systems (RPAS) in the 5030-5091 MHz Band and Certain Bands Used to Provide Commercial Mobile Services* (Consultation); <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/learn-more/key-documents/consultations/consultation-policy-licensing-and-technical-framework-remotely-piloted-aircraft-systems-rpas-5030>.

5030-5091 MHz band for CNPC-only traffic. If the Department adopts a Dynamic Frequency Management System (DFMS) to coordinate the 5030-5091 MHz band, the system must physically reside in Canada and apply Canadian spectrum rules to ensure our sovereignty is protected.

4. As noted above, Rogers has a proud history of bringing technological innovations to all Canadians, including at the start of the Canadian mobile wireless industry over 40 years ago.² We helped launch the modern smartphone era in Canada as the exclusive carrier for the Canadian launch of the Apple iPhone and were the first operator to launch Android in Canada. We were the first to deploy 4th Generation (4G) Long Term Evolution (LTE) networks in Canada, and later launched the first and most reliable 5th Generation (5G) New Radio (NR) network in Canada, powered by Ericsson.³ In December 2025, we continued this tradition of innovation and launched Rogers Satellite, one of the first satellite-to-mobile services in the world to connect standard mobile phones to low-earth orbit (LEO) satellites.⁴ We have also been an innovator in drones, when in partnership with InDro Robotics and the University of British Columbia's (UBC) MéridaLabs, Rogers worked to complete Canada's first flight over a 5G network in Vancouver, BC.⁵
5. The overall strength and resilience of Canada's wireless (and wireline) facilities-based networks following the COVID-19 pandemic has been a point of pride for Canada. Although some Canadians living in rural and remote areas do not always have the same connectivity options (which governments and industry are working together to resolve), broadly speaking, Canadians currently have access to world-class mobile voice and broadband data services due to facilities-based competition between the national operators. According to the Canadian Radio-television and Telecommunications Commission (CRTC), telecommunications investment made in both wireless and wireline networks was \$12.73 billion in 2024 for plant and equipment (\$3.6 billion for wireless alone), a combined capital intensity of 22.8% due to the requirement to maintain and upgrade extensive network infrastructure.⁶

² Rogers, *Rogers Celebrates 40th Anniversary of Canada's First Wireless Call on July 1*, <https://about.rogers.com/news-ideas/rogers-celebrates-40th-anniversary-of-canadas-first-wireless-call-on-july-1/>.

³ Rogers 5G+ was ranked first in reliability in the umlaut Mobile Network Performance audit in 2025. Visit [Umlaut audit report 2025](https://www.umlaut.com/audit-report-2025).

⁴ Rogers, *Rogers First to Launch Satellite-to-Mobile Service with Must-Have Apps*; <https://about.rogers.com/news-ideas/rogers-first-to-launch-satellite-to-mobile-service-with-must-have-apps/>.

⁵ Rogers, *Rogers Expands 5G Network in the West and Ontario and Powers Canada's First 5G Drone Flight*; <https://about.rogers.com/news-ideas/rogers-expands-5g-network-in-the-west-and-ontario-and-powers-canadas-first-5g-drone-flight/>.

⁶ CRTC, *Communications Market Reports - Open Data: Data - Telecommunications sector*; <https://web.crtc.gc.ca/eng/publications/reports/PolicyMonitoring/cmdrd.htm>.

In 2024, Rogers invested more than \$3.5 billion in our networks, including \$1.6 billion alone in our wireless networks.⁷

6. Facilities-based leaders like Rogers continue to make the significant investments required to maintain and grow network infrastructure that enables Canadians to fully participate in the digital economy and take advantage of innovative new services. These contributions to the economy – in both investment and employment – will be crucially important as Canada looks to navigate the current global economic uncertainty, as next-generation networks and services are crucial to maintaining international competitiveness. However, in order to continue meeting evolving digital demands, Canadian spectrum policy must ensure that spectrum can be effectively deployed within facilities-based mobile networks for advanced new services like RPAS.

Drones in Canada

7. Canada is entering an inflection point in the evolution of RPAS innovation and adoption. As industries from agriculture to logistics, from emergency response to infrastructure monitoring, all accelerate their adoption of RPAS across the country, the role of reliable, wide-area connectivity becomes foundational. Commercial mobile network operators are uniquely positioned to support this transformation and unlock the full socio-economic potential of RPAS operations for the benefit of Canadians and businesses.
8. The full benefit of RPAS will only be realized, however, if Canada's regulatory and spectrum policies fully support the safe, scalable, and ubiquitous use of mobile connectivity for RPAS. Canada's world-class 4G and 5G mobile networks and Subscriber Identity Module (SIM)-based authentication already provide the capabilities required to identify, monitor, and track RPAS, ensuring safe integration into Canadian airspace. As RPAS density increases, these tools will be essential to ensuring both operational safety and public confidence.
9. For Canada to lead in RPAS innovation, regulators like ISED and Transport Canada (TC) should maintain service- and technology-neutral policies, ensuring there are no unnecessary restrictions on the use of licensed mobile spectrum for RPAS. This is particularly important as RPAS usage expands from line-of-sight operations to beyond visual line-of-sight (BVLOS), supporting everything from

⁷ Rogers, *Canada's communications & entertainment company. 2024 Annual Report*, pg 47; <https://about.rogers.com/wp-content/uploads/Rogers-2024-Annual-Report-1.pdf>.

industrial inspections and agricultural optimization to emergency medicine logistics and disaster-scene assessment.

10. As noted above, the Department should adopt the proposals to allow RPAS in unmodified commercial mobile spectrum licences, including SMCS bands/services. This should be both CNPC and payload types of traffic, even if the Department ultimately elects to restrict the 5030-5091 MHz band for CNPC-only traffic. Under any circumstance where loss of CNPC could pose a risk to human life, whether carried in commercial mobile bands, the 5030-5091 MHz band, or any other spectrum band, appropriate RPAS aerial UE safety measures are essential. These can include mechanisms such as automated safe landing procedures or redundant CNPC links. The responsibility for ensuring robust flight and CNPC fail safe mechanisms, however, rests with RPAS operators and is best governed through Transport Canada regulatory requirements, not ISED spectrum policy.
11. Canada stands to gain substantially from policies that leverage the full potential of RPAS. When supported by world-class, widely-deployed mobile networks, RPAS can transform business operations, including automated inspections, precision agriculture, and supply chain efficiency. Drones can also be used to enhance public-sector capabilities, enabling first responders to rapidly assess incidents, improving situational awareness and reducing risk during natural disasters or threats to public safety, while also supporting environment and infrastructure monitoring. RPAS can also support life-saving health services, including delivery of critical medications and emergency supplies to remote communities. Enabling drones in commercial mobile spectrum licences, including those used by SMCS services, will enhance RPAS connectivity and service reach in a country as large as Canada.
12. Canadian RPAS trials, as well as global demonstrations, consistently show that terrestrial mobile networks can safely support RPAS at altitudes of at least 122 metres (m) or 400 feet (ft) using today's networks and without requiring new technology. This means Canada can scale RPAS innovation immediately using the networks that Canadian mobile operators have widely deployed.

13. Rogers strongly supports the GSMA's four positions on the use of licensed mobile spectrum for RPAS,⁸ as helpful to informing the proposed RPAS framework.

- i. **Licensed mobile spectrum enables widespread, high-quality connectivity for UAVs with sufficient capacity to support competitive services and rising usage levels:** For Canada, this means leveraging national 4G and 5G networks, like Rogers, to deliver the reliable, high-performance connectivity required for safe and scalable RPAS operations.
- ii. **Licensed mobile spectrum can support affordable UAV connectivity worldwide:** Mobile networks already provide cost-effective connectivity technologies, enabling Canadian industries, from small businesses to major enterprises, to utilize RPAS without prohibitive costs.
- iii. **It is essential there are no unnecessary barriers to using licensed mobile spectrum to connect UAVs:** Rogers supports regulatory modernization, allowing RPAS operators to use the same high-quality, secure spectrum that Canadians depend on for critical communications, provided the access is authorized by the primary mobile spectrum licensee.
- iv. **Regulators should adopt a service and technology neutral framework to fully support UAVs:** A neutral, flexible framework will ensure Canada remains globally competitive, enabling innovation in RPAS aviation while maintaining safety and interoperability across networks, devices, and industries.

14. By ensuring Canada's RPAS framework is service and technology neutral for the use of licensed mobile spectrum for RPAS, Canada can accelerate innovation, enhance safety, and unlock significant economic and societal benefits. Rogers fully supports the Consultations proposals to enable RPAS operations in both a drones-specific band, 5030-5091 MHz, but also commercial mobile spectrum bands. Allowing CNPC traffic not only in the RPAS-specific 5030–5091 MHz band but also across authorized commercial mobile spectrum bands is essential to ensuring that Canada can safely and rapidly scale RPAS operations.

15. If CNPC were restricted solely to 5030–5091 MHz for drones, the pace and reliability of national RPAS adoption would become dependent on the rollout of DFMS, a complex, aviation-grade coordination infrastructure that may take years to deploy broadly and uniformly. While the Department has continued to enable

⁸ GSMA, *Mobile spectrum for Unmanned Aerial Vehicles*; <https://www.gsma.com/connectivity-for-good/spectrum/wp-content/uploads/2018/12/Mobile-spectrum-for-Unmanned-Aerial-Vehicles.pdf>.

innovative approaches to spectrum management, including White Space Devices and 6 GHz Automatic Frequency Coordination, these still relatively novel coordination approaches have yet to see large scale deployments and usage. Any delays or regional gaps in DFMS deployment would create a bottleneck for CNPC availability, effectively constraining BVLOS operations and undermining the benefits demonstrated in Canadian trials.

