

IN-DEPTH

Space Law

CANADA



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Space Law

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In-Depth: Space Law (formerly The Space Law Review) is a practical overview of the legal and regulatory frameworks governing space and satellite activities across key jurisdictions worldwide. With a focus on the most salient recent developments in this fast-evolving sector, it analyses the distinctive features of the law and commercial practice in each jurisdiction and looks at potential future trends.

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Introduction

Canada has a long history of involvement in space research, the development and manufacture of space and ground station components, and the commercial use of satellites to support telecommunications and broadcasting services.

Given its land mass and the remoteness and low population density of many parts of the country, Canada has had a long-standing interest in using satellites to support telecommunications and broadcasting throughout all regions of the country, including the north. The Canadian government incorporated Telesat Canada in 1969 with a mission of owning and exploiting Canadian communications satellites for the provision of commercial services. With Telesat Canada's launch of the Anik A1 satellite in 1972, Canada became the first country with a domestic communications satellite in geostationary orbit. Until 1998, Telesat Canada held a monopoly over the provision of domestic and Canada–US satellite communications services. That monopoly was gradually unwound between 1998 and 2000 in accordance with specific commitments made by Canada with respect to telecommunications services pursuant to the World Trade Organization (WTO) General Agreement on Trade in Services (GATS).

Today, Canada continues to have a very active space sector and a well-developed legal, regulatory and policy framework for the provision of satellite communications services in Canada.

Legal, regulatory and policy framework

Canada is a founding member of the International Telecommunications Satellite Organization and the International Mobile Satellite Organization and has ratified the following United Nations space treaties:

1. the Treaty on Principles Governing Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies 1967;
2. the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space 1968;
3. the Convention on International Liability for Damage Caused by Space Objects 1972; and
4. the Convention on Registration of Objects Launched into Outer Space 1975.

The implementation of Canada's obligations under these treaties is largely the responsibility of the following:

1. the Minister of Innovation, Science and Industry (the Minister);
2. Innovation, Science and Economic Development Canada (ISED), formerly known as Industry Canada, which is a federal department;
3. the Minister of Foreign Affairs;

4. the Space Section of the Non-Proliferation, Disarmament and Space Division of the International Security Bureau at Global Affairs Canada; and
5. the Canadian Space Agency (CSA).

The Minister and ISED regulate the use of radio frequencies by satellite networks and Earth stations in Canada and associated radio apparatus pursuant to the Radiocommunication Act.^[1] The Minister of Foreign Affairs is responsible for the licensing of remote sensing space systems in accordance with the Remote Sensing Space Systems Act (RSSSA).^[2]

As providers of telecommunications services, satellite operators and service providers may also be subject to regulation by the Canadian Radio-television and Telecommunications Commission (CRTC). The CRTC is the regulatory body that administers regulation of telecommunications in Canada pursuant to the Telecommunications Act.^[3]

The CSA, which was established in 1989, is responsible for advancing knowledge of space and ensuring that space science and technology provide social and economic benefits for Canadians.^[4] The CSA coordinates space activities that are funded by the government of Canada, including the astronaut and other space research programmes, and Canada's participation in RADARSAT, a remote sensing Earth observation satellite programme.^[5]

There is currently no specialised regulatory framework applicable to satellite launch facilities and services in Canada. These facilities are subject to the Aeronautics Act.^[6] In January 2023, the government of Canada announced its intention to support commercial space launch activities in Canada initially under current laws and in the future under a specialised regulatory framework that is under development.

Regulation in practice

Regulation of satellite communications in Canada under the Radiocommunication Act

A satellite that is under the direction and control of a federal or provincial government of Canada, a citizen or resident of Canada, or a corporation incorporated or resident in Canada must hold a radio or spectrum licence issued by the Minister pursuant to the Radiocommunication Act and the Radiocommunication Regulations.^[7] The Minister is granted broad discretion under the Radiocommunication Act to issue licences and other authorisations for the use of radio frequency spectrum and the operation of radio apparatus and to fix the terms and conditions of these authorisations. In exercising this discretion, the Minister is guided by the objective of ensuring the orderly development and efficient operation of radiocommunication in Canada. The Minister may also have regard to the objectives of Canadian telecommunications policy that are identified in the Telecommunications Act. These objectives include the provision of high-quality and affordable telecommunications services to all regions of Canada and increased reliance on market forces. Given Canada's large land mass and the low population density in many parts of the country, satellites have played, and are expected to continue to play,

an important role in achieving Canadian telecommunications policy objectives, including ensuring that all Canadians have access to affordable high-speed broadband services.

