

12 July 2018

Innovation, Science and Economic Development Canada (ISED)
c/o Senior Director, Spectrum Licensing and Auction Operations
235 Queen Street, 6th Floor
Ottawa, Ontario K1A 0H5

e-mail: ic.spectrumauctions-encheresduspectre.ic@canada.ca

Re: Gazette Notice No. SLPB-004-18 — Consultation on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Consultation on Changes to the 3800 MHz Band – Cogeco Comments

In accordance with the procedures set out in the above-noted consultation, please find attached the comments of Cogeco Communications Inc. (“Cogeco”).

Cogeco thanks ISED for the opportunity to submit comments in this proceeding and remain available to answer any questions you may have regarding this submission.

Yours very truly,

Michel Messier
Senior Director, Regulatory Affairs, Telecommunications

c.c.: Nathalie Dorval, VP Regulatory Affairs and Copyright, Cogeco Inc.
Luc Noiseux, Chief Technology and Strategy Officer, Cogeco Inc.

**Innovation, Science and Economic Development Canada
Spectrum Management and telecommunication**

**Consultation on Revisions to the 3500 MHz Band to
Accommodate Flexible Use and Preliminary Consultation
on Changes to the 3800 MHz Band**

**Canada Gazette: June 6, 2018,
Gazette Notice SLPB-004-18**

**Comments of
Cogeco Communications Inc.**

12 July 2018

Introduction

1. Cogeco Communications Inc. (“Cogeco”) is pleased to submit these comments in accordance with the procedures set out by Innovation, Science and Economic Development Canada (ISED) in *Consultation on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Consultation on Changes to the 3800 MHz Band*, SLPB-004-18, published 5 June 2018 (the “Consultation Document”).
2. Cogeco is a diversified communications company headquartered in Montreal, Quebec, that provides video, Internet and telephony services through its affiliate Cogeco Connexion Inc. to residential and business customers as well as offering third party Internet access and transport services to Internet service providers on a wholesale basis in Ontario and Quebec.
3. Cogeco also provides an entire suite of information technology services to its business customers through Cogeco Peer 1 (Canada) Inc. Included among the services provided by this entity are collocation, network connectivity, hosting and cloud services, all of which are supported by 16 data centres, an extensive fibre network in Montreal and Toronto, as well as points-of-presence in North America and Europe.
4. As a competitive communications service provider that has invested heavily in infrastructure in Canada over many years and one that is making significant investments in mobile spectrum, Cogeco strongly supported and continues to support the development of a regulatory framework whose goals are to encourage investment in facilities and to promote competition among facilities-based carriers. Achieving these two goals will be critical to ensuring that consumers benefit from greater choice, lower prices, and innovative and high-quality services. Cogeco therefore endorses ISED’s stated policy objectives for the 3450-3650 MHz band (the “3500 MHz band”) to:
 - *foster innovation, investment and the evolution of wireless networks by enabling the development and adoption of 5G technologies*

- *support sustained competition, so that consumers and businesses benefit from greater choice*
- *facilitate the deployment and timely availability of services across the country, including rural areas*

5. As Cogeco noted in its comments in the recent Spectrum Outlook Consultation,¹ an important step in achieving these objectives is to make sufficient spectrum available to meet the needs of carriers, enterprises and individuals over the next five years. However, while this is important, it is not sufficient for ISED simply to release or reallocate additional spectrum bands. Cogeco recommends ISED also adopt policies which are specifically designed to ensure spectrum is assigned in all regions of Canada to entities or persons who will use it, and to reclaim spectrum from those who do not use it. These policies should also take into account the very different market and spectrum use conditions in urban centres versus rural and remote areas, thereby ensuring all Canadians are able to enjoy the benefits of the spectrum released by ISED, which after all is an important and finite public resource.

Licensees in the 3500 MHz Band

6. The 3500 MHz band is a clear example of where such policies are necessary. For more than a decade and to date, this spectrum has been licensed primarily to two operators across Canada, Inukshuk and Xplornet (as shown in Annexes A and B of the Consultation Document).