16. Industry studies, such as by GSMA, reinforce that licensed mobile bands already support authenticated, trackable, and interference-managed aerial CNPC communications up to 122 m above ground level (AGL), making commercial mobile spectrum an immediately available resource, with the full authorization by their exclusively-licensed primary licenses, instead of a future-dependent constraint.
17. Enabling CNPC traffic in commercial mobile spectrum bands provides substantial national-scale advantages because these bands sit atop some of Canada's most extensive, resilient, and technologically mature communications infrastructure. Commercial mobile networks are already engineered for public-safety-grade services today, including 9-1-1 and supporting emergency responder traffic. Canada's commercial mobile networks, especially those like Rogers, Canada's largest single-network operator, offer unmatched depth of coverage, densification, redundancy, and security. Canadian field trials such as our own UBC 5G RPAS flights prove that CNPC over carrier networks can deliver low-latency control, reliable telemetry, and continuous situational awareness under real operational conditions.
18. As discussed in detail below, the Department should reject any proposals to limit CNPC traffic for commercial RPAS to the 5030-5091 MHz band. The safety of Canadians is of paramount importance and the Department should act as an efficient spectrum steward for the benefit of all Canadians and the Canadian economy. Limiting CNPC traffic to a new RPAS-specific band, with an uncertain band plan and novel DFMS coordination system, could result in significant delays to the expansion of RPAS systems in Canada, even with potential interim solutions being proposed for 5030-5091 MHz. Allowing CNPC traffic in commercial mobile bands will, alternatively, support the rapid and safe expansion, with potential additional services and redundancy available to drone operators once the 5030-5091 MHz band becomes commercially operational.
19. Moreover, with the launch of Rogers Satellite service providing near national satellite-to-mobile coverage, CNPC can now extend into remote and maritime areas previously unreachable by terrestrial networks, ensuring continuity for RPAS

safety-critical operations even when outside cellular range. Coupled with globally aligned 3rd Generation Partnership Project (3GPP) standards for aerial User Equipment (UE) that already incorporates altitude-aware interference mitigation and UAV-specific measurement frameworks, commercial mobile bands provide the most scalable, technically robust, and immediately viable CNPC platform for Canada's RPAS ecosystem.

20. While it is essential that the RPAS framework allows CNPC (and more general payload) traffic to be carried in commercial mobile bands, the framework must also explicitly and clearly articulate that RPAS use in commercial mobile bands does not imply any unilateral right of access by RPAS operators, nor any mandated obligation on licensees to support such operations. All RPAS connectivity must remain fully subject to the authorization, network policies, and service offerings of the primary licensee. Maintaining this principle will ensure alignment with existing licensing regimes, protect network integrity, and preserve the ability of licensees to manage their spectrum efficiently.
21. The first efforts to connect RPAS aerial UEs via 3GPP networks were made in Release 15 of LTE, when a study to identify potential enhancements for aerial UEs was conducted. Further enhancements to 3GPP specifications have been ongoing and seen in the arrival of Release 18, including enhanced support for multi-Uncrewed Aerial Systems Service Supplier (USS) deployments, detect and avoid services and applications, and tracking dynamic UAVs with 5G-Advanced technology.⁹
22. Indeed, GSMA has found that scalable, reliable and secure, mobile network connectivity are likely to be very effective at unmanned traffic management (UTM) systems to manage both visual and BVLOS RPAS activities at low altitudes generally below 400 ft AGL. At this time, other networks are likely best suited to support truly "aeronautical mobile" applications and services. Commercial mobile networks offer an excellent combination of technologies well suited to UTM, including low-power wide-area 4G technologies such as LTE-M and Narrow Band Internet of Things (NB-IoT), which are well suited to providing position and identification information. Newer 5G networks support higher bandwidths, allowing enhanced payload data transmission capabilities; lower latency, enabling faster command and control (C2) link and detect and avoid being triggered by off-board data sources; network slicing, allowing the creation of a dedicated virtual slice with

⁹ 3GPP, *NR Support for UAVs*; <https://www.3gpp.org/technologies/nr-uav>.

optimized configuration for UAS and UTM operation support; and, higher reliability.¹⁰

23. Looking ahead to next-generation wireless technologies, Integrated Sensing and Communications (ISAC) is a key technological advancement expected in 6th Generation (6G).¹¹ It has the potential to significantly reduce infrastructure needs for drone traffic management. Instead of deploying separate, discrete radar systems, future 6G cellular sites may be able to sense, detect, and track drones directly. This could reduce the amount of dedicated sensing equipment required, lower overall system costs, and support more efficient airspace monitoring, with significant benefits to Canadians.
24. It is important to note that cellular technology deployed by licensed mobile network operators in exclusively licensed commercial mobile spectrum is continuously upgraded and enhanced with new features. As the technology evolves, additional capabilities will emerge that further improve interference management and support safer, more reliable drone operations. This evolution is driven by a large global ecosystem that includes 3GPP, network equipment vendors, and organizations such as the GSMA, all of whom are committed to advancing mobile communications technologies.¹² Standalone deployments in the 5030–5091 MHz band may not benefit from the full range of ongoing feature enhancements and optimizations that occur within the mainstream mobile cellular ecosystem.
25. As our comments in past spectrum consultations have shown, Rogers fully supports this introduction of an RPAS framework to enable drone usage in Canada using commercial mobile spectrum, provided the access is authorized by the primary mobile spectrum licensee. This includes RPAS access on SMCS spectrum, again provided it is authorized by the primary commercial mobile spectrum licensee. Canadian consumers and businesses will be the ultimate beneficiaries of innovative new services that can leverage world-class, widely-deployed 4G and 5G networks, and future 6G networks.

Enabling RPAS in 5030-5091 MHz and Commercial Mobile Bands

26. Rogers generally supports alignment and harmonization with the United States (U.S.) band plans, to the greatest extent practical and possible, to maximize border

¹⁰ GSMA, *Using Mobile Networks to Coordinate Unmanned Aircraft Traffic*; <https://www.gsma.com/solutions-and-impact/industries/smart-mobility/wp-content/uploads/2018/11/Mobile-Networks-enabling-UTM-v5NG-1.pdf>.

¹¹ Ericsson, *Sensing in 6G: Use cases and architecture*; <https://www.ericsson.com/en/reports-and-papers/ericsson-technology-review/articles/sensing-in-6g-use-cases-and-architecture>.

¹² Nokia, *5G empowering Uncrewed Aerial Systems*; <https://onestore.nokia.com/asset/212375>.

coexistence. In the case of RPAS, it may also be prudent to enhance cross-border operations for public safety emergencies. For the 5030-5091 MHz band, in particular, we recommend that ISSED align with the Federal Communications Commission (FCC) instead of the International Civil Aviation Organisation (ICAO) band plan unless there are significant advantages raised by aviation stakeholders. While the Consultation document notes there is still some uncertainty regarding specific band plans to adopt, we see this as yet another reason to support the use of commercial mobile spectrum bands for CNPC traffic, in addition to the 5030-5091 MHz band. Allowing CNPC in multiple bands will only enhance redundancy and overall safe introduction of RPAS services.

27. We also generally support a new drones-specific Radio Standards Specification (RSS) for RPAS equipment in all spectrum bands. This will help ensure compliance with Canadian technical standards, and enhance coexistence with adjacent licensees and services. However, in our view, applying the existing technical rules and coexistence measures in the applicable Standard Radio System Plans (SRSPs) is sufficient for commercial mobile bands. Any potential drone interference, at least initially, is expected to be very intermittent and transient, since drones are highly mobile. Applying the existing technical rules and coexistence measures in the commercial mobile bands' SRSPs to networks operating RPAS aerial UEs should provide sufficient protection, for both intra-network and inter-network interference. Any potential intermittent interference that is caused by aerial UEs can be dealt with by adopting appropriate mitigation measures, such as those established by 3GPP. We further recommend that the Department generally align with the FCC on other RPAS technical standards to support a North American equipment ecosystem and enhanced border coexistence.

28. The remainder of Rogers' comments respond to the specific issues raised in the Consultation.

Framework for RPAS in the 5030-5091 MHz band

Q1: ISED is seeking comments on the proposed changes to the CTFA, to add CXX, as detailed above and suppress footnote No. **5.444**, as shown in Table 3 and subsequent updates to the Agreement with NAV Canada and regulatory documents.

29. Rogers generally supports the proposed addition of the new footnote CXX and removal of footnote No. **5.444** from the Canadian Table of Frequency Allocations (CTFA). The designation of use of aeronautical mobile (route) service (AM(R)S) and aeronautical mobile satellite (route) service (AMS(R)S) in the 5030-5091 MHz band for RPAS for CNPC applications is aligned with the International Telecommunications Union (ITU) assignment and aligned with the allocation adopted in the US. We do think it is important to note the approach to document the designation and the restriction taken by both ISED and FCC is different.
30. The Department is proposing to add a new footnote, CXX, to designate two uses, (1) to designate the use of AM(R)S and AMS(R)S in the 5030-5091 MHz band for RPAS, and (2) to restrict the type of communication only for CNPC. For certainty, while Rogers acknowledges the Department's proposal to limit 5030-5091 MHz band for CNPC-related traffic, Rogers does not support any prohibition from allowing CNPC-related traffic within commercial mobile bands, as discussed further below.
31. The FCC, while currently aligned in the designated use and restriction, creates a new part (i.e., Part 88) in the Title 47 (i.e., Telecommunication) of the Code of Federal Regulations (CFR), for the "purposes of administering UAS operations in the 5030-5091 MHz band".¹³ Part 88 "sets forth the regulations governing the use of the 5030-5091 MHz band by Uncrewed Aircraft Systems" Subpart B – Non-Networked Access, Subpart C – [Reserved], Subpart D – Technical Requirements, and Subpart E – Dynamic Frequency Management System. It is further clarified in Subpart B, that "transmissions over an NNA assignment are limited to CNPC".¹⁴

¹³ FCC, *FCC 24-91 REPORT AND ORDER: Spectrum Rules and Policies for the Operation of Unmanned Aircraft Systems* (R&O 24-91 Spectrum Rules for UAS), para 47; https://docs.fcc.gov/public/attachments/FCC-24-91A1_Rcd.pdf.

¹⁴ FCC, *Title 47 of the Code of Federal Regulations: ART 88—UNCREWED AIRCRAFT SYSTEM SERVICES*; <https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-88>.

32. While it is not specified, it is assumed that Subpart C is reserved to specify service rules for “Network Supported Services”.¹⁵

33. We note that FCC emphasizes that this would in no way affect the AM(R)S allocation of the band. Regardless of where the rules for the band are located, the 5030-5091 MHz band will remain protected aviation spectrum allocated for AM(R)S uses with rules designed to achieve the safety and reliability appropriate for communications “relating to the safety and regularity of flight”.¹⁶

Q2: ISED is seeking comments on whether there are other RPAS applications besides CNPC that could also be considered for use in the 5030-5091 MHz band under the AM(R)S and AMS(R)S allocations.

34. While in the U.S. the FCC currently limits the scope of RPAS communications in the 5030-5091 MHz band to Non-Networked Access(NNA)-based CNPC, companies such as Qualcomm have encouraged to allocate spectrum for direct UA-to-UA communications, which will support Detect and Avoid (DAA) and Collision Avoidance (CA) functionality and Broadcast Remote ID capability.¹⁷ Additionally, others believe that the band should be used for ancillary payload communications such as video.