ISED's policy framework for the authorisation of commercial fixed satellite service and broadcasting satellite service satellites

ISED's policy framework for the licensing of fixed satellite service (FSS) and broadcasting satellite service (BSS) satellites that are under Canadian direction and control is set out in RP-008 – Policy Framework for Fixed-Satellite Service (FSS) and Broadcasting-Satellite Service (BSS) (RP-008).^[8] RP-008 was first issued in 1998 to implement Canada's specific commitments under the GATS to open the Canadian marketplace to competition in satellite services. In particular, Canada agreed to eliminate Telesat's monopoly on the provision of commercial satellite services in Canada and routing restrictions on domestic and international telecommunications traffic.

The overarching objective of the policy framework set out in RP-008 is to maximise the economic and social benefits that Canadians derive from the radio frequency spectrum resource. In the case of FSS and BSS satellites, the more specific objective is to ensure that Canadians have access to the satellite capacity they need in all regions of Canada, including the north. Since its introduction in 1998, RP-008 has been amended to address changes in Canadian policies relating to use of foreign satellites for the carriage of Canadian broadcasting services, the allocation of satellite authorisations and foreign ownership requirements, as well as non-geostationary satellite orbit (NGSO) constellations.

RP-008 provides that applications to operate Canadian FSS and BSS space stations will be assessed on a first come, first served basis in accordance with assessment criteria relating to:

1. eligibility to hold a spectrum or radio licence;
2. Canadian direction and control of the space station;
3. compliance with Canadian spectrum allocations and utilisation policies;
4. Canadian capacity and coverage requirements; and
5. the technical plan, including the space debris mitigation plan, for the space station.

Eligibility and Canadian direction and control requirements for Canadian-authorized space stations are discussed further below.

RP-008 also identifies the assessment criteria for approval to use foreign-authorized FSS satellites to provide services in Canada. Foreign satellites that are authorized by WTO countries will generally be approved for use in Canada, provided that the frequencies used for communications in Canada comply with Canadian spectrum allocation policies – as set out in the Canadian Table of Frequency Allocations – and spectrum utilisation policies, and that coordination requirements with licensed Canadian satellites have been satisfied.

ISED's policy framework for the authorisation of commercial mobile satellite service providers and satellites

ISED's policy framework for the provision of commercial mobile satellite service (MSS) in Canada is addressed in RP-007 – Policy Framework for the Provision of Mobile Satellite Service Via Regional and Global Satellite Systems in the Canadian Market (RP-007).^[9] RP-007 was also substantially amended in 1998 to implement Canada's GATS commitments to permit Canadian service providers to use foreign-owned and operated MSS space station facilities to deliver services in Canada, and to remove routing restrictions on the carriage of domestic and international MSS communications.

RP-007 identifies the criteria that must be addressed by entities seeking a licence to operate Canadian MSS satellites or authorisation to use foreign-authorized MSS satellites for the provision of MSS in Canada. These criteria include eligibility to hold a spectrum licence and compliance with Canadian spectrum allocation and utilisation requirements. Applications are also assessed with reference to other public policy criteria, including the extent to which the services will provide access to reliable, high-quality, affordable services throughout Canada; use of Canadian facilities; prospects for stimulating research and development in Canada; and protection of privacy. An entity seeking the authority to operate a Canadian-authorized MSS space station must also comply with the licensing procedures and requirements for domestic satellites, as described below.

Licensing procedures for domestic satellites

ISED grants spectrum licences to operate space stations under Canadian direction and control on a first come, first served basis. The frequencies must be allocated to the authorised satellite service in the Canadian Table of Frequency Allocations, which allocates frequencies to different radiocommunication services in Canada in accordance with the final resolutions of World Radio Conferences, with amendments to address unique domestic requirements.

An applicant for a space station spectrum licence must submit a written application to ISED. The application must address specific assessment criteria that reflect the policies identified in RP-008 or RP-007, as applicable, including eligibility to hold a spectrum licence, Canadian direction and control of the proposed space station, compliance with the International Telecommunication Union (ITU) Radio Regulations and Canadian spectrum allocation and utilisation policies, and compliance with Canadian capacity and coverage requirements. ISED has specified minimum spectrum efficiency requirements for FSS and BSS stations. In addition, it has established Canadian coverage requirements for geostationary orbit (GSO) satellites operating at or between 70°W and 130°W (the Canadian geostationary arc) and NGSO constellations. Applicants must also provide a detailed technical plan for the proposed space station, including a space debris mitigation plan. The latter must describe measures that will be implemented to mitigate the possibility of orbital debris and how the satellite will be deorbited. The space debris mitigation plan for GSO satellites must conform with ITU Recommendation ITU-R S.1003-2, Environmental Protection of the Geostationary-Satellite Orbit. The orbital debris mitigation plan for NGSO satellites must conform with the guidelines issued by the Inter-Agency Space Debris Coordination Committee. This means that the decommissioning plan for NGSO satellites must demonstrate deorbiting or disposal within 25 years of the end of the operational life of the satellite. Licence applications must also include ITU filing information, which is reviewed and forwarded to the ITU by ISED. Applicants for a licence to operate MSS space stations must also address the assessment criteria for MSS providers.

