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Spectrum Management and Telecommunications

# **Consultation on a Licence Renewal Process for Spectrum in the Bands 849-851 MHz and 894-896 MHz for Air-Ground Services**

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## 1 Intent

1. Through the release of this document, the Minister of Innovation, Science and Economic Development (the Minister) is consulting on the renewal process for spectrum licences in the bands 849-851 MHz and 894-896 MHz for air-ground services that were assigned by auction in 2009 and will expire in June 2019.

## 2 Mandate

2. The Minister, through the [Department of Industry Act](#), the [Radiocommunication Act](#) and the [Radiocommunication Regulations](#), with due regard to the objectives of the [Telecommunications Act](#), is responsible for spectrum management in Canada. As such, the Minister is responsible for developing goals and national policies for spectrum utilization and for ensuring effective management of the radio frequency spectrum resource.

3. The Minister is provided the general powers for spectrum management in Canada, pursuant to section 5 of the [Radiocommunication Act](#) and sections 4 and 5 of the [Department of Industry Act](#). The Governor in Council may make regulations with respect to spectrum management, pursuant to section 6 of the [Radiocommunication Act](#); these regulations have been prescribed under the [Radiocommunication Regulations](#).

## 3 Policy objectives

4. In developing policies and licensing frameworks, the Minister is guided by the policy objectives of the [Telecommunications Act](#), and the [Spectrum Policy Framework for Canada](#) (SPFC), which seeks to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource. These objectives, and the enabling guidelines outlined in the SPFC, continue to be relevant for guiding the Minister in delivering their mandate of spectrum management.

5. The Minister's objectives for the renewal of the relevant licences are to:

- foster innovation and investment
- facilitate deployment and timely availability of services across the country

## 4 Background

6. The bands 849-851 MHz and 894-896 MHz are allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. Air-ground services are a subset of aeronautical mobile services, allowing for air-ground radiocommunication applications such as voice telephony, broadband internet and data transmission. The use of these bands is harmonized for air-ground use across North America.

7. In November 2008, Innovation, Science and Economic Development Canada (ISED) published DGRB-004-08, [\*Spectrum Utilization Policy and Consultation on a Framework to Auction Spectrum in the Bands 849–851 MHz and 894–896 MHz for Air-Ground Services\*](#) (hereinafter the Policy Framework), which expanded the designation of the bands 849-851 MHz and 894-896 MHz to include air-ground radiocommunication applications. Subsequently, in March 2009, ISED published DGRB-006-09, [\*Licensing Framework to Auction Spectrum in the Bands 849-851 MHz and 894-896 MHz for Air-Ground Services\*](#) (hereinafter the Licensing Framework), which elaborated the auction licensing process for air-ground services in these bands. In June 2009, ISED auctioned two spectrum licences for air-ground services in the Tier 1 service area. A total of 4 MHz of spectrum, in two blocks, was made available in the bands 849-851 MHz and 894-896 MHz, as depicted in figure 1.

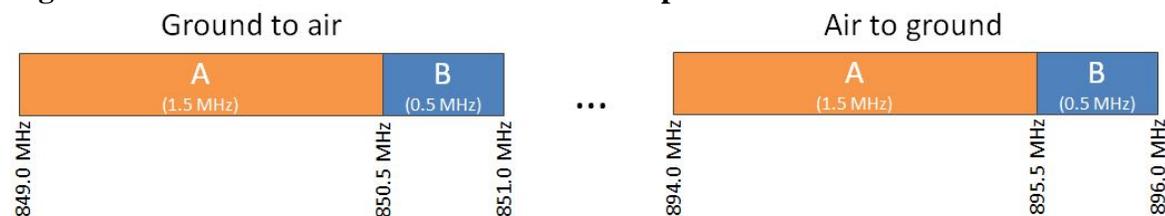
8. SkySurf Canada Communications Inc. (SkySurf) was awarded licences for both blocks, expiring in June 2019. In 2012, subordinate licences for both blocks were granted to Gogo Connectivity Ltd., the Canadian affiliate of Gogo LLC. Gogo’s air-ground network spans Canada, the continental United States and Alaska, and it currently offers in-flight services with Air Canada and some U.S. airlines.

9. In June 2006, the U.S. Federal Communications Commission (FCC) licensed air-ground spectrum through an auction process. Gogo LLC currently holds these licences in the United States. In January 2017, the FCC renewed the previously auctioned air-ground licenses until October 2026.