35. We note that the current regulatory decision in U.S. is that allowing non-CNPC uses reduces the available amount of spectrum that was specifically allocated to provide flight safety-specific channels for UAS. Further, uses such as UA-to-UA communications are not compatible with the RTCA DO-362A-based technical rules. However, it should be highlighted that communications such as video transmissions, where such communications support flight guidance and safety of flight, fall within the permissible scope.

36. As such, ISED and any other Canadian regulatory authority (such as Transport Canada) should be cautious in applying an overly restrictive approach to what qualifies as CNPC within a rapidly innovating field, so as to not inadvertently restrict flight guidance and safety. Further, consideration should be given to allow non-CNPC traffic, subject to any frequency management requirements in rural and

¹⁵ FCC, *R&O 24-91 Spectrum Rules for UAS*, para 47.

¹⁶ FCC, *R&O 24-91 Spectrum Rules for UAS*, para 49.

¹⁷ FCC, *R&O 24-91 Spectrum Rules for UAS*, para 29.

remote areas. We would support a more cautious approach in urban areas or with drones that are not considered low-risk, e.g., larger drones.

37. We also again highlight that allowing CNPC traffic within commercial mobile bands will provide the potential for link redundancy to the 5030-5091 MHz band, which would further enhance safety.

Q3: ISED is seeking comments on whether the high-level 5030-5091 MHz band plan proposed by ICAO or a band plan similar to the one being considered in the U.S. would be appropriate for RPAS use in Canada?

38. Rogers generally supports alignment and harmonization with U.S. band plans, to the greatest extent practical and possible, to maximize border coexistence. In the case of RPAS, it may also be prudent to enhance cross-border operations for public safety emergencies.
39. We acknowledge that to date there has been a lack of global consensus in the industry on defining an allocation for a permanent detailed band plan, whether the current FCC option or the band plan proposed by ICAO. Many jurisdictions are deferring until further international spectrum arrangements are defined in order to adopt the most appropriate course of action for their country. This includes a number of European regulators acknowledging the lack of UAS regulations and supported the harmonization of preferred frequencies for (professional) UAS. In particular, we note that in Ofcom's 2022 decision that introduced a new UAS operator radio licence to authorize the use of radio equipment on drones to be operated BVLOS in select commercial mobile bands, it did not consider the use of 5030-5091 MHz for C2 links due to lack of "clear commercial demand for this band to be used by UAS".¹⁸ However, Ofcom also intended to work with the UK Civil Aviation Authority around the potential use of 5030-5091 MHz for dedicated C2 links – possibly within an ad-hoc coordinated access regime.¹⁹
40. While keeping the door open to accessing ICAO devices, particularly if ultimately adopted by a large number of peer jurisdictions, Rogers continues to believe that it is more imperative that the U.S. and Canadian plans are aligned and harmonized.

¹⁸ Ofcom, *Statement_ Spectrum for Unmanned Aircraft Systems (UAS) - Approach to authorising the use of radio equipment on UAS* (Spectrum for UAS), 16 December 2022; <https://www.ofcom.org.uk/spectrum/radio-equipment/spectrum-for-unmanned-aircraft-systems>.

¹⁹ Ofcom, *Spectrum for UAS*.

For the purpose of cross-border inter-operability and coexistence, while also ensuring the ability to benefit from manufacturing economics-of-scale, the best path for Canada is to align with the currently adopted interim band plan by the FCC in August 2024.²⁰ Should the U.S. ultimately pivot away and adopt the ICAO band plan, we would support the Department giving strong consideration to also doing so for the same cross-border interoperability and coexistence concerns.

Q4: ISED is seeking comments on any other considerations related to an appropriate 5030-5091 MHz band plan for RPAS use in Canada that may not have been specifically addressed in this consultation.

41. The U.S. has not yet established service rules for network-based operations in this band. Therefore, if the U.S. band plan for 5030-5091MHz is ultimately adopted for use in Canada, ISED will need to develop the corresponding domestic service rules. Issues related to Remote ID broadcasting and security will also need to be addressed as part of this process. In addition, UA-to-UA communications offer certain operational benefits and could be considered as a potential use case for this band.

Q5. ISED is seeking comments on its proposal to issue radio licences as prescribed in the Regulations for terrestrial aeronautical stations communicating with associated aircraft stations (RPA) in the aeronautical service.

42. Rogers is generally supportive of the Department's proposal to issue radio licences for terrestrial aeronautical stations supporting RPAS CNPC operations in the 5030-5091 MHz band. As RPAS operations grow in volume and complexity, and the corresponding safety expectations and requirements must also increase, reliance on predominantly licence-exempt spectrum is no longer sufficient for commercial operations. By leveraging the established AM(R)S licensing regime under the Radiocommunication Regulations, the proposal provides a clear, predictable path for industry to obtain protected, interference-managed spectrum that supports advanced RPAS capabilities and enhances operational reliability.

²⁰ FCC, *R&O 24-91 Spectrum Rules for UAS*, para 24.

43. The proposed approach also offers regulatory clarity by aligning RPAS CNPC authorization mechanisms with existing frameworks already familiar to aviation and satellite stakeholders. Incorporating elements such as defined technical parameters, operator certification requirements, and standard licence terms ensures that terrestrial aeronautical stations integrate smoothly into the broader aeronautical ecosystem. Leveraging the current radio licensing framework provides industry with a stable and transparent process, reducing uncertainty during deployment and ongoing operations.

Q6: For space stations used within an RPAS, ISED is seeking comments on its proposal to:

- a. issue space station spectrum licences to Canadian satellite operators planning to offer services globally and/or in Canada, or issue a FSA to foreign satellite operators
- b. use a 20-year term for spectrum licences issued for Canadian commercial communications satellites, while FSA would not have an expiration date
- c. apply the existing satellite fee order, SMSE-001-23, *Fee Order for Space Stations*, to space stations and generic earth station spectrum licences for RPAS

44. Rogers is generally supportive of the proposals to issue space station spectrum licences with a 20-year term to Canadian satellite operators or issue an FSA to foreign satellite operators that would not have an expiration date for space stations used to support RPAS, as these are standard satellite licensing practices today.

45. We also generally support the proposal to apply the existing satellite fee order, SMSE-001-23, *Fee Order for Space Stations*, to space stations and generic earth station spectrum licences for RPAS, assuming that the licensees are not already paying spectrum fees for usage of the 5030-5091 MHz band.

46. Rogers does not support the proposed licence fees – or any licensing fees – if they result in a licensee paying multiple usage costs for the same spectrum, even if the usage is for different services. If there are material costs to licensing RPAS services that is not already covered by existing licensing fees, any additional costs should be set at strictly administrative cost-recovery levels.

Q7: For aircraft stations communicating with terrestrial aeronautical stations, ISED is seeking comments on its proposal to:

- a. provide for licence-exempt operations by updating RBR-01 to include the 5030-5091 MHz band and section 6.4 (Power restrictions) to restrict output power to a maximum of 10 watts
- b. modify RBR-01 to allow the 15.4 – 15.7 GHz band to be used for licence-exempt radionavigation

47. It is unclear from the Consultation how the proposed restriction of the output power to a maximum of 10 watts (W) was derived for licence-exempt usage. RBR-1 restricts the power of aeronautical mobile stations communicating with ground stations to 400 W in listed bands below 23.35 MHz and 30 W in listed bands below 137 MHz. Neither of these restrictions are comparable to the proposed limit for 5030-5091 MHz, either in frequency or power. Rogers recommends that the Department restrict licence-exempt operations in 5030-5091 MHz output power to a maximum of 2 watts, at least for urban areas. Alternatively, the Department can permit the licence-exempt approach for **aircraft stations** and the power limit of 10 watts, assuming a **maximum nominal antennae gain of 3dbi**, as proposed within the Radio Advisory Board of Canada (RABC).

48. For a 3GPP UE operating in FR1, which includes sub-6 GHz frequency bands, the highest power class is Power Class 1 (PC1), which targets Fixed Wireless Access (FWA) and vehicular use cases. This corresponds to a maximum power of 31 dBm, roughly 1.26 W. There is work ongoing in 3GPP RAN4 (High Power UE UAV for Rel-20) being pursued for some international markets that could introduce a maximum output power of 33 dBm, roughly 2.00 W. The example bands for this work are n41, n77, n78, n79, with n79 (4400-5000 MHz) being the closest to the proposed CNPC band. The RPAS are assumed to be operating in the 600-1000m altitude range, which is considerably higher than the Transport Canada altitude limits cited in the Consultation. Therefore, the 10 W limit proposed by ISED is 5 times higher than the limit being considered by 3GPP in Release 20, despite being designed for RPAS that operate at less than a quarter of the altitude. We support a lower power limit of 2 watts for licence-exempt operations, particularly in urban areas, unless ISED also includes antenna gain limits.

49. Generally speaking, RPAS systems are uplink limited, so adding more power to the downlink will not improve coverage reach, it will primarily improve the throughput of the downlink. In urban areas, that will be at the expense of terrestrial networks, since the RPAS UEs will be generating interference to a number of sites. In rural

areas, this coexistence issue is likely to be less impactful. While dynamic power control may be able to reduce the actual output power, especially in urban areas, if the RPAS is far from base station, it would be transmitting the full 10 W.

50. Finally, such a high proposed maximum output power for downlink communications of a RPAS vehicle in a band so close to the radio altimeter band (4200-4400 MHz) is surprising.

Q8: For aircraft stations communicating with space stations, ISED is seeking comments on its proposal to:

- a. issue annual generic earth station spectrum licences which expire on March 31 of each year, with a high expectation of renewal
- b. add the 5030-5091 MHz band in Annex A of CPC-2-6-03 as shown in Table 6 above in order to make aircraft earth stations eligible for generic earth station licensing
- c. apply existing satellite fee order to generic earth station spectrum licences for RPAS

51. Rogers generally supports the proposal to add the 5030-5091 MHz band in Annex A of CPC-2-6-03 as shown in Table 6 in order to make “aircraft earth stations eligible” for generic earth station licensing. However, the Department should use the same licence term as Canadian satellite licences (i.e., 20-years) for the generic earth station spectrum licences.

52. In our view, there is no rationale for an annual licence renewal process for generic earth stations, particularly when the service is partnered with the longer term associated satellite licence. Both licences are required to provide a RPAS service from a space station, it cannot be done with only one of the two. Requiring an annual renewal of generic earth station licence, even with a high expectation of renewal, simply creates an administrative burden on the Department and licensees. Should the Department ultimately adopt annual generic earth station licences, it should explicitly state in the decision whether these annual licences will be automatically renewed with no application (provided any associated licensing fees are paid in full).