Licence applicants may seek waivers of technical and other requirements, with the exception of the eligibility requirements for licensees. To obtain a waiver, an applicant must demonstrate that the waiver would not cause harmful interference or otherwise be problematic.

ISED issues spectrum licences for the operation of Canadian directed and controlled space stations in all satellite services. A spectrum licence authorises a satellite service using identified frequencies consistent with an ITU filing over an identified coverage area from an orbital location or, in the case of an NGSO constellation, in accordance with the orbital parameters approved by ISED. A spectrum licence for an NGSO constellation also identifies the maximum number of satellites authorised under the licence. Spectrum licences for FSS, BSS and MSS space stations are typically issued for a 20-year term, with a high probability of renewal in the absence of non-compliance with licence conditions or a reallocation of the licensed spectrum to a different use. The term of the spectrum licence for space stations operating in radio services other than FSS, BSS and MSS is determined on a case-by-case basis.

Post-authorisation conditions for Canadian-licensed satellites

ISED has established standard deployment milestones for the deployment of Canadian-licensed commercial satellites. Under these milestones, a commercial GSO satellite is required to be in operation within five years of authorisation. For commercial NGSO satellites, one-third of the constellation must be in operation within six years of authorisation and the full constellation must be in operation within nine years of authorisation. Commercial satellites are also subject to intermediate milestones relating to, for example, the execution of construction and launch contracts for the satellite. ISED has stated that milestones are established for non-commercial satellites on a case-by-case basis in light of the specific satellite project.

Canadian satellite licence conditions also address compliance with Canadian laws and regulations, including licence eligibility requirements, as well as obligations relating to Canadian direction and control, coordination, service in Canada and Canadian coverage, space debris mitigation, annual reporting and payment of annual fees. Fees are based on the amount of licensed spectrum. FSS and BSS satellites are also subject to a Canadian public benefit requirement aimed at improving connectivity in underserved parts of Canada. MSS satellite licences include conditions relating to lawful interception and research and development expenditures.

Authorisation procedures for MSS providers

In the past, an entity seeking to provide MSS services in Canada was required to submit a written application to ISED addressing the assessment criteria identified in RP-007 (e.g., eligibility to hold a radio authorisation, compliance with Canadian spectrum allocation and utilisation policies, and other public policy criteria). Successful applicants received a spectrum licence authorising mobile subscriber terminals in Canada using Canadian or foreign-authorized MSS satellites. If the service provider was using Canadian MSS satellites and was the Canadian licensee of those satellites, this spectrum licence covered the space station facilities as well.

In May 2022, ISED released SMSE-008-002 – Decision on Updates to the Licensing and Fees Framework for Earth Stations and Space Stations in Canada (SMSE-008-02). In this Decision, ISED held that MSS satellites and Earth stations will be authorised separately. As a result of this change, there is no longer a requirement to be authorised as an MSS provider. Rather, MSS providers must obtain Earth station licences for their end-user terminals in accordance with the procedures and requirements discussed below. These terminals must communicate with Canadian-licensed MSS satellites or foreign satellites that have been authorised by ISED for use in Canada.

Eligibility to hold a spectrum or radio licence

Eligibility to hold a spectrum or radio licence is prescribed by the Radiocommunication Regulations. In accordance with these Regulations, a corporation must be incorporated or continued under the laws of Canada or a province of Canada to be eligible to hold a spectrum or radio licence; however, there is no requirement for Canadian ownership or control of the licence holder.^[10]

Direction and control of Canadian-licensed satellites

Canadian-licensed satellites must be under the direction and control in Canada of the licence holder. While third-party control facilities may be used, ISED requires that the licence holder have the contractual ability to direct operations of the licensed facilities at all times. The primary control facilities for GSO satellites may be located outside Canada, provided that the licence holder has a secondary control facility in Canada that is capable of executing a minimum set of control operations within 24 hours of a request to do so by ISED. In the case of Canadian-licensed NGSO satellites, the telemetry, telecommand and control facility and network operations centre, as well as a gateway Earth station, must be located in Canada.