7. Cogeco has analyzed Inukshuk's and Xplornet's 3500 MHz spectrum licences in four Tier 2 service areas² (2-004 Eastern Quebec, 2-005 Southern Quebec, 2-006 Eastern Ontario & Outaouais, and 2-008 Southern Ontario) using Statistic Canada's 2016 population figures as presented in Annex A to ISED's decision on the technical, policy and licensing framework for the 600 MHz band³ and using the spectrum

¹ *Consultation on the Spectrum Outlook 2018 to 2022*, Canada Gazette, Part I, SLPB-006-17, dated 6 October 2017, modified in Gazette Notice SLPB-010-17, dated 20 December 2017 (the "Spectrum Outlook Consultation").

² 3500 MHz licenses are assigned on the basis of Tier 4 Services Areas, however Cogeco has analyzed spectrum holdings at Tier 2 levels.

³ *Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band*, SLPB-002-18, published 28 March 2018 - <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11374.html>.

licence information set out in Annex A of the Consultation Document. The existing 3500 MHz band (3475 – 3650 MHz) includes 175 MHz of prime spectrum. This amount of 3500 MHz spectrum was multiplied by the population of each service area to determine the total available “MHz-Population” (“MHz-pop”).

8. The same was then done with the spectrum licensed to Inukshuk in each service area. A number of licences in these Tier 2 service areas are subdivided and the population in the subdivided areas is not readily available. The MHz-pop available to Inukshuk was therefore calculated twice, once by excluding the subdivided licences and a second time by including the licences as if they were not subdivided. This establishes the upper and lower bounds of the range of MHz-pop available to Inukshuk in the Tier 2 service area.

9. The following tables present the total available MHz-population available, as well as the MHz-pop available to Inukshuk, in each of these Tier 2 service areas.

2-004 Eastern Quebec

Population (2016)	Total MHz-pop Available	Inukshuk MHz-pop		Inukshuk MHz-pop % of Total	
		min	max	min	max
1,699,378	297,391,150	196,828,675	219,436,925	66%	74%

10. In the 2-004 Eastern Quebec service area, Inukshuk holds between 197 and 219 million MHz-pop, which is 66 to 74% of the available MHz-pop. This is the equivalent of holding an average of 116 MHz (66% of 175MHz) to 129 MHz (74% of 175MHz) across the entire population of the Tier 2 service area of Eastern Quebec.

11. Cogeco notes that, excluding the subdivided licences, Xplornet holds 17% of the MHz-pop – or 30 MHz – of the 175 MHz total available spectrum in the 2-004 Eastern Quebec service area. However, since Xplornet does not hold 3500 MHz band licences within the 4-030 Quebec service area, by removing the population of Quebec City, Xplornet holds in effect approximately more than one third of the MHz-pop in 2-004 Eastern Quebec outside of 4-030 Quebec City.

2-005 Southern Quebec

Population (2016)	Total MHz-pop Available	Inukshuk MHz-pop		Inukshuk MHz-pop % of Total	
		min	max	min	max
5,895,985	1,031,797,375	872,362,500	872,362,500	85%	85%

12. In the 2-005 Southern Quebec service area, Inukshuk holds 872 million MHz-pop, which is 85% of the available MHz-pop. This is the equivalent of holding an average of 148 MHz across the entire population of the Tier 2 service area of Southern Quebec.

13. Cogeco notes that, excluding the subdivided licences, Xplornet holds about 8% of the MHz-pop – or about 14 MHz – of the 175 MHz total available spectrum in the 2-005 Southern Quebec service area. However, since Xplornet does not hold 3500 MHz band licences within the 4-051 Montreal service area, by removing the population of Montreal, Xplornet holds in effect approximately almost one third of the MHz-pop in 2-005 Southern Quebec outside of 4-051 Montreal.