Q9: Should ISED require RPAS equipment (both aeronautical and aircraft stations) operating in the 5030-5091 MHz band to meet the minimum operational performance standards described in RTCA DO-362A to allow for an initial launch of services in the band? Are there any other technical standards that ISED should consider adopting in addition to, or instead of, RTCA DO-362A, or considerations that ISED should take into account?

53. Rogers generally supports the principle of any radio equipment meeting relevant technical requirements. Requiring RPAS equipment (both aeronautical and aircraft stations) operating in the 5030-5091 MHz band to meet the minimum operational performance standards described in RTCA DO-362A to allow for an initial launch of services in the band seems a prudent approach; however, drone manufacturers and operators seem best placed to provide input.

54. Rogers looks forward to comments from other stakeholders and reserves the right to modify its views based on any new information or guidance.

Q10: Should the technical requirements being contemplated for adoption for licensed aeronautical stations and licence-exempt aircraft stations be incorporated into the Conditions of Licence and RBR-1, respectively, or should these requirements form the basis of new Radio Standards Specifications (RSSs) specific to all radio equipment operating in the 5030-5091 MHz band for RPAS operations?

55. Considering that the technical requirements for radio equipment are typically set out in RSS documents, we recommend a new RSS specific to all radio equipment operating in the 5030-5091 MHz band for RPAS operations. The creation of such an RSS document will outline the requirements for testing and certification of radio products for the Canadian market.

56. We fully support that equipment certification for both RPAS aeronautical stations and aircraft stations be required to ensure that all RPAS equipment meets the minimum technical requirements in accordance with the provisions of the *Radiocommunication Act* and the Radiocommunication Regulations.

Q11: ISED is seeking comments on its proposal to establish an exclusion zone around DRAO, within which transmission and reception of signals for RPAS operations in the 5030-5091 MHz band would be prohibited. This exclusion zone would be defined in the relevant technical standard.

57. We generally support the proposal to establish an exclusion zone around the Dominion Radio Astrophysical Observatory (DRAO) specifically for RPAS operations in the 5030-5091 MHz band, recognizing the potential vulnerability of radio astronomy systems to interference from aeronautical transmissions at altitude. As the Consultation states, while the 5030-5091 MHz band is not immediately adjacent to the 4990-5000 MHz radio astronomy service (RAS) allocation, its relative proximity, combined with the higher operating altitudes of RPAS platforms, may warrant limited, proportionate measures to protect ongoing scientific activity at DRAO. An appropriately sized exclusion zone for RPAS operations in this band represents a balanced approach that acknowledges the sensitivity of RAS receivers while enabling safe and predictable RPAS use across the broader spectrum.
58. As discussed further below, our support of an exclusion zone is limited to the 5030-5091 MHz band. The Consultation's stated justification for the exclusion zone stems from altitude-based risk and spectral proximity. These considerations do not apply to terrestrial commercial mobile base stations operating at much lower elevations and at significantly greater spectral separation (both base stations and UEs) from RAS frequencies. Terrestrial networks in commercially licensed mobile bands are already effectively shielded from DRAO by geography, deployment characteristics, and existing emission limits. As a result, there is no technical basis for extending exclusion requirements to any terrestrial commercial bands that fall well outside the immediate adjacency of 4990-5000 MHz.
59. For these reasons, it is important that the exclusion zone remain narrowly scoped to RPAS operations in the 5030-5091 MHz band and not broadened to include unrelated terrestrial systems. Maintaining this targeted approach ensures appropriate protection of RAS operations at DRAO without introducing unnecessary constraints on commercial mobile services that operate farther from the RAS allocation and present no demonstrated interference risk.

Q12: ISED is seeking comments on its proposal to not require coexistence measures for FSS earth station licensees operating in the 5091-5150 MHz range.

60. Rogers generally supports the proposal to not require coexistence measures for fixed-satellite service (FSS) earth station licensees operating in the 5091–5150 MHz band, given the extremely limited deployment of FSS feeder links in this range. With only two FSS earth station sites currently operating in Canada and the Department’s view that meaningful expansion remains low, we concur that there is limited potential for RPAS systems to encounter or create harmful interference scenarios with earth stations that would necessitate prescriptive coexistence requirements.
61. RPAS operators can readily account for these sites using publicly available licensing data without imposing broader regulatory constraints. Maintaining this light-touch approach supports efficient RPAS deployment while recognizing that FSS activity in the 5091–5150 MHz band is highly limited in Canada and expected to remain so.

Q13: ISED is seeking comments on any other co-existence considerations that should be taken into account for services in adjacent bands.

62. It should be noted that the 4.4-4.8 GHz band is under consideration for identification to IMT at WRC 27, and studies are ongoing. While Region 2 is currently excluded from the proposed identification, the United States is currently examining the possibility of allocating 4.4-4.9 GHz or potentially even 4.94 GHz to IMT to meet the 5G Advanced and 6G mid-band mobile spectrum requirements outlined in the U.S. One Big, Beautiful Bill.²¹ Moreover, both the United States and Canada have designated the 4.94–4.99 GHz band for public safety use, and 3GPP is developing band n114 for deployment in the U.S.
63. Given the importance of this spectrum for supporting future 6G systems and the value of international harmonization, as well as maximizing cross-border coexistence, the Department should give consideration to coexistence between

²¹ U.S. Congress, *H.R.1 - An act to provide for reconciliation pursuant to title II of H. Con. Res. 14*. [One Big, Beautiful Bill], SEC. 40002. SPECTRUM AUCTIONS; <https://www.congress.gov/bill/119th-congress/house-bill/1/text>.

RPAS operations in the 5030–5091 MHz band and potential IMT use in the adjacent 4.4-4.9 GHz range. Studying coexistence between the bands will help ensure long-term, interference-free operation of the emerging RPAS service, particularly supporting reliable UAV flights in border areas.

Q14: ISED is seeking comments on an appropriate interim approach to coordinate RPAS use until a formal approach such as a database management system can be developed.

64. Rogers generally supports adopting an interim RPAS coordination framework aligned with the FCC's Interim Approval Mechanism (IAM) until a formal approach such as a database management system can be developed. Given the cross-border nature of aviation and RPAS operations, particularly of a public safety nature, a harmonized North American approach will help ensure coexistence and minimize potential interference. Such a harmonized continental approach will be particularly beneficial in border regions where divergent coordination mechanisms could create operational uncertainty. The FCC model appears to provide an appropriate approach, requiring coordination with Federal Aviation Administration (FAA) authorities for situational awareness and safety while allowing interim access to a defined portion of the 5030-5091 MHz band. Adopting a similar interim approach in Canada, which includes coordination with Transport Canada and Nav Canada, would facilitate early Canadian RPAS deployment in the band without waiting for a full database management system to be finalized and deployed.

Q15: ISED is seeking views on the use of a DFMS administered by a private third-party, or any other potential coordination approaches to manage RPAS operations in the 5030-5091 MHz band.

Q16: What are the expected timelines for the availability and deployment of DFMS in the 5030-5091 MHz band?

65. Rogers generally supports the use of a DFMS administered by a private third-party to manage RPAS operations in the 5030-5091 MHz band. We do not have views on other potential coordination approaches at this time but reserve our right to offer an alternative based on suggestions of other submissions. With regard to a DFMS

administered by a private third-party, we would support harmonizing to the greatest extent possible any model being implemented in the U.S. and other peer international markets and adopting as many aspects as possible to achieve consistent performance most efficiently. However, while alignment where possible should be followed, this should not be at the expense of tailoring solutions to optimally fit the Canadian marketplace. Nor should it prevent innovative ideas emerging in Canada and then perhaps being adopted in the U.S. and other international markets as well. Modifying rules, coordination calculations and similar variables within a database product is relatively straight-forward and hence the benefits of maximum harmonization are likely not great.

66. As further discussed below in Q18, all Canadian DFMS (and all Automated Frequency Coordination Systems, more generally) must physically reside in Canada and apply Canadian spectrum rules. In the current global climate, it is not sufficient to have database administrators establish and agree to maintain a business office and a delegated representative within Canada, the data and infrastructure itself must reside in Canada to ensure our sovereignty is protected.
67. For detailed recommendations relevant to all frequency coordination databases, we direct the Department to our comments in Q13 of *SMSE-014-20 Consultation on the Technical and Policy Framework for Licence-Exempt Use in the 6 GHz Band*.²² Any DFMS system operating in Canada must itself be required to be physically located in Canada, operate according to Canadian spectrum and aviation regulations and subject to Canadian laws, including telecommunications, privacy, and cyber security. The Department should work closely with Public Safety Canada and all relevant law enforcement agencies to conduct appropriate screening of any DFMS administrator application.
68. Rogers has no comment on the expected timelines for the availability and deployment of DFMS in the 5030-5091 MHz band in Canada but may provide further comments in the Reply Phase.

²² Rogers Comments, *SMSE-014-20 Consultation on the Technical and Policy Framework for Licence-Exempt Use in the 6 GHz Band*, para 140-156.

Q17: ISED is seeking views regarding the authorization of multiple third-party DFMS administrators. Would such a model support a sustainable and competitive DFMS market in Canada?

69. Rogers generally supports the proposal to permit the authorization of multiple third-party DFMS administrators. Unleashing the power of the market can help ensure the competitive and innovative provision of databases, allowing for rapid evolution and optimization of overall spectrum efficiency. However, a single, accurate database should be used by all of them and each DFMS system must fully meet all the requirements set by the Department in order to ensure the ongoing protection of RPAS UEs, ground stations, and Canadians using the 5030-5091 MHz band.
70. Under the proposed introduction for RPAS UEs to use the 5030-5091 MHz band for CNCP traffic, it is clearly critical that there is at least one DFMS administrator. Should a DFMS administrator become operational in Canada and then cease to support RPAS UEs in 5030-5091 MHz, this could effectively result in Canadians, at least temporarily, no longer being able to fully benefit from commercial drone operations in Canada. Such a scenario further supports that RPAS be able to use commercial mobile spectrum bands, subject to mobile network licensees' and operators' authorization, for both CNPC and payload traffic.
71. For certainty, Rogers does not support providing a monopoly to any single organization for operating an RPAS CNPC network, whether within the 5030-5091 MHz band or across licensed spectrum bands.