Revocation of radio authorisations

The Minister may revoke a radio authorisation issued under the Radiocommunication Act where the Minister has determined that the holder of the authorisation has contravened the Radiocommunication Act, the Radiocommunication Regulations, or a term or condition of the radio authorisation, or that the authorisation was obtained through misrepresentation. With the exception of failure to pay licence fees (where only written notice is required), the Minister must give the holder of the authorisation a reasonable opportunity to make written representations to the Minister before revoking a radio authorisation.^[11]

Satellite use policy for the provision of broadcasting services

It remains Canadian policy that Canadian satellite facilities should generally be used for the provision of Canadian programming services for direct reception by the Canadian public. There are two exceptions to this policy. First, non-Canadian satellites may be used in exceptional circumstances where Canadian satellites are not available to support specialised satellite delivery of digital satellite subscription-based radio services. Second, non-Canadian satellites may be used on a temporary basis in the case of an emergency

that leads to a lack of Canadian satellite capacity. There are no restrictions on the use of foreign satellites to deliver to Canadians foreign programming services that are primarily targeted at foreign audiences.

Authorisation of foreign satellites

Foreign satellites must be authorised for use in Canada to communicate with fixed or mobile Earth stations in the country. Market access can be obtained separately or as part of the Earth station licensing process. Authorisation of foreign satellites for use in Canada is governed by the policies identified in RP-007 and RP-008, as applicable. Foreign satellites that are authorised by WTO member countries will generally be granted market access, provided that the frequencies used by the system for communications in Canada comply with Canadian spectrum policy requirements and Canadian coordination requirements have been satisfied. ISED requires completion of coordination with any Canadian-authorized satellite networks with an earlier date of ITU receipt before market access will be granted. Foreign satellites that are authorised by non-WTO member countries may be granted access to the Canadian market on a case-by-case basis.

Operation of Earth stations in Canada

Further to its determinations in SMSE-008-02, as of 1 October 2023, ISED licenses the use of radio frequency spectrum by Earth stations by means of spectrum, rather than radio, licences. Two broad categories of Earth station spectrum licences have been established: site-specific licences and generic licences. Earth stations supporting telemetry, tracking and control, feeder links or backhaul, or that use frequencies that are not eligible for generic licensing, are authorised under Canada-wide site-specific spectrum licences. Each site authorised by the licence must be approved separately. Generic spectrum licences are available for fixed and mobile end-user terminals, Earth stations in motion, transportable Earth stations, and certain receive-only Earth stations and sensor networks operating in eligible frequencies. Generic licences are also issued on a Canada-wide basis and cover one or more sets of Earth stations with similar technical characteristics. Annual licence fees for Earth station spectrum licences are based on the amount of the licensed spectrum granted under the licence.

CRTC regulation under the Telecommunications Act

Canadian and foreign satellite operators providing satellite services in Canada are also subject to regulation as telecommunications service providers by the CRTC pursuant to the Telecommunications Act. Specifically, satellite operators offering services in Canada must obtain a basic international telecommunications service licence from the CRTC to authorise the carriage of traffic between Canada and another country. If a service provider owns or operates telecommunications facilities that are located in Canada or licensed by Canada, additional obligations established by the CRTC may apply. However, the rates, terms and conditions of the provision of satellite transmission services, per se, have been forborne from regulation by the CRTC.

Appeal processes

Licensing decisions of the Minister are subject to judicial review proceedings before the Federal Court of Canada. Decisions of the CRTC made pursuant to the Telecommunications Act can be appealed by seeking a review and variance of the decision by the CRTC. CRTC decisions can also be appealed to the Federal Court of Appeal on issues of law and jurisdiction, with leave of that Court, and to the federal Cabinet.

Distinctive characteristics of the national framework

Canada has a separate licensing framework for remote sensing space systems, which is administered by a section of Global Affairs Canada. The licensing framework is established by the RSSSA and the Remote Sensing Space Systems Regulations.^[12] A licence is required under the RSSSA for the operation in Canada of a remote sensing space system or the operation of such a system outside Canada by a Canadian citizen or corporation incorporated in Canada. A remote sensing space system is defined in the RSSSA as one or more remote sensing satellites, the mission control and other facilities used to operate the satellite, and the facilities used to receive, store, process or distribute raw data received from the satellite.^[13] A satellite that is capable of sensing the Earth through electromagnetic waves is a remote sensing satellite.^[14]

Anyone seeking a licence to operate a remote sensing space system must submit a written application to the Space Section of the Non-Proliferation, Disarmament and Space Division of the International Security Bureau at Global Affairs Canada. Applications are assessed with reference to Canadian national security and defence, international relations and other prescribed factors. The Minister of Foreign Affairs is specifically prohibited from granting a licence under the RSSSA without determining that the system disposal plan is satisfactory and without confirming receipt of adequate guarantees of performance of the disposal plan. Licences are subject to comprehensive conditions relating to, inter alia, control of the system, access to and control of data collected by the system, limits on communications of data about another country, use of cryptography and other information assurance measures, and system disposal. A remote sensing satellite licensed by Canada can be controlled from outside Canada only if any foreign commands can be overridden from a Canadian location and with ministerial approval. Licence applicants are also subject to security screening requirements.