2-006 Eastern Ontario and Outaouais

Population (2016)	Total MHz-pop Available	Inukshuk MHz-pop		Inukshuk MHz-pop % of Total	
		min	max	min	max
2,435,880	426,279,000	233,130,675	299,751,225	55%	70%

14. In the 2-006 Eastern Ontario and Outaouais service area, Inukshuk holds between 233 and 300 million MHz-pop, which is 55 to 70% of the available MHz-Pop. This is the equivalent of holding an average of 96 MHz (55% of 175) to 123 MHz (70% of 174) across the entire population of the Tier 2 service area of Eastern Ontario and Outaouais.

15. Cogeco notes that, excluding the subdivided licences, Xplornet holds 30% of the MHz-Pop – or 53 MHz – of the 175 MHz total available spectrum in this Tier 2 service area.

2-008 Southern Ontario

Population (2016)	Total MHz-pop Available	Inukshuk MHz-pop		Inukshuk MHz-pop % of Total	
		min	max	min	max
10,609,746	1,856,705,550	1,585,095,500	1,626,014,450	85%	88%

16. In the 2-008 Southern Ontario service area, Inukshuk holds between 1.58 and 1.63 billion MHz-pop, which is 85 to 88% of the available MHz-pop. This is the equivalent of holding an average of 149 MHz (85% of 175 MHz) to 153 MHz (88% of 175 MHz) across the entire population of the Tier 2 service area of Southern Ontario.

17. Cogeco notes that, excluding the subdivided licences, Xplornet holds about 9% of the MHz-pop – or about 16 MHz – of the 175 MHz total available spectrum in the 2-008 Southern Ontario service area. However, since Xplornet does not hold 3500 MHz band licences within the 4-077 Toronto service area, because the population of Toronto represents such a high proportion of the population of Southern Ontario, Xplornet holds in effect approximately one quarter of the MHz-pop in 2-008 Southern Ontario outside of 4-077 Toronto.

18. It is clear that Inukshuk is the primary holder of 3500 MHz spectrum in these four Tier 2 service areas, while Xplornet holds much of the rest.

Policies to Encourage Use of Spectrum

19. What is not clear, however, is the percentage of the 1.7 million people in 2-004 Eastern Quebec, the 5.9 million people in 2-005 Southern Quebec, the 2.4 million people in 2-006 Eastern Ontario and Outaouais, or the 10.6 million people in 2-008 Southern Ontario who are in fact receiving or using any service offered by service providers using 3500 MHz band spectrum. The degree to which Inukshuk has put its 3500 MHz band spectrum to commercial use is of particular concern, as that licensee holds most of that spectrum in each of those service areas.

20. Cogeco notes that an ecosystem of equipment and devices for Fixed Wireless Access applications using that band has been available in Canada and worldwide for almost a decade, and that LTE equipment and devices have been available for more than five years. In other words, availability of suitable equipment has clearly not been an impediment to using the 3500 MHz band to provide services to Canadians so one would expect no operator would claim this as a credible excuse.

21. Because of Cogeco's concerns regarding spectrum hoarding, Cogeco submitted in the Spectrum Outlook Consultation that ISED's approach should focus on two key policies:

- First, assign spectrum to persons willing and able to use it.
- Second, once the spectrum has been assigned, ensure those persons use it. Failing that, reclaim it and reassign it to others willing and able to use it.

22. In Cogeco's view, it is essential that these two policies be applied to the 3500 MHz band.

23. In its reply comments in the Spectrum Outlook Consultation, Cogeco noted that the 3500 MHz band is one of the core bands intended for 5G deployments.⁴ Cogeco therefore commends ISED for consulting now on the additional changes to the 3500 MHz band necessary to facilitate its use for 5G networks and services as soon as possible.

24. The remainder of this submission addresses selected questions posed by ISED in the Consultation Document. Where Cogeco does not address a specific question, this should not be construed as agreeing or disagreeing with the proposal, as lack of interest in the subject matter, or as taking a position on the specific issue. Cogeco will be interested in analyzing the submissions of other interested parties and reserves the right to comment in the reply phase.