Q18: ISED is seeking views on the proposed DFMS designation agreements modeled on precedents third-party database designation processes such as CPC-4-1-01 and CPC-04-1-02, for the designation and operation of and DFMS in Canada.

72. Rogers generally supports the proposal to have DFMS designation agreements modeled on precedent third-party database designation processes such as CPC-4-1-01 and CPC-04-1-02, for the designation and operation of and DFMS in Canada, with the exception of the limited data sovereignty provisions, which must be strengthened.

73. We note that *CPC-4-1-01 Application Procedures for White Space Database Administrators (WSDBA)s* Issue 1 was initially released in 2015, and contained data sovereignty language for eligibility.

In order to be eligible for designation, a WSDBA must establish and maintain a business office and duly delegated personnel/representatives within Canada. Additionally, **the main elements of each database essential to the operational control of spectrum access and interference must be hosted within Canada**, and be available for assessment by Industry Canada during the database evaluation and testing phase.²³ [Emphasis added.]

74. While WSDBA)s, as per Issue 2, and Automated Frequency Coordination Systems Administrators, as per *CPC-4-1-02 — Application Procedures for Automated Frequency Coordination System Administrators (AFCSA)s*, must still establish and maintain a business office and a delegated representative within Canada, there is no longer a requirement to host the data in Canada. While there may be some efficiency and cost-saving gains for administrators to host their data in a foreign jurisdiction, the growing uncertainty and instability in international institutions and cross-border flows makes it prudent to ensure that RPAS coordination data resides in Canada to ensure our sovereignty is protected.

²³ Industry Canada, *CPC-4-1-01 Application Procedures for White Space Database Administrators (WSDBA)s*, Issue 1, <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/sites/default/files/attachments/2022/CPC-4-1-01-issue1.pdf>.

Q19: ISED is seeking preliminary comments on the technical and operational implementation aspects for DFMS such as:

- a. information required from licensed incumbents to define exclusion zone
- b. criteria and propagation models used for exclusion zone determination
- c. information required from non-networked RPAS users during the DFMS request process
- d. frequency of updates to licensee data within the DFMS
- e. necessary security and privacy protections for stored and transmitted data

Q20: ISED seeks comments on any additional factors, concerns or technical constraints that should be addressed when developing the DFMS standards in the Canadian context.

75. As addressed above, Rogers' primary guidance around the technical and operational implementation aspects for DFMS in Canada at this time relate to data sovereignty. We are providing some initial high-level comments in the comments phase but may have more specific input in the Consultation reply phase. We also look forward to working with industry stakeholders within the RABC to provide additional, and more detailed input into any factors or technical constraints that need to be addressed when developing the DFMS standards in the Canadian context.

76. In general, as with all dynamic or database access systems, the onus must be on RPAS operators and DFMS operators to protect licensed services. In terms of the frequency of DFMS updates of licensee information, the DFMS should have the ability to implement daily updates.

77. Regarding the security and privacy requirements, highly secure information protection would be a fundamental property for the DFMS. Login credentials for each RPAS operator should only expose information they themselves submitted or their licensed systems that has been inputted or modified by the DFMS or ISED. Some link data, of course, is highly sensitive. Public Safety and the Department of National Defence (DND) will want protection from interference to any RPAS they deploy using 5030-5091 MHz but may not wish to provide any details for legitimate cyber and national security reasons. A DFMS should have the capability of protecting confidential information without any need to disclose these details. In addition, the DFMS should store data about requests it receives, and the frequencies approved, along with a time stamp for each request, in order to

facilitate investigation of any interference suffered or in the unfortunate case of an RPAS accident.

78. While the above contemplates domestic coordination, there will also be a need to ensure coordination in the airspace along the border between the U.S. and Canada. Under a DFMS, this may require access to databases that include information about RPAS systems located in the other country. These link details must be accurate and secure from unauthorized access. It is unlikely that the U.S. Department of Defense and U.S. law enforcement would want to provide details anymore than would Public Safety Canada and DND, though U.S. regulations of law enforcement communications infrastructure may differ from Canada.
79. It is possible that there may be lawful access requirements specific to drone data introduced in either a Canada or U.S. regime, and it is not clear if the *Clarifying Lawful Overseas Use of Data Act (CLOUD) Act* is sufficient to allow Canadian access should that be required. We note that drones operating in licence-exempt spectrum today has been an issue,²⁴ and it is possible that the 5030-5091 MHz band will become a new vector. A law enforcement agency (LEA) can serve a domestic telecom service provider or any person a warrant for production of information but there could be issues related to serving a warrant to the any DFMS provider (a telecom licence to operate in the U.S. and Canada is assumed), which may be issued to obtain this information in an investigation of associated targets. This could result in legal challenges, as there may not be a name associated with the warrant but a location. Further, LEAs may want access to the database itself, which could result in future retained data obligations, including related to metadata, which, again, may be different than U.S. requirements.
80. For cyber security reasons, neither Canada nor the U.S. would desire to have a single DFMS to have control over the sovereignty of the other in terms of controlling RPAS frequency plans used in the other country's DFMS-controlled area. All database systems should apply strong general cyber security practices to prevent any domestic or international hacker from accessing the DFMS.
81. Reliability of communication between RPAS aerial UEs and DFMS should also include defence against distributed denial-of-service (DDoS) attacks. This can include restricting how often an RPAS can request frequency updates but would be expected to be different than terrestrial fixed Access Points in other spectrum

²⁴ Taekema, Dan. "Inside the special task force targeting 'dangerous' drone drops behind prison walls", *CBC* 29 October 2025; <https://www.cbc.ca/news/canada/ottawa/kingston-prison-drone-smuggling-task-force-police-csc-9.6954849>.

database systems. The protocol used by RPAS UEs to request permissible frequencies should include encryption and resist robot inquiries to explore the details of the database.

82. There may be different indemnity provisions for DFMS administrators between operators in different countries. In the U.S., an operator is typically indemnified if they meet specific cyber security requirements and other requirements against lawsuits from loss of services and privacy breaches. Canada, however, does not have any of these “safe harbour” rules and there could be some resulting impacts in the case of border area interference. However, this is another reason that any DFMS primarily serving Canada and Canadian operations should be physically located in Canada.
83. Each country must be able to validate the accuracy of any RPAS infrastructure data of the other country, since one country cannot dictate operation in the other. Further, an outage or maintenance activity conducted in one country cannot be allowed to affect the other. Having separate DFMS in each country would help address this concern.
84. In summary, any DFMS system operating in Canada must itself be required to be physically located in Canada, operate according to Canadian spectrum regulations and subject to Canadian laws, including telecommunications, privacy, and cyber security. The Department should work closely with Public Safety Canada and all relevant law enforcement agencies to conduct appropriate screening of any DFMS administrator application.

RPAS use in commercial mobile bands

Q21: ISED is seeking comments on the proposed considerations to identify specific commercial mobile bands where the proposed RPAS framework will be applied.

Q22: ISED is seeking comments on other considerations it should take into account when identifying commercial mobile bands where the proposed RPAS framework will be applied.

85. Rogers generally supports the Consultation's proposed considerations for identifying specific commercial mobile bands for initial RPAS. The emphasis on regional and international harmonization, supported by the existence of established equipment ecosystems, is particularly important for ensuring that Canadian RPAS operators can benefit from globally aligned technology and standards. At the same time, it is important to recognize that many drone operations, especially those occurring below 122 m / 400 ft AGL do not fit the traditional conception of "aeronautical mobile" services contemplated in the ITU framework. This nuance should allow ISED to consider additional commercial mobile bands for RPAS connectivity without inadvertently classifying these low-altitude, line-of-sight or low-risk BVLOS operations as true "aeronautical mobile" services.
86. The proposed framework should support the rapid growth of RPAS use in sectors such as agriculture, inspection, and public safety. Enabling RPAS in commercial mobile bands can significantly increase productivity and unlock innovation, provided that coexistence and interference management remain central. The framework should remain flexible enough to allow consideration of additional mobile bands where the operational characteristics of drones under 122 m do not introduce new aeronautical-type interference risks.
87. The proposed framework should be explicit in allowing both CNPC and payload traffic to be carried in commercial mobile spectrum. While CNPC may have specific requirements related to the nature of the traffic, there is nothing inherent in those requirements that cannot be met by commercial mobile operators. It is essential that there are no unnecessary barriers to using licensed mobile spectrum to connect RPAS and we recommend that ISED adopt a service and technology neutral framework to fully support RPAS. The RPAS framework should not provide

a de facto monopoly for licensed spectrum RPAS operations within 5030-5091 MHz.

88. Further, while it is essential that the framework allow CNPC (and more general payload) traffic to be carried in commercial mobile bands, the framework must also explicitly and clearly articulate that RPAS use in commercial mobile bands does not imply any unilateral right of access by RPAS operators, nor any mandated obligation on licensees to support such operations. All RPAS connectivity must remain fully subject to the authorization, network policies, and service offerings of the primary licensee. Maintaining this principle will ensure alignment with existing licensing regimes, protect network integrity, and preserve the ability of licensees to manage their spectrum efficiently.
89. Rogers also supports the Department's intent to not permit RPAS operations in Non-Competitive Local Licensing (NCLL) bands at this time, as both reasonable and prudent, given the early stage of NCLL deployments. This logic should similarly extend to ISED's Access Licensing regime, which is designed to support flexible terrestrial deployments in rural areas outside terrestrial coverage today. Allowing aerial RPAS operations could significantly increase interference risk for adjacent primary licensees' network deployments and introduce new and unpredictable interference vectors from less sophisticated network operators. We continue to agree with the Department's 2024 decision that drone usage not be permitted as part of the Access Licensing Framework at this time.²⁵ Until the Access Licensing regime has proven it can coexist with traditional terrestrial deployments, RPAS operations should continue to be prohibited and not risk existing Canadians' coverage.
90. Adopting all the above measures in the proposed RPAS Framework, along with the considerations proposed by the Department, will provide a strong foundation for identifying appropriate commercial mobile bands and enabling safe, innovative, and well-managed RPAS services across Canada.

²⁵ ISED, *Decision on New Access Licensing Framework, Changes to Subordinate Licensing and White Space to Support Rural and Remote Deployment* (Access Licensing Framework and White Space Decision); <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/spectrum-allocation/decision-new-access-licensing-framework-changes-subordinate-licensing-and-white-space-support-rural>.