### 4.1 Band plan

10. The spectrum is divided into two paired blocks, each licensed on a Tier 1 (national) basis as follows:

**Figure 1: 849-851 MHz and 894-896 MHz band plan**



## 5 Renewal eligibility

11. The licences were auctioned for a 10-year term from the date of issuance. The renewal decision developed through this consultation will apply to both auctioned licences.

12. As stated in the [Framework for Spectrum Auctions in Canada](#) (FSAC), licensees will have a high expectation of renewal unless a breach of licence condition has occurred, a fundamental reallocation of spectrum to a new service is required or an overriding policy need arises.

13. As mentioned above, the frequency is allocated to the aeronautical mobile service on a primary basis, and the band is regionally harmonized in North America. ISED recognizes that the harmonized technical rules and the cross-border arrangements that are currently in place foster interoperability of systems allowing for a seamless North American network. As such, ISED is not planning any fundamental reallocation of this spectrum at this time, nor does it see any overriding policy need that would preclude renewal of these licences.

14. Accordingly, ISED proposes to renew the licences where the licensee can demonstrate that they are in compliance with all licence conditions, including deployment. It is proposed that deployment will be considered met where the licensee can demonstrate implementation of ground stations covering 75% of Canadian air routes, as set out in appendix A of the Licensing Framework. Licensees with deployment below that level will not be eligible for a new long-term spectrum licence under the renewal process.

<p><b>Q1:</b> ISED invites comments on the proposal to renew spectrum licences in 849-851 MHz and 894-896 MHz for which licensees have met their conditions of licence.</p>
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## 6 Conditions of licence for new licences issued under the renewal process

15. It should be noted that all spectrum licences are subject to the relevant provisions in the [Radiocommunication Act](#) and the [Radiocommunication Regulations](#). For example, the Minister continues to have the power to amend the terms and conditions of spectrum licences pursuant to paragraph 5(1)(b) of the *Radiocommunication Act*. The Minister may do so for a variety of reasons, including furtherance of the policy objectives related to the band. Such action would normally only be undertaken after consultation.

### 6.1 Licence term

16. In the FSAC, ISED adopted a flexible approach in determining licence terms, which allows for licence terms up to 20 years. This decision was based on the recognition that licence terms in excess of 10 years would create greater incentive to invest in the telecommunications industry and for the industry itself to further invest in the development of network infrastructure, technologies and innovation. Longer terms are particularly appropriate when the use is unlikely to change. Auctioned licences also typically have a high expectation of renewal.

17. ISED recognizes that the usage of this band for air-ground services is likely to continue in the near term. However, ISED notes the evolving nature of the industry, as technological advances make satellite solutions more viable, and new approaches such as direct air-ground are being used more widely. Given these considerations, ISED believes that a shorter licence term is appropriate in this instance, and that continued monitoring of technological and market developments will be important in ensuring that spectrum is put to its best use.

18. In order to allow sufficient flexibility in responding to future developments, prior to the end of the licence term of licences issued through this renewal process, ISED will hold a consultation to determine whether new licences will be issued through a renewal process and, if so, under what terms and conditions. Therefore, ISED is proposing that licences issued through this renewal process will not have the high expectation of renewal typically associated with auctioned licences.

19. In addition, as discussed in section 4, ISED notes that the FCC has granted renewals for air-ground licences until October 2026. ISED recognizes the importance of harmonization of air-ground spectrum in North America, and the necessity of cross-border arrangements in coordinating its use. The continued harmonization of the band in North America will be considered as part of subsequent renewal processes.

20. ISED recognizes the importance of balancing the need for flexibility in responding to evolving technology with the need for investment certainty. In addition, ISED notes the importance of continued harmonization of air-ground services within North America, and that corresponding licences in the U.S will expire in October 2026. ISED is therefore considering licence terms of between 7 and 10 years for licences issued through this renewal process.

**Q2:** ISED invites comments on the proposal that licences issued through this renewal process will not have a high expectation of renewal. Respondents are asked to provide a rationale for their response.

**Q3:** ISED invites comments on the appropriate licence term for licences issued through this renewal process. Respondents are asked to provide a rationale for their response.

## **6.2 Deployment requirement**

21. ISED believes that spectrum is a public resource that should be used in ways that serve the public interest. As outlined in the SPFC, in developing policies and licensing frameworks, ISED seeks to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource. Deployment requirements are conditions of licence that encourage the delivery of service in all regions of Canada in a timely manner for the benefit of Canadians.