Q1 — ISED is seeking comments on its assessment of the timelines identified for the development of an equipment ecosystem for 5G technologies in the 3500 MHz and 3800 MHz bands, and whether the timelines will be the same in both bands.

25. Cogeco agrees with ISED's assessment of the timelines identified for the development of an equipment ecosystem for 5G technologies in the 3500 MHz band. In light of the fact that assignment of spectrum in the 3500 MHz band is at a more

⁴ Cogeco Reply Comments, Spectrum Outlook Consultation, paragraphs 7 to 12.

advanced stage than assignment in the 3800 MHz band internationally, as described in sections 5 and 7.1 of the Consultation Document, Cogeco expects the equipment ecosystem for the former band to develop well before it develops for the latter.

Q2 — ISED is seeking comments on the proposals for:

- adding a primary mobile allocation to the 3450–3475 MHz band
- removing the radiolocation allocation in the 3450–3500 MHz band
- making the corresponding changes to the Canadian Table of Frequency Allocations

26. Cogeco supports the proposals to add a primary mobile allocation to the 3450-3475 MHz band, to remove the radiolocation allocation in the 3450-3500 MHz band, and to make the corresponding changes to the Canadian Table of Frequency Allocations.

Q3 — ISED is seeking comments on the proposal to allow flexible use in the 3450–3475MHz band.

27. Cogeco supports the proposal to allow flexible use in the 3450-3475 MHz band, consistent with the position Cogeco stated in the Spectrum Outlook Consultation:

Cogeco strongly supports flexible-use licensing for the 3500 MHz band, whether that band is defined as the 3475-3650 MHz frequency range or, as Cogeco recommends, the 3400-4200 MHz frequency range.⁵

Q4 — ISED is seeking comments regarding interest in sharing spectrum between radiolocation and other services in the 3400–3450 MHz band, and options for doing so.

⁵ Cogeco Reply Comments, Spectrum Outlook Consultation, paragraph 17.

28. Cogeco supports flexible use of the 3400-3450 MHz band and recommends that ISED explore mechanisms to permit the sharing of that band among radiolocation, fixed and mobile services, particularly in areas where the risk of interference is low. These mechanisms could include a dynamic database solution because of the intermittent use of the band by radiolocation services. That technology continues to develop and mature and Cogeco recommends that ISED further investigate whether it should be introduced in Canada.

Q5 — ISED is seeking comments on the expected impacts of the following options with regards to the continuation of existing services, competition in the Canadian marketplace and availability of new 5G services for Canadians.

Option 1 - For each licence area, existing licensees would be issued flexible use licences for one third of their current spectrum holdings rounded to the nearest 10 MHz, with a minimum of 20 MHz.

Option 2 - For each licence area, existing licensees would be issued flexible use licences for a fixed amount of spectrum. Any licensee that holds 50 MHz of spectrum or more would be licensed for 50 MHz, and all other licensees would be licensed for 20 MHz.

Q6 — ISED is seeking comments on alternative options for licensees to return spectrum to the Department to make available for a future licensing process. Respondents are asked to provide a rationale for any alternative proposals, including how they would meet ISED's policy objectives as stated in section 3.

29. ISED's stated policy objectives for the 3500 MHz band are to:

- *foster innovation, investment and the evolution of wireless networks by enabling the development and adoption of 5G technologies*
- *support sustained competition, so that consumers and businesses benefit from greater choice*
- *facilitate the deployment and timely availability of services across the country, including rural areas*