Q23: ISED is seeking comments on its proposal to apply the RPAS framework to the following initial bands that provide commercial mobile bands:

- a. 600 MHz (617-652 MHz/663-698 MHz)
- b. 700 MHz (698-756 MHz and 777-787 MHz)
- c. AWS-1 (1710-1755 MHz/2110-2155 MHz)
- d. AWS-3 (1755-1780 MHz/2155-2180 MHz)
- e. PCS (1850-1915 MHz/1930-1995 MHz).

Q24: ISED is seeking comments on any other bands that are used for commercial mobile services for which the RPAS framework should be applied.

91. Rogers supports applying the RPAS framework to all the Consultation's proposed initial bands that provide commercial mobile bands, including the 600 MHz, 700 MHz, AWS-1, AWS-3, and PCS bands, subject to authorization for RPAS UEs to ultimately connect and operate on the spectrum coming from the primary licensee. This will allow network operators to make their own decisions regarding deployments and network operations in terms of how much spectrum to use for RPAS, whether to have some portion of spectrum and network assets exclusively assigned for drones or to have mixed terrestrial mobile and RPAS users in the same resources. While Rogers supports including the PCS band in the RPAS framework, as discussed further below, we do not support permitting drone usage in the PCS band by licensees using Access Licensing regime.
92. As noted above, for drones under 122 m, which may not be truly "aeronautical mobile" as initially conceived, it may make sense to allow RPAS in all commercial mobile bands and deal with any particular coexistence issue within the relevant technical regulations. Permitting drone operations in all commercial mobile bands, subject to authorization from primary licensees, will reduce the regulatory burden on the Department and stakeholders in the future, allowing Canadians to more quickly benefit from any changes in the RPAS industry.
93. We note that, in particular, the 3500 MHz restrictions are expected to be lifted by March 31 of this year, which is just days after the reply phase of this consultation is scheduled. 3500 MHz is the first spectrum band widely deployed in Canada with 5G radios that support vertical beamforming and beamsteering, which we expect to be very beneficial for efficient RPAS operations. If the Department elects not to allow RPAS in the 3500 MHz band initially due to the current prohibition in *SRSP-520 — Technical Requirements for Fixed and/or Mobile Systems, Including*

Flexible Use Broadband Systems, in the Band 3450-3900 MHz, it could permit airborne operations in an updated SRSP following the removal of 3800 MHz restrictions.

94. We also note that there may be some logic in not initially permitting drones in the BRS 2500 MHz band while the Department is consulting in parallel on *Consultation on the Revisions to the 2500-2690 MHz Band Plan*. Allowing RPAS may make coordination and transition more challenging if widely deployed by one or more BRS 2500 MHz licensee. However, allowing RPAS in principle should allow for network operators to more easily consider it as a potential candidate spectrum band once the transition is complete.

Q25: ISED seeks comments on its proposal to remove the prohibition of RPAS operations from the Access Licensing framework, noting that RPAS operations would be limited to bands identified under the present RPAS framework consultation.

95. As noted above, Rogers does not support the proposal to remove the prohibition of RPAS operations from the Access Licensing framework. The intent of the Access Licensing regime was to support flexible terrestrial deployments in remote areas outside terrestrial coverage. Since that time, primary licences and their commercial subordinate partners, continue to expand network coverage. Further, Rogers has launched Rogers Satellite within an Access Licensing band, providing SMCS service across most of Canada. While Rogers fully supports the Department's goal of increasing deployments in remote areas – something that we continue to do ourselves, in partnership with government and regulators, and in partnership with technology partners – the Access Licensing regime as currently structured has the potential to harm coverage, both terrestrial and satellite-to-mobile.
96. Allowing aerial RPAS operations from less sophisticated network operators could increase interference risks for adjacent primary licensees' terrestrial network deployments while also introducing new and unpredictable interference vectors into SMCS services. While we note below that existing SRSPs should mitigate RPAS interference and coexistence issues, that is with established national and regional mobile network operators. Our experience coordinating with operators in licence-exempt (e.g., 2.4 GHz), lightly-licensed bands (e.g., WBS) and licensed bands with less robust equipment ecosystems (e.g., 3500 MHz FWA) has shown that they may have insufficient engineering resources or have invested in proprietary

infrastructure that can result in undue harmful interference, negatively impacting Canadian end-users.

97. We continue to agree with the Department's 2024 decision that drone usage not be permitted as part of the Access Licensing Framework at this time.²⁶ Until the Access Licensing regime has proven it can coexist with traditional terrestrial deployments, RPAS operations should continue to be prohibited and not risk existing Canadians' coverage. Further, the Department should reconsider the position that SMCS service does not count as coverage, either towards deployment requirements or as evidence of spectrum usage for the Access Licensing regime. In trying to achieve the outcome of increased geographic network coverage of Canada, the Access Licensing regime may inadvertently take away service from some Canadians.

Q26: ISED seeks comments on its proposal to permit RPAS aerial UEs to communicate with authorized satellites under the SMCS framework, noting that RPAS operations using SMCS would be limited to bands common to both the SMCS framework and the RPAS framework.

98. Rogers generally supports the proposal to permit RPAS aerial UEs to communicate with authorized satellites under the SMCS framework, provided it remains up to the primary terrestrial commercial mobile licensee to determine how to use their spectrum resources. Allowing RPAS UE communication with authorized SMCS satellites is a beneficial extension of the broader initiative to enhance mobile coverage using satellite systems. As outlined in SMSE-001-25, the SMCS Framework is specifically designed to enable commercial mobile services in remote areas where terrestrial networks have not yet been deployed. Applying this capability to RPAS operations would provide critically needed connectivity for drones operating in remote regions, supporting safety-of-operation features, command-and-control resilience, and mission continuity. By limiting RPAS use to bands that are common to both the SMCS and RPAS frameworks (for communications between RPAS aerial UEs and SMCS satellites), stakeholders can leverage existing technical regulations and standards to ensure coexistence both within bands and with adjacent services.

²⁶ ISED, *Access Licensing Framework and White Space Decision*.

99. Enabling RPAS operations over SMCS would thus expand the utility and reliability of RPAS use cases such as environmental monitoring, infrastructure inspection, emergency response, and natural-resource management in areas far beyond terrestrial network reach. The proposal recognizes that terrestrial commercial mobile coverage is not ubiquitous over Canada's entire landmass, and that RPAS operators require dependable connectivity to safely conduct operations in challenging terrains. Maintaining alignment with the existing SMCS authorization structure also ensures that access rights remain clearly governed by spectrum licensing, network operator policies, and coordination obligations, thereby preserving the integrity of both satellite and terrestrial commercial mobile systems. Overall, the proposal advances innovation while staying firmly anchored within established technical and regulatory safeguards.

100. We again highlight that the Access Licensing regime, as currently considered, risks inadvertently creating coexistence issues for SMCS operations, including traditional consumer mobile, IoT, and future RPAS operations. We continue to recommend that, at a minimum, any SMCS spectrum deployed and providing service to Canadian consumers and businesses, should not be made available for Access Licensing.

Q27: ISED is seeking comments on its proposal to modify the CTFA by adding new Canadian footnote **CYY**, as shown above, to permit RPAS aerial user equipment operations under the mobile service allocations in relevant commercial mobile bands.

101. Rogers generally supports the Consultation's proposal to modify the CTFA by adding footnote **CYY** to permit RPAS aerial user equipment operating under the mobile service allocations in identified commercial mobile bands (subject to authorization from primary licensee). These bands, spanning low-band and (traditional) mid-band commercial mobile allocations, are well suited for both CNPC and payload data links, given their robust device ecosystems and established interference-management practices.

102. For certainty, Rogers continues to fully support the usage of commercial mobile spectrum bands for both CNPC and payload data, providing the usage has been authorized by the primary licensee. Additionally, Rogers would support any edits required to footnote **CYY** should the Department include additional commercial mobile bands in the RPAS framework.

103. Allowing RPAS to leverage commercial mobile frequencies will provide operators with reliable, scalable, and standards-based connectivity options. It will also provide regulatory certainty for existing terrestrial licensees and the tens of millions of Canadian mobile consumers that network operators support today. The explicit inclusion of RPAS functionality in the CTFA through **CYY** will thus remove any ambiguity around drone usage below 122 m as not being “aeronautical mobile” and give industry confidence to develop and deploy 3GPP-compliant aerial user equipment optimized for safe and efficient operations.
104. Importantly, the proposed footnote appropriately maintains the current exclusion of aeronautical radionavigation and radionavigation use within these commercial mobile bands, which we continue to support. These bands were never intended to support traditional radionavigation functions, and expanding them to include such services could introduce harmful interference risks and create significant regulatory complexity. At the same time, the absence of traditional radionavigation allocations does not impede RPAS operators' ability to benefit from evolving 5G Advanced and future 6G sensing capabilities, including radiolocation and network-assisted navigation functions embedded within next-generation RAN technologies, i.e., Integrated Sensing and Communication. These emerging capabilities can enhance situational awareness, obstacle detection, and positioning support without requiring any formal radionavigation allocation, aligning well with ISED's stated intent while enabling innovation in network-assisted RPAS navigation.
105. The proposed addition of footnote **CYY** provides a forward-looking policy mechanism that enables ISED to adapt alongside international developments. As global standards for aerial UEs continue to evolve and additional bands are studied internationally, the enabling framework created through CYY can allow Canada to quickly add additional bands to the RPAS framework. By enabling RPAS CNPC and payload communications in established commercial mobile bands, while maintaining the exclusion of traditional radionavigation and prioritizing coexistence with terrestrial mobile services, the proposals strike an appropriate balance between safety, innovation, and efficient and effective spectrum management. This approach supports the growth of RPAS operations in Canada while safeguarding the integrity of existing mobile networks and the broader spectrum environment.

Q28: ISED seeks comments on its proposal to permit RPAS aerial UE operations under the existing spectrum licence issued to commercial mobile licensees in specified bands. Third-party operators deploying RPAS services would be subscribers of the commercial mobile operator.

106. Rogers is supportive of the proposal to permit RPAS aerial UE operations under the existing spectrum licences held by commercial mobile operators. Such an approach is practical and efficient, building on Canada's established flexible-use licensing framework. Commercial mobile licensees already manage extensive terrestrial UE deployments without requiring additional per-device licensing, and extending this model to RPAS aerial UEs provides regulatory certainty and operational clarity for a usage that is not a traditional aeronautical mobile service. For certainty, permitting RPAS aerial UE operations under the existing spectrum licence should allow both CNPC and payload traffic. The proposal will accelerate RPAS adoption by leveraging existing commercial mobile networks and infrastructure, offering RPAS operators the same reliability, security, and nationwide coverage that terrestrial subscribers already depend on, while providing redundancy to 5030-5091 MHz. It will also minimize the administrative burdens and avoid the delays associated with developing a separate licensing regime.