22. The Licensing Framework set out deployment targets as follows: “Two years prior to the end of the licence term, the licensee must demonstrate implementation of stations covering 75% of Canadian air routes. Any deployment below 75% or using another indicator will be taken into

consideration by [ISED] in determining whether to renew the licence in whole, in part or not at all....”

23. In support of the policy objectives contained within the SPFC, as well as those outlined in section 3, ISED is proposing that licences issued through the renewal process be subject to updated deployment requirements that provide additional clarity to the licensee while promoting continued provision of services.

24. The proposed deployment requirements for licences issued through the renewal process are as follows: For the duration of the new licence term, the licensee will be required to demonstrate that this spectrum has been put to use. Use is defined as implementation of ground stations using air-ground spectrum in the bands 849-851 MHz and 894-896 MHz covering 75% of air routes<sup>1</sup> originating or terminating in Canada, for segments within Canadian Domestic Airspace as defined in the [Designated Airspace Handbook](#) at the time of licences being issued through this process.

**Q4:** ISED is seeking comments on its proposed deployment requirements for licences issued through this renewal process. Respondents are asked to provide a rationale for their response.

### 6.3 Annual reporting

25. As other solutions such as satellite and direct air-ground are becoming more available, ISED recognizes the need to monitor spectrum usage and implementation in this band as part of future renewal decisions. ISED is therefore proposing annual reporting requirements including the total number of aircraft actively offering air-ground connectivity to passengers, and the total amount of data traffic over the licensee’s air-ground network in Canada.

26. These indicators may be taken into consideration by ISED in determining whether to renew the licence in whole, in part or not at all, as part of any subsequent renewal process.

**Q5:** ISED is seeking comments on its proposed annual reporting requirements for licences issued through the renewal process. Respondents are asked to provide a rationale for their response.

### 6.4 Other conditions of licence

27. ISED is also seeking comments on the remaining proposed conditions of licence contained in annex A, which would apply to new licences issued under this renewal process. The conditions of licence are based on existing policies and procedures developed through consultation.

**Q6:** ISED is seeking comments on the proposed conditions of licence for licences issued through this renewal process as set out in annex A.

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<sup>1</sup> Air routes originating or terminating in Canada, but not able to receive service for the entire segment within Canadian Domestic Airspace shall be pro-rated for the purpose of calculating the percentage of air routes receiving service. For example, a route that receives service for only 50% of the route within Canadian Domestic Airspace will count as 0.5 of an air route relative to the total number of air routes.

## 7 Fees

28. The FSAC states that for licences issued through a renewal process, licence fees that reflect some measure of market value will apply. A separate consultation will be required to determine the spectrum licence fees that will apply to the spectrum licences issued through this renewal process. Any fees would only apply after a consultation process.

## 8 Next steps

29. ISED will review the comments received and publish its decision.

## 9 Submitting comments

30. Respondents are requested to provide their comments in electronic format (Microsoft Word or Adobe PDF) by [email](#).

31. In addition, respondents are asked to specify question numbers for ease of referencing and to provide supporting rationale for each response.

32. Written submissions should be mailed to the following address:

Director  
Spectrum Regulatory Best Practices  
Innovation, Science and Economic Development Canada  
235 Queen Street, 6th floor  
Ottawa ON K1A 0H5

33. All submissions should cite the *Canada Gazette*, Part I, the publication date, the title and the notice reference number (SLPB-006-18). Parties should submit their comments no later than September 19, 2018, to ensure consideration. Soon after the close of the comment period, all comments received will be posted on ISED's [Spectrum Management and Telecommunications](#) website.

34. ISED will also provide interested parties with the opportunity to reply to comments from other parties. Reply comments will be accepted until October 10, 2018.

35. All comments and reply comments will be published. Those making submissions are responsible for ensuring that they do not contain confidential or private information.

36. After the initial comment period, ISED may, at its discretion, request additional information if needed to clarify significant positions or new proposals. Should additional information be requested, the reply comment deadline may be extended.

## 10 Obtaining copies

37. All spectrum related documents referred to in this paper are available on ISED's [Spectrum Management and Telecommunications](#) website.

38. For further information concerning the proposals outlined in this consultation or related matters, contact:

Innovation, Science and Economic Development Canada  
c/o Director, Spectrum Regulatory Best Practices  
235 Queen Street, 6th Floor  
Ottawa ON K1A 0H5

Telephone: 613-219-5436

Fax: 343-291-1269

[Email](mailto:ic.spectrumauctions-encheresduspectre.ic@canada.ca): ic.spectrumauctions-encheresduspectre.ic@canada.ca

## **Annex A: Proposed conditions of licence**

The following conditions are proposed for the renewed licences for spectrum in the bands 849-851 MHz and 894-896 MHz for air-ground services.