30. In general, these policy objectives can be met by ensuring spectrum is assigned to entities which are willing and able to use the spectrum to provide services to Canadians.
31. Cogeco is concerned that neither of the two options presented by ISED in the Consultation Document could be counted on to help achieve these objectives in all cases. In particular, neither option fully takes into account the great variation in the number of existing licensees in different service areas or whether those licensees are actively providing commercial services using the spectrum.
32. For example, in metropolitan service areas where a single licensee holds all spectrum from 3475 to 3650 MHz -- for example 4-051 Montreal and 4-077 Toronto -- that licensee would be entitled to retain 60 MHz of its existing holdings under Option 1. Only 115 MHz would be returned to ISED for a future licensing process. This would be inappropriate, especially given that the licensee in question has done little to use the spectrum for active commercial purposes in its service areas. Under Option 2, this licensee would be entitled to retain 50 MHz, meaning 150 MHz (including the 25 MHz between 3450 and 3475 MHz) would be made available for assignment to persons willing and able to use it to provide commercial services.
33. Conversely, in service areas with three or four licensees, very little spectrum would be returned to ISED under Option 2 to be made available for future licensing. For example, in 4-048 St-Hyacinthe, each of Inukshuk, Xplornet and Sogetel would retain their existing amount of 50 MHz each while iTÉract would retain 20 MHz of its existing 25 MHz. In other words, only 30 MHz (25 MHz of which would in fact have been released by virtue of this consultation) would be available for future licensing. Under Option 1, 120 MHz would be made available.
34. Cogeco recommends that, at a minimum, ISED modify Option 1 by capping the amount that any one licensee can retain at 50MHz. In other words, for each licence area, existing licensees would be issued flexible use licences for one third of their current spectrum holdings rounded to the nearest 10 MHz, with a minimum of 20 MHz and a maximum of 50 MHz.
35. Cogeco considers that this approach would ensure that those existing licensees which are using the licensed spectrum to provide commercial services to

Canadians would retain sufficient spectrum to continue to provide those services, while at the same time it would maximize the amount available to be returned to ISED for future licensing to other persons able and willing to use it.

36. However, while ISED must reclaim some spectrum from incumbent licensees if it is to achieve its objectives, ISED must also ensure that it does not in effect encourage licensees to hoard spectrum.

37. Cogeco therefore also strongly urges ISED to ensure that, irrespective of which option is ultimately adopted, incumbent licensees in the 3500 MHz band be permitted to retain a portion of only that spectrum that they are actively using to provide services to customers. Where an incumbent licensee cannot demonstrate that they are providing real services to actual customers using licensed spectrum, as opposed to merely operating a transmitter, they must be required to return the spectrum in question before ISED determines how much of their remaining 3500 MHz band spectrum holdings they should be permitted to retain.

38. As Cogeco stated in its reply comments in the Spectrum Outlook Consultation,

Cogeco urges ISED to include in the future consultation on the 3500 MHz band (referenced in the 3500 MHz Decision and at paragraph 142 of the Consultation Document) consideration of how to determine whether prior use of the band was sufficiently “active” in order to be eligible for award of a new flexible use licence and of whether existing licences should be partially converted, as proposed by Shaw. While Cogeco recommends existing users be reasonably accommodated following re-allocation of the 3500 MHz band to flexible use, Cogeco does not consider it reasonable or in the public interest to reward an existing licensee who merely installed a few strategic transmitters in order to satisfy the letter of the population coverage requirements of its licence but who is not making commercial use of that spectrum by actively soliciting and serving customers with the spectrum.⁶

⁶ Cogeco Reply Comments, Spectrum Outlook Consultation, paragraph 29. See also Cogeco comments, Spectrum Outlook Consultation, paragraphs 28-29.

39. Cogeco notes that a number of other respondents in that consultation, representing a broad range of interests, expressed similar concerns.⁷

40. As Cogeco noted earlier, 3500 MHz band spectrum licences are mostly held by two companies, Inukshuk and Xplornet.

41. The results of Cogeco’s analysis of Inukshuk’s license holdings in four Tier 2 service areas are summarized in the following table:

	Population	Inukshuk MHz-pop % of Total available in Tier 2		Inukshuk Average MHz across Tier 2	
		min	max	min	max
2-004 Eastern Quebec	1,699,378	66%	74%	116	129
2-005 Southern Quebec	5,895,985	85%	85%	148	148
2-006 Eastern Ontario/Outaouais	2,435,880	55%	70%	96	123
2-008 Southern Ontario	10,609,746	85%	88%	149	153

42. Inukshuk clearly dominates licence holdings in the 3500 MHz band in these service areas, holding as much as 88% of the available licences (on a MHz-pop basis) in the 2-008 Southern Ontario service area.