Year in review

Supplemental mobile coverage from space

In June 2024, ISED initiated a consultation on the regulatory framework for supplemental mobile coverage from space (SMCS) in Canada. The consultation seeks input on spectrum available for SMCS, the licensing framework for SMCS and technical issues and limitations associated with the provision of SMCS. ISED is proposing to apply its MSS licensing approach to SMCS satellites and Earth stations. Proposed conditions of licence include a non-exclusive agreement with the satellite operator. ISED is also seeking comments on

extending mandatory terrestrial roaming requirements to SMCS services. ISED has stated that it intends to implement its new SMCS framework by 1 April 2025. Pending its decision on the regime, interim satellite and Earth station authorisations are available for testing and early implementation on a case-by-case basis.

Authorisation of commercial space launches

As indicated above, the Canadian government announced in January 2023 that it would support commercial space launch activities in Canada. Pending development of a specialised regulatory framework, launch facilities and launches will be assessed and authorised under existing general aviation legislation. The federal department Transport Canada is leading the development of the new regulatory framework. This process is expected to take three years. To date, no proposed regulations have been published.

Special considerations

New cybersecurity legislation is currently making its way through Parliament. If passed, the legislation would amend the Telecommunications Act to provide the Minister of Industry or the Federal Cabinet with the authority to issue orders to, among other things:

1. prohibit telecommunications service providers, including satellite operators, from using specified persons' products or services in their networks;
2. direct telecommunications service providers to remove specified persons' products or services from their telecommunications networks; and
3. prohibit telecommunications service providers from providing or continuing to provide services to specified persons.

The legislation would also enact a new Critical Cyber Systems Act, which would allow the government to designate operators that own, control or operate critical infrastructure and to require these designated entities to implement cybersecurity plans, mitigate supply chain risks and report cybersecurity incidents.

The CRTC has also established an interim 'major outage' reporting obligation for telecommunications carriers and is considering making this obligation permanent. Following a determination on this issue, the CRTC has announced that it intends to launch further proceedings to address a broad range of issues relating to telecommunications network resiliency.

Outlook and conclusions

The year 2025 will see the implementation of a new regulatory framework for SMCS, which should assist with addressing coverage gaps in Canadian terrestrial networks. Consultations on a satellite launch framework and amendments to Canada's remote

sensing space systems regulatory framework would be welcome developments but have not been announced.

Endnotes

- 1 Radiocommunication Act, SC 1989, Chapter 17, as amended. ^ [Back to section](#)
- 2 Remote Sensing Space Systems Act, SC 2005, Chapter 45, as amended. ^ [Back to section](#)
- 3 Telecommunications Act, SC 1993, Chapter 38, as amended. ^ [Back to section](#)
- 4 Canadian Space Agency Act, SC 1990, Chapter 13, Section 4. ^ [Back to section](#)
- 5 RADARSAT Constellation Mission, Canadian Space Agency (www.asc-csa.gc.ca). ^ [Back to section](#)
- 6 Aeronautics Act, RSC 1985, Chapter A-2. ^ [Back to section](#)
- 7 Radiocommunication Regulations, SOR/96-484, as amended. ^ [Back to section](#)
- 8 ISED, RP-008 – Policy Framework for Fixed-Satellite Service (FSS) and Broadcasting-Satellite Service (BSS), Issue 4, June 2017. ^ [Back to section](#)
- 9 ISED, RP-007 – Policy Framework for the Provision of Mobile Satellite Service Via Regional and Global Satellite Systems in the Canadian Market, Revision 2, March 1999. ^ [Back to section](#)
- 10 Radiocommunication Regulations, Section 9. ^ [Back to section](#)
- 11 Radiocommunication Act, Subsection 5(s). ^ [Back to section](#)
- 12 Remote Sensing Space Systems Regulations, SOR/2007-66. ^ [Back to section](#)
- 13 RSSSA, Section 2. ^ [Back to section](#)
- 14 *ibid.* ^ [Back to section](#)

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