It should be noted that the licences are subject to the relevant provisions in the [Radiocommunication Act](#) and the [Radiocommunication Regulations](#), as amended from time to time. For example, the Minister of Innovation, Science and Economic Development continues to have the power to amend the terms and conditions of spectrum licences, under section 5(1)(b) of the *Radiocommunication Act*. The Minister may do so for a variety of reasons, including furtherance of the policy objectives related to the band. Such action would normally only be undertaken after consultation.

### **1. Licence term**

As discussed in section 6.1 of this consultation, ISED is considering licence terms of between 7 and 10 years for licences issued through this renewal process. Prior to the end of this licence term, a consultation will be held to determine whether new licences will be issued through a renewal process and, if so, under what terms and conditions. Therefore, these licences do not have a high expectation of renewal.

The process for issuing licences after this term and any issues relating to renewal, including the terms and conditions of the new licence, will be determined by the Minister following a public consultation.

### **2. Eligibility**

The licensee must comply on an ongoing basis with the applicable eligibility criteria in subsection 9(1) of the *Radiocommunication Regulations*. The licensee must notify the Minister of Innovation, Science and Economic Development of any change that would have a material effect on its eligibility. Such notification must be made in advance for any proposed transactions within its knowledge.

### **3. Licence transferability, divisibility and subordinate licensing**

This licence is transferable in whole or in part (divisibility), in both bandwidth and geographic dimensions, subject to Innovation, Science and Economic Development Canada's (ISED) approval. A subordinate licence may also be issued in regard to this licence. ISED's approval is required for each proposed subordinate licence.

The licensee must make the Transfer Request in writing to ISED. The Transfer Request will be treated as set out in Client Procedures Circular CPC-2-1-23, [Licensing Procedure for Spectrum Licences for Terrestrial Services](#), as amended from time to time.

The licensee must apply in writing to ISED for approval prior to implementing any Deemed Transfer, which will be treated as set out in [CPC-2-1-23](#). The implementation of a Deemed Transfer without the prior approval of ISED will be considered a breach of this condition of licence.

In all cases, the licensee must follow the procedures as outlined in CPC-2-1-23.

All capitalized terms have the meaning ascribed to them in CPC-2-1-23.

#### **4. Radio station installations**

The licensee must comply with Client Procedures Circular CPC-2-0-03, [Radiocommunication and Broadcasting Antenna Systems](#), as amended from time to time.

#### **5. Provision of technical information**

The licensee must provide, and maintain, up-to-date technical information on a particular station or network in accordance with the definitions, criteria, frequency and timelines specified in Client Procedures Circular CPC-2-1-23, [Licensing Procedure for Spectrum Licences for Terrestrial Services](#), as amended from time to time.

#### **6. Compliance with legislation, regulations and other obligations**

The licensee is subject to, and must comply with, the *Radiocommunication Act* and the *Radiocommunication Regulations*, as amended from time to time. The licensee must use the assigned spectrum in accordance with the [Canadian Table of Frequency Allocations](#) and the spectrum policies applicable to this band, as amended from time to time. The licence is issued on condition that all representations made in relation to obtaining this licence are all true and complete in every respect.

#### **7. Technical considerations and international and domestic coordination**

The licensee must comply on an ongoing basis with the technical aspects of the appropriate Radio Standards Specifications (RSS) and Standard Radio System Plans (SRSP), as amended from time to time. Where applicable, the licensee must use its best efforts to enter into mutually acceptable agreements with other parties for facilitating the reasonable and timely development of their respective systems, and to coordinate with other licensed users in Canada and internationally.

The licensee must comply with the obligations arising from current and future frequency coordination agreements established between Canada and other countries and shall be required to provide information or take actions to implement these obligations as indicated in the applicable SRSP. Although frequency assignments are not subject to site licensing, the licensee may be required through the appropriate SRSP to furnish all necessary technical data for each relevant site.

## 8. Lawful interception

The licensee operating as telecommunication common carrier using the spectrum for voice telephony systems must, from the inception of service, provide for and maintain lawful interception capabilities as authorized by law. The requirements for lawful interception capabilities are provided in the Solicitor General's *Enforcement Standards for Lawful Interception of Telecommunications* (Rev. Nov. 95) – SGEN. These standards may be amended from time to time.