107. At the same time, it is essential that the framework explicitly and clearly confirms that the allowance of RPAS aerial UEs in commercial mobile bands does not confer any unilateral or automatic access rights to RPAS operators. Access must remain entirely subject to the authorization, policies, and commercial agreements of the primary spectrum licensee, as outlined in section 6.5. This preserves the principle that commercial mobile licensees retain full control over their networks and spectrum assets, ensuring they can continue to meet their licence conditions, manage interference, and maintain network performance in accordance with their responsibilities. It also ensures that the tens of millions of Canadians receiving world-class mobile connectivity today are not in any way disadvantaged. We note that this fully aligns with the Consultation's view that RPAS operators function as subscribers, analogous to consumer smartphone or enterprise IoT device users, rather than as independent spectrum users with separate rights or entitlements.

Q29: ISED seeks comments on whether existing conditions of licence applied to commercial mobile licences for the applicable band are sufficient to enable RPAS UE operations.

108. Rogers generally agrees with the Consultation's view that existing conditions of licence (COLs) applied to commercial mobile licences for the applicable band are sufficient to enable RPAS UE operations. We also agree that as licensees are already obligated to comply on an ongoing basis with the applicable RSS and SRSP, any changes to technical rules do not require any changes to the existing COLs to ensure ongoing compliance.

109. Rogers does not support any suggestion or proposition that commercial mobile licensees are or should in any way be responsible that the operation of an RPAS aerial UE using commercial mobile spectrum be in compliance with laws and regulations, including but not limited to, TC's regulations governing the operation of RPAS in Canada.²⁷ Commercial mobile licensees' responsibilities are related to the provision of network service, they are in no way responsible for the operation of RPAS aerial UEs with regard to TC obligations and/or requirements. Mobile network operators are not responsible for mobile consumers complying with Canadian laws and regulations, regardless of whether they are individual mobile consumers or enterprise customers that purchase network connectivity to support their own business needs, and this should be the same for future RPAS customers. As an analogous example, if a mobile network operator provides connectivity to an in-car WiFi system (whether the customer is the auto manufacturer or the end-user), they are not responsible for ensuring the car complies with all TC obligations and requirements, even if the customer is using the connectivity to support diagnostics monitoring or using map applications for directions. All flight-related operations are and should be the sole responsibility of the RPAS operator.

Q30: ISED seeks comments on its proposal to extend the generic SMCS earth station spectrum licences to also include RPAS aerial UEs connected via SMCS space stations in commercial mobile bands.

110. Rogers generally supports that, given ISED's proposal to permit RPAS aerial UE operations under the SMCS framework, that generic SMCS earth station spectrum

²⁷ ISED, *Consultation*, para 131.

licences should also include RPAS aerial UEs. Rogers acknowledges the Department's view that RPAS aerial UE operations served by SMCS would not be permitted until both the SMCS satellite licence and the generic earth station licence have been issued.²⁸

111. Any decision in the RPAS framework or updates to the SMCS Framework must also be explicit and clear that RPAS over SMCS rests with the primary commercial mobile licensees and does not provide either RPAS operators nor SMCS satellite operators with a unilateral right to mandated-access. As exclusively-licensed commercial mobile licensees, terrestrial mobile operators retain sole-right to determine the services and ultimate end-users that may access their spectrum.
112. Permitting RPAS aerial UE operations under the existing generic SMCS earth station spectrum licences held by commercial licensees is an effective approach for ensuring intra-network coexistence, particularly as Canada's connectivity landscape evolves to include emerging capabilities such as satellite-to-mobile satellite services. When Rogers Satellite launched its beta in July 2025 and commercially launched data communications later that year, Canada's functional cellular footprint expanded substantially, extending coverage to well over a third of the national landmass and, critically, into remote regions. Other mobile network operators are racing to deploy their own similar service, ensuring that SMCS will remain a competitive and innovative space for years to come while network operators and satellite operators establish domestic and international standards.
113. The extended coverage that SMCS services offer will greatly enhance the viability of BVLOS RPAS operations in remote and underserved areas, enabling aerial UEs to remain within the managed environment of licensed commercial mobile networks. Under ISED's proposed licensing approach, SMCS-enabled RPAS would operate as subscribers to authorized commercial mobile licensees, ensuring that all aerial UE activity, whether terrestrial or SMCS satellite-supported, remains subject to the network operator's control, interference-management processes, and adherence to licence conditions.
114. SMCS services are an emerging technology, and the abilities of Rogers Satellite and other SMCS offerings will continue to expand and evolve. As SMCS RPAS capabilities progress from narrowband telematics toward broadband services, these drones will be able to support increasingly sophisticated payload and situational-awareness applications, including static imagery and, eventually,

²⁸ ISED, *Consultation*, para 133.

real-time video. This evolution will materially expand the operational value of RPAS systems for Canada's most critical public-interest use cases, including search and rescue, border and coastal security, maritime monitoring, remote infrastructure inspection, and service delivery to remote and Indigenous communities. ISED's proposed licensing approach will ensure that these expanded capabilities are integrated safely and efficiently: aerial UEs can leverage terrestrial and satellite mobile networks without creating new, uncoordinated sources of interference, while commercial mobile licensees retain full authority to manage network access and ensure coexistence. This model strikes an appropriate balance between enabling innovation and preserving the operational integrity of Canada's commercial mobile networks.

Q31: ISED is seeking comments on the anticipated use cases and deployment considerations for RPAS aerial UEs, including their associated altitudes of operations, in commercial mobile bands, particularly with respect to how they could impact the interference environment with other users.

115. RPAS aerial UEs are expected to support a wide range of high-value use cases enabled by the reliable, low-latency links of commercial mobile networks, including BVLOS emergency public safety and first-responder applications, remote infrastructure inspection, precision agriculture, environmental monitoring, and autonomous research missions. This will include RPAS aerial UEs accessing commercial mobile bands for both CNPC and payload traffic. Trial and deployment considerations have focused heavily on intra-network interference management, since aerial UEs at even modest altitudes can "see" many more cell sites than a traditional terrestrial handset, raising uplink noise and mobility complexity, although, current mobile bands' SRSPs have enabled inter-network coexistence. We continue to recommend that early RPAS deployments should remain below 122 m (400 ft), where interference risks are significantly lower and operational needs (e.g., linear-corridor inspections, public-safety missions) are still fully supported.

116. As highlighted above, it is important to note that technology deployed by licensed mobile network operators in exclusively licensed commercial mobile spectrum is continuously upgraded and enhanced with new features. As the technology evolves, additional capabilities will continue to emerge that further improve interference management and support safer, more reliable RPAS operations. This

evolution is driven by a large global ecosystem that includes 3GPP, network equipment vendors, and organizations such as the GSMA, all of whom are committed to advancing mobile communications technologies. Standalone deployments of potentially property technology in the 5030-5091 MHz band may not benefit from the full range of ongoing feature enhancements and optimizations that occur within the commercial mobile ecosystem.

117. Canadian RPAS aerial UE use cases and trials in commercial mobile bands are already well evidenced. As highlighted above, Rogers, with InDro Robotics and UBC, executed Canada's first 5G-connected RPAS flights at UBC in 2021, demonstrating low-latency video and remote command suitable for BVLOS inspection and first-responder support. Rogers also worked with InDro Robotics and the Penelakut Tribe to leverage our low-latency cellular LTE to enable the real-time video streaming required to run successful drone trial flights during the COVID-19 pandemic to enable accessing medical support.²⁹ Beyond our public commercial mobile network, Rogers has partnered with Agnico Eagle to deploy a 5G Wireless Private Network (WPN). This WPN provides workers with better connectivity, communication, and safety today while enabling a truly scalable network that will power thousands of new solutions, one of which is expected to be 5G drones that can deliver supplies to the bottom of the mine, power future autonomous haulage vehicles, and conduct exploration work.³⁰ These are just some of the use cases that RPAS using commercial mobile networks will enable.
118. Expert reports further reinforce these deployment patterns. The GSMA report, *Mobile spectrum for Unmanned Aerial Vehicles*, identifies licensed mobile bands as a practical platform for low-altitude UAV connectivity, emphasizing authentication, tracking and wide-area coverage at up to ~400 ft AGL.³¹ Ericsson, in collaboration with GSMA, had similar findings in a network performance monitoring and engineering study of technical implications of commercialization of connected drones on live commercial 5G NSA/SA and LTE mobile networks, including both FDD and TDD bands, in low, mid, and mmWave ranges.³²

²⁹ Rogers Business, *Bridging the access gap with drone technology*;

<https://www.rogers.com/business/blog/en/bridging-the-access-gap-with-drone-technology>.

³⁰ Rogers, *Kirkland Lake Gold and Rogers Business launch 5G Wireless Private Network at Detour Lake Mine*;

<https://about.rogers.com/news-ideas/kirkland-lake-gold-and-rogers-business-launch-5g-wireless-private-network-at-detour-lake-mine/>.

³¹ GSMA, *Mobile spectrum for Unmanned Aerial Vehicles*.

³² GSMA Foundry, *UAV Commercial Network Field Test*; <https://www.gsma.com/get-involved/gsma-foundry/wp-content/uploads/2023/12/UAV-Commerical-Network-Field-Test.pdf>.

119. From an intra-network interference standpoint, aerial UEs differ from ground UEs because clear, elevated sightlines can illuminate many base stations, increasing uplink noise and neighbor-cell load; this is widely documented in the GSMA report and in peer-reviewed analyses of LTE/NR for UAVs. 3GPP's work for NR UAV support (Rel-18 5G-Advanced) specifically adds height-conditioned measurement reporting and flight-path reporting so networks can apply altitude-aware configurations and multi-cell report triggers to curb interference. Given these dynamics, and consistent with TC's risk-based BVLOS framework,³³ initial commercial RPAS deployments in commercial mobile bands limited to 122 m will reduce coexistence or self-interference risks while industry and regulators gather performance data at scale.
120. ISED's proposed approach of allowing aerial UEs under existing mobile licences gives commercial mobile network operators the controls they need to manage intra-network coexistence: transmit-power caps, altitude-aware mobility, admission control, and RPAS-specific SIM profiles/QoS. As we highlight below, current commercial mobile bands' SRSPs should be sufficient to ensure coexistence but we recommend an RPAS-specific RSS.
121. Use-case-specific deployment patterns further support the 122 m cap. Linear-asset inspections (pipelines, powerlines, rail) and remote-corridor monitoring typically occur below 122 m and require sustained uplink video/telemetry, which should be coupled with directional drone antennas and conservative UE power settings to avoid "lighting up" distant cells. Empirical and simulation findings in Ericsson's studies show that aerial channels increase neighbor counts and handover frequency, underscoring the value of altitude-aware mobility and power control. Public-safety missions (search-and-rescue, wildfire situational awareness) introduce dynamic flight paths and bursty payloads; Rogers' national wildfire-detection initiatives, currently combining satellite-connected sensors and 5G Artificial Intelligence (AI) cameras, provide a complementary platform that RPAS aerial UEs to support an early warning system for wildfires and improve public safety.³⁴
122. As highlighted above, SMCS connectivity can extend low-altitude RPAS connectivity across remote corridors where terrestrial coverage is sparse. Crucially,

³³ Transport Canada, *2025 Summary of changes to Canada's drone regulations*;

<https://tc.canada.ca/en/aviation/drone-safety/2025-summary-changes-canada-drone-regulations>.