43. It is not clear, however, whether this spectrum is in fact being used to provide real services to Canadians. Cogeco is aware of only two cases, in Alberta and Manitoba, where Inukshuk 3500 MHz band licences have been put to commercial use and, based on ISED records, these were through sub-leasing to other companies.⁸

44. It is worth recalling that spectrum licensed by ISED is intended to be used by licensees to provide commercial services to Canadians. Cogeco notes that the over-arching policy objective of ISED’s *Spectrum Policy Framework for Canada* is:

To maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource.

⁷ Cogeco Reply Comments, Spectrum Outlook Consultation, paragraphs 22-30.

⁸ Inukshuk subordinated a number of licences in Alberta to Corridor Communications Inc. on 1 September 2011 and on 22 May 2014, and subordinated a number of other licences in Manitoba to I-Netlink Incorporated on 22 May 2014 and 16 July 2015. See the list of *Divided and Subordinate Licences* at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08496.html>.

45. This objective cannot be achieved, and ISED's innovation agenda cannot be promoted, if large amounts of valuable spectrum are left fallow by licensees.

46. Equipment for the 3500 MHz band has been available for many years. However, Cogeco submits that it is not sufficient to install a few transmitters to cover an area nominally. Achieving ISED's policy objectives can only be achieved if the spectrum is put to actual commercial use.

47. Cogeco recommends therefore that ISED request from all 3500 MHz licensees, and from Inukshuk in particular, the number of its subscribers in each of the Tier 4 service areas for which they are licensed to use 3500 MHz spectrum. Cogeco also recommends that ISED request, for each such Tier 4 service area, the number of megabytes of data sent and received by the licensee's customers on a monthly basis. This information will assist ISED in determining whether the licensee has in fact made commercial use of its 3500 MHz spectrum – and helped to achieve ISED's policy objectives – or whether the licensee has been hoarding this valuable public resource.

48. By making certain the conversion of existing licences to new flexible use licences does not result in a windfall for those licensees who have failed to use their spectrum to date, ISED will be able to ensure that, where Canadians already receive services using the spectrum, they continue to do so, and, where they do not, the spectrum is re-allocated to other operators who are willing and able to deploy services using it. This, in turn, will greatly help ISED achieve its objectives, especially fostering innovation, investment and the evolution of wireless networks, and facilitating the deployment and timely availability of services across the country, including in rural areas.

49. In conclusion, Cogeco recommends that ISED:

- a. adopt Option 1, modified by capping the amount of spectrum that any one current licensee can retain at 50 MHz;
- b. reclaim spectrum which is not being used commercially to serve Canadian; and
- c. ensure spectrum is re-allocated to operators who are willing and able to deploy services using it.

Q7 — ISED is seeking comments on a revised band plan using unpaired blocks of 10 MHz in the frequency range of 3450–3650 MHz.

Q8 — ISED is seeking comments on whether any additional measures should be taken to limit potential interference issues with the proposed TDD band plan.

50. Cogeco supports the proposed band plan using unpaired blocks of 10 MHz in the 3500 MHz band (3450-3650 MHz). Blocks of that size can accommodate both smaller and larger operators by allowing them to aggregate the amounts of spectrum that best suit their specific technical and business plans.

51. Cogeco does not consider that additional measures to mitigate potential interference issues are necessary, but expects that ISED would encourage TDD network synchronization where required.

Q9 — ISED is seeking comments on the proposal to align the timing of the issuance of flexible use licences to incumbents with the issuance of licences to those who acquire 3500 MHz flexible use licences in a future licensing process.

52. Cogeco agrees with ISED's proposal to align the timing of the issuance of flexible use licences to incumbents with the issuance of licences to those who acquire 3500 MHz flexible use licences in a future licensing process. As ISED notes, incumbent licensees would otherwise have a significant competitive advantage over future competitors.