The licensee may request the Minister of Innovation, Science and Economic Development to forbear from enforcing certain assistance capability requirements for a limited period of time. The Minister, following consultation with Public Safety Canada, may exercise the power to forbear from enforcing a requirement or requirements where, in the opinion of the Minister, the requirement is not reasonably achievable. Requests for forbearance must include specific details and dates indicating when compliance to the requirement can be expected.

## 9. Research and development

The licensee must invest, as a minimum, 2% of its adjusted gross revenues resulting from the use of this licence, averaged over the term of the licence, in eligible research and development (R&D) activities related to telecommunications. Eligible R&D activities are those that meet the definition of scientific research and experimental development adopted in the *Income Tax Act*, as amended from time to time. Adjusted gross revenues are defined as total service revenues, less inter-carrier payments, bad debts, third party commissions, and provincial goods and services taxes collected. The licensee is exempt from R&D expenditure requirements if it, together with all affiliated licensees that are subject to the R&D condition of licence, has less than \$1 billion in annual gross operating revenues from the provision of wireless services in Canada, averaged over the term of the licence. For this condition of licence, an affiliate is defined as a person who controls the carrier, or who is controlled by the carrier or by any person who controls the carrier, as per subsection 35(3) of the *Telecommunications Act*.

## 10. Deployment requirement

The proposed deployment requirements for licences issued through the renewal process are as follows:

- For the duration of the new licence term, the licensee will be required to demonstrate that this spectrum has been put to use as defined below.
- “Use” is defined as implementation of ground stations using air-ground spectrum in the bands 849-851 MHz and 894-896 MHz covering 75% of air routes originating or terminating in Canada, for segments within Canadian Domestic Airspace as defined in the *Designated Airspace Handbook* at the time of licences being issued through this process.
- Air routes originating or terminating in Canada, but not able to receive service for the entire segment within Canadian Domestic Airspace shall be pro-rated for the purpose of

calculating the percentage of air routes receiving service. For example, a route that receives service for only 50% of the route within Canadian Domestic Airspace will count as 0.5 of an air route relative to the total number of air routes.

## **11. Mandatory antenna tower and site sharing**

The licensee must comply with the mandatory antenna tower and site sharing requirements set out in Client Procedures Circular CPC-2-0-17, [\*Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements\*](#), as amended from time to time.

## **12. Annual reporting**

The licensee must submit an annual report for each year of the licence term, which includes the following information:

- a statement indicating continued compliance with all conditions of licence, including all calculations related to deployment
- an update on the implementation and spectrum usage within the area covered by the licence, including specific data demonstrating:
  - the total number of aircraft actively offering air-ground connectivity to passengers
  - the amount of spectrum use, as approximated by the total amount of data traffic over the licensee's air-ground network in Canada
- existing audited financial statements with an accompanying auditor's report
- a statement indicating the annual gross operating revenues from the provision of wireless services in Canada, and where applicable, the annual adjusted gross revenues resulting from the use of this licence, as defined in these conditions of licence
- if required, a report of the R&D as set out in these conditions of licence (ISED may request an audited statement of R&D expenditures with an accompanying auditor's report, at its discretion)
- supporting financial statements where a licensee is claiming an exemption based on— together with all affiliated licensees that are subject to the R&D condition of licence—it having less than \$1 billion in annual gross operating revenues from the provision of wireless services in Canada, averaged over the term of the licence
- a copy of any existing corporate annual report for the licensee's fiscal year with respect to the authorization and
- other information related to the licence as specified in any notice updating the reporting requirements as issued by ISED

All reports and statements must be certified by an officer of the company and submitted, in writing, within 120 days of the licensee's fiscal year-end. Confidential information provided will be treated in accordance with subsection 20(1) of the [Access to Information Act](#).

Reports are to be submitted to ISED at the following address:

Innovation, Science and Economic Development Canada  
c/o Manager, Emerging Networks  
Spectrum Management Operations Branch  
235 Queen Street, 6th Floor  
Ottawa ON K1A 0H5

Where a licensee holds multiple licences, spectrum implementation reports should be broken down by service area. This information, including the extent of implementation and spectrum usage, is important for analyzing each licensee's individual performance against its conditions of licence. In addition, it allows ISED to monitor the effectiveness of these conditions in meeting the policy objectives regarding the band and ISED's intent that the spectrum be deployed in a timely manner for the benefit of Canadians.

### **13. Amendments**

The Minister of Innovation, Science and Economic Development retains the discretion to amend these terms and conditions of licence at any time.