³⁴ Rogers, *Rogers Brings World Leading Wildfire Detection and Prevention Technology to British Columbia*;

<https://about.rogers.com/news-ideas/rogers-brings-world-leading-wildfire-detection-and-prevention-technology-to-british-columbia/>.

these satellite sessions typically remain terrestrially mobile operator-managed (apps, policies, prioritization), preserving coexistence with terrestrial users. As the types and functionality of SMCS data applications and voice support expand, low-altitude BVLOS can be executed more safely in remote areas without changing interference conditions in licensed terrestrial cells.

Q32: ISED is seeking comments on the effectiveness of ISED's proposed licensing approach (i.e., permitting RPAS aerial UE operations under the existing spectrum licences issued to the commercial mobile licensees in specified bands) in facilitating intra-network coexistence with RPAS, as required.

123. Rogers generally agrees that ISED's proposed licensing approach (i.e., permitting RPAS aerial UE operations under existing spectrum licences issued to the commercial mobile licensees) will be effective at facilitating intra-network coexistence with RPAS, as required. Commercial mobile network operators are best positioned to architect networks and authorize RPAS users/services to implement intra-network interference mitigation measures and prevent self-interference. This includes working with their satellite partners to manage any intra-network interference mitigation measures required for RPAS accessing SMCS networks.
124. Rogers, and other Canadian mobile network operators have been trialing drones service in 4G and 5G networks over the past few years. Our experience has shown that drones do have the have potential to cause self-interference or degrade service for other users on the mobile network under certain operating conditions. This is because mobile networks have been optimized over decades to support terrestrial mobile customers that are primarily at or near ground level, whereas drones are operating at a height where they can "see" many more mobile cell sites than a typical mobile device. This can create a significant increase in interference, particularly on the uplink.
125. This highlights the importance of why sole authority to access commercial mobile spectrum or networks must reside with the primary commercial mobile licensees, as it is necessary to ensure only suitable UE devices and known quantities are operating, terrestrial and RPAS, so that the mobile network operator may determine whether any additional restrictions are required. Importantly, the mobile network operator must be able to distinguish between a terrestrial UE and an aerial UE to enable any interference mitigation measures. This will allow mobile

operators to ensure that aerial UEs would be required to operate under 3GPP TS 38.101-1 specifications, or other relevant standards that are developed in the future.

Q33: ISED is seeking comments on its proposal to apply the existing technical rules and coexistence measures, such as the maximum field strength or pfd, in the applicable Standard Radio System Plans (SRSPs) to networks operating RPAS aerial UEs.

Q34: ISED is seeking comments on its proposal to develop new technical requirements such as specific power limits and transmit power control provisions, in the relevant Radio Standards Specifications (RSS) for aerial UEs.

126. Rogers is generally supportive of the proposal to apply the existing technical rules and coexistence measures in the applicable SRSPs while developing new technical requirements in the relevant RSS for aerial UEs. We also support the proposal to develop an RSS for RPAS aerial UEs through a future consultation with stakeholders including the RABC.

127. We observe that, at least initially, any potential drone interference is expected to be intermittent and transient, since drones are “highly mobile and transmit only in part of the channel which is dynamically assigned”.³⁵ Applying the existing technical rules and coexistence measures, such as the maximum field strength or pfd, in the commercial mobile bands’ SRSPs to networks operating RPAS aerial UEs should provide sufficient protection. Any potential intermittent interference that is caused by aerial UEs can be dealt with by adopting appropriate mitigation measures, such as those established by 3GPP.

128. While any potential operational coexistence can be effectively dealt with using applicable SRSPs, given the theoretical ability of aerial UEs to disrupt communications across large geographic footprints, we do believe that consideration must be given to developing an RPAS UE-specific RSS. In particular, aerial UEs could benefit from possessing higher directionality antennae, where permitted by frequency band and access technology, but should not be prohibited from accessing 4G, 5G, or any future mobile network technologies that are widely

³⁵ ISED, *Consultation*, para 149.

deployed in Canada. Any consultation to develop this RSS should incorporate findings from 3GPP TR 36.777 Study on LTE Support for Aerial Vehicles as well as consider outcomes of ongoing 3GPP WID Enhancement of NR RF and RRM requirements for uncrewed aerial vehicles (UAVs) (see ex RP-252954), although max UE output power of 33 dBm should not be considered.

129. While the development of an RSS specifically for RPAS aerial UEs, or changes to existing relevant RSS documents, could potentially introduce some restrictions to RPAS availability in Canada, it should limit the introduction of grey market devices that could create harmful interference. Indeed, an RPAS RSS will provide mobile network operators with the tools necessary to effectively manage potential interference as described in Q32 and Q33 above. Rogers again recommends that the Department work with stakeholders at the RABC on the development of new technical requirements, such as power limits and out-of-band emission (OOBE) masks, for aerial UEs as required.

Q35: ISED is seeking comments on its proposal to not require any additional interference mitigation measures, beyond the existing out-of-block emission limits, to address adjacent block inter-network interference.

130. Rogers supports the proposal to not require any additional interference mitigation measures, beyond the existing OOBE limits, to address adjacent block inter-network interference. The potential for adjacent block inter-network interference is fundamentally the same for RPAS devices as that for terrestrial UEs, except the area of impact is likely to be larger. Considering that the current OOBE limits are considered sufficient for the terrestrial case, imposing additional constraints for the aerial case is unnecessary.

Q36: ISED is seeking comments on its proposal to not require any additional interference mitigation measures, beyond the existing OOBE limits, to address adjacent public safety services (in the 768-776 MHz band) and fixed point-to-point services (in the 1700-1710 MHz, 1780-1800 MHz and 1830-1850 MHz bands) interference.

131. Rogers supports the proposal to not require any additional interference mitigation measures, beyond the existing OOBE limits.

132. Regarding adjacent public safety services (in the 768-776 MHz band), commercial mobile UEs have been operating in high-rise buildings for decades now without coexistence issues with adjacent public safety. Although RPAS would increase the quantity of UEs operating at higher elevations, imposing additional constraints for RPAS UEs is unnecessary as existing OOB limit are sufficient to protect adjacent band operations.
133. There is even greater support for not imposing additional constraints for potential interference mitigation with fixed point-to-point systems. We note that these systems use high performance antennas with: narrow beamwidth antennas; tighter side lobe limits, as per ITU-R F.699; and, strict alignment rules for path design and compliance with Fresnel zone criteria. As such, the signal received from aerial and ground UEs have similar impacts and no further protection is required.

Q37: ISED is seeking comments on its proposal to establish, in applicable bands, exclusion zones around DRAO, within which transmission and reception of signals for RPAS operations would be prohibited. These exclusion zones would be defined in the relevant technical standards.

134. Rogers notes that there are no exclusion zones for commercial mobile radio base stations for DRAO today, which are much higher power. Further, there is significant spectral distance between current commercial mobile bands and the 4990-5000 MHz radio astronomy service (RAS) allocation. Unlike some newer services, such as SMCS, that have some possibility of transmitting directly into bore sights, RPAS communicating with other drones or commercial mobile base stations are unlikely to directly interfere nor result in any material increase of the local spectral noise floor. As such, we do not believe exclusion zones are required for commercial mobile spectrum, noting that there are already exclusion zones for SMCS service that would apply to SMCS-enabled RPAS.
135. If the Department ultimately elects to impose an RPAS exclusion zone in commercial mobile spectrum for the DRAO facility, it should be designed to be as least restrictive as possible and be backed by robust engineering standards. Any potential exclusion zone criteria should be reviewed within the RABC and with both RAS and mobile industry stakeholders to assist defining in the relevant technical standards.

Q38: ISED is seeking comments on whether existing technical rules for UEs, in the relevant RSS are sufficient to facilitate coexistence between RPAS operations and adjacent band MetSat operations in the 1695-1710 MHz band. If the existing technical rules are not sufficient, ISED is seeking comments on the appropriate interference mitigation measure such as a more stringent out-of-band emission limit adopted by CEPT and the 3GPP to protect MetSat earth stations from potential interference from aerial UEs.

136. We note that ECC Decision (22)07 proposes an unwanted emission limit of -40 dBm/MHz in the 1675-1710 MHz band for aerial UEs operating in 1710-1785 MHz, which corresponds to the same frequency range where both aerial UE uplinks and MetSat downlinks operate in Canada. By comparison, the current unwanted emission limit for AWS 1 subscriber equipment in Canada is -13 dBm/MHz under RSS 139. As such, it may be reasonable to consider more stringent OOB limits for aerial UEs to facilitate coexistence between RPAS operations and adjacent band MetSat operations.

137. While we continue believe the existing rules in the relevant RSS will be sufficient to facilitate coexistence, we recommend that any proposed new OOB limit be reviewed further prior to defining or adopting those limits. To the greatest extent possible, we also recommend that Canada look to harmonize with FCC requirements. Should other jurisdiction standards be simply adopted, there is a material risk of imposing a European standard for a North American commercial mobile band (B66/n66), which could have the impact of requiring a made-for-Canada-only product, thus limiting availability of RPAS in this band.

Q39: ISED is seeking comments on any other considerations related to RPAS use in commercial mobile bands which may not have been specifically addressed in this consultation.

138. Rogers does not currently have any other considerations related to RPAS use in commercial mobile bands that have not been addressed in our responses above. However, we reserve the right to raise new issues or considerations as we continue to investigate relevant RPAS regulations, equipment and use-cases.

139. Rogers thanks the Department for the opportunity to share its views and participate in this consultation process.