53. Cogeco notes that the proposed approach does not entirely remove the competitive advantage enjoyed by incumbent licensees. Incumbents are able to deploy and test their radio systems ahead of a new licensee, by testing fixed uses prior to being issued a flexible use licence and then enabling mobile use on the very first day they become eligible to use it. New licensees, on the other hand, are only able to deploy and test radio systems once they have obtained their licences, which means they will not be able to enter the market until months after the incumbents.

54. For this reason, issuing new flexible use licences to both incumbent and future licensees at the same time is the minimum restriction that ISED should apply in order

to encourage fair competition among those licensees. Cogeco encourages ISED to explore additional measures which could be applied to level the playing field.

Q10 — ISED is seeking preliminary comments on the importance of price discovery in a licensing process for flexible use licences in the 3500 MHz band.

55. Cogeco is of the preliminary view that price discovery is essential, given the proposed small size of the blocks in the 3500 MHz band, and given the different number of blocks which may be available in different service areas after incumbent licensees have been accommodated. Cogeco reserves the right to comment further on this subject in any future consultation on the licensing framework.

Q11 — ISED is seeking comments on the proposed protection and notification provisions for incumbent licensees as outlined below.

Protection period:

- For Tier 4 service areas that include a population centre of 30,000 people or more:
 - a minimum protection period of 6 months for sites within large urban population centres and the 10 km buffer zone surrounding those centres
 - a minimum protection period of 2 years for all other sites
- For all Tier 4 service areas that include a population centre of less than 30,000 people, a minimum protection period of 3 years

Notification period:

- a minimum notification period of 6 months in large urban population centres and in the 10 km buffer zone surrounding those centres
- a minimum notification period of 1 year in all other areas

Q12 — ISED is seeking comments on alternative transition plans, or variations to the times proposed. Respondents are asked to provide a rationale for any alternative proposals.

56. Cogeco agrees in principle with ISED's proposed protection and notification provisions for incumbent licensees, as these would reasonably accommodate existing users of spectrum in the 3500 MHz band.⁹

57. In Cogeco's view, however, the threshold of 30,000 people is too high. 64.5% of the Tier 4 service areas listed in Annex A of the Consultation Document do not include a population centre of at least 30,000 people. By definition, these service areas consist of small population centres and rural and remote areas. If ISED were to adopt this threshold, therefore, the 5.3 million people¹⁰ living in those small towns and rural and remote areas would be forced to wait at least three years before they could receive 5G services using the 3500 MHz band. This is unlikely to help ISED achieve its objective to "*facilitate the deployment and timely availability of services across the country, including rural areas.*"

58. Cogeco strongly believes that smaller municipalities should be eligible to benefit from 5G at the same pace as larger cities, particularly as these small municipalities are often served later with new technology by national incumbent mobile network operators and as there are regional providers willing to focus on these communities. As a regional provider with experience in these markets, Cogeco recommends therefore that the threshold be reduced to 15,000. This would increase the number of population centres to which the two-year protection period would apply, and correspondingly increase the number of Canadians who would benefit from 5G services, while it would still provide additional time for existing licensees to transition to the new licences and networks in the smaller population centres. Cogeco does not propose modifying the six-month transition period for large urban population centres and the 10 km buffer zone around them, as existing licensees in those population centres are likely to deploy 5G services there first and they are likely to face fewer challenges in making the transition.

59. Cogeco notes that the transition plan is designed to protect incumbents from having to adapt to the new band plan before they might be ready. It does not address however situations where the incumbents themselves might seek to

⁹ See Cogeco Reply Comments, Spectrum Outlook Consultation, paragraph 22.

¹⁰ Based on the Statistics Canada 2016 Census information included in Annex C to *Spectrum Licence Renewal Process for Advanced Wireless Services (AWS-1) and Other Spectrum in the 2GHz Range*, SLPB-001-18, published by ISED in 15 February 2018.

transition before the end of the proposed minimum protection and notification periods.

60. For example, an incumbent which did not put its prior spectrum holdings to active commercial use and, as a result, has no legacy customers to accommodate might choose to roll out new networks and services shortly after receipt of its new flexible-use licences. As currently drafted, the transition plan can be read as requiring other licensees to give notice and wait until the end of the protection period, notwithstanding that the incumbent has begun deploying its new networks. This would give the incumbent an unfair advantage over other licensees, even where they are issued their flexible-use licences at the same time as the incumbent.

61. To prevent this unfair situation, Cogeco recommends that ISED require incumbents to notify ISED and other licensees in the same Tier-4 service area as soon as those incumbents decide to introduce new 5G networks before the expiry of the applicable minimum protection period, and to waive the applicable minimum protection and notification periods at the same time. This approach would protect incumbents who want to continue operating their existing networks to serve their existing customers, and would provide a more level playing field for incumbents and other licensees who want to deliver 5G networks and services as soon as possible.

62. Cogeco also notes that it is more challenging for operators to achieve a reasonable return in service areas without population centres of 15,000 or more people and it can often take more time to reach the “break-even” point. A three-year delay on a 20-year licence in these less populated areas can have a significant effect on the business case for network deployment. Cogeco recommends that, in Tier-4 service areas without population centres of 15,000¹¹ or more people, the term of the new flexible-use licences be three years longer than the term of the new flexible-use licences in other Tier-4 service areas.

¹¹ Or 30,000, in the event ISED does not adopt Cogeco’s proposal.

Q13 — ISED is seeking comments on whether the fixed and mobile equipment for LTE and 5G technologies will be able to operate with intermittent interference from radars, including cross-border interference, within the 3450–3650 MHz band and in adjacent bands.

63. Cogeco does not have a specific view on this matter and looks forward to analyzing the comments of other respondents.

Q14 — ISED is seeking preliminary comments on how to optimize the use of the 3650–3700 MHz band, including the potential use of a database access model.

64. Cogeco notes ISED’s reference to “challenges” with respect to coordination between licensees in the 3650-3700 MHz band. Given the existing strong interest in that band to provide broadband services and the expected future interest in that band for commercial mobile use, Cogeco recommends that ISED begin examining in detail the feasibility of dynamic or database-driven sharing of spectrum in Canada.

65. A database access model for spectrum sharing may offer other advantages as well. While it would facilitate sharing where multiple operators seek to use the spectrum in the same area, as in the case of the 3650-3700 MHz band, it would also facilitate sharing where different operators seek to use the spectrum in different areas within the same Tier 4 service area. Annex B to the Consultation Document shows a number of Tier 4 service areas with grid cell licences covering a portion of the service area. These service areas are often more rural in nature, and a database access model could help other operators serve other portions of the service area, which would lead to more Canadians receiving services sooner in those rural areas.

Q15 — ISED is seeking comments on the importance of the 3700–4200 MHz band to future FSS operations.

Q16 — ISED is seeking comments on whether unlicensed operators in the 3700–4200 MHz band should be required to submit their technical parameters to ISED to assist in frequency management.

Q17 — ISED is seeking comments on which steps Canada should take to

optimize the use of the 3700–4200 MHz band in consideration of the current services being provided and the developing technologies that would permit the use of new services in this band (e.g. exclusion zones).

Q18 — ISED is seeking comments on the challenges and considerations related to the coexistence of other services, such as mobile and/or fixed wireless access, in the 3700–4200 MHz band.

66. There is a great need and high demand for spectrum for 5G. As ISED notes in section 5 of the Consultation Document, a number of countries around the world, including the US, the UK and Japan, are considering releasing the 3700-4200 MHz band for commercial mobile services. The need for the spectrum in this band is even more acute in areas where little spectrum in the 3500 MHz band will be reassigned following ISED's reclamation process. Cogeco therefore urges ISED to move as quickly as possible to make that band available in Canada for flexible use, so that Canada can maintain its competitiveness with other jurisdictions and be at the forefront of the evolution of 5G technology.

***** End of document *****