



Innovation, Science and Economic Development Canada

**Canada Gazette, Part I
Gazette Notice No. SLPB-004-18
Publication Date: 16 June 2018**

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

**Comments of the
Public Interest Advocacy Centre**

12 July 2018

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1. Introduction and Summary

1. The Public Interest Advocacy Centre (“**PIAC**”) is pleased to provide Innovation, Science and Economic Development Canada (the “**Department**”) with its comments on the *Consultation on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Consultation on Changes to the 3800 MHz Band*.¹
2. PIAC is a non-profit organization and registered charity that provides legal and research services on behalf of consumer interests, and in particular vulnerable consumer interests, concerning the provision of important public services. While PIAC operates in various federally and provincially regulated areas, it has represented Canadian communications users in telecommunications policy for the last thirty years. PIAC specializes in public interest advocacy related to telecommunications networks, telecommunications law and policy, broadcasting law and policy and access to communications services characterized with the goal of ensuring choice, equity, and affordability.
3. PIAC supports the Department’s proposals to allow flexible use in the 3500 MHz band. PIAC believes that the Department should deploy as much spectrum as possible in order to support the development of 5G technology in Canada while fostering a competitive marketplace that promotes affordable access to mobile broadband.
4. PIAC also submits that price discovery is an important element of the licensing process as it fosters competition and transparency in the mobile broadband market, and that flexible use licenses should be issued to incumbents and future licensees at the same time to prevent any unfair competitive advantage.
5. Finally, PIAC generally agrees that large urban centres should have shorter protection and notification timelines compared to their rural counterparts, and that doing so would encourage the deployment of 5G technologies to as many Canadians as possible while minimizing existing disruption delays and providing the necessary transition time for those in rural areas.
6. PIAC provides its answers to the Consultation Paper questions below. PIAC is not in a position to comment on technical Questions 1-2, 4, 7-8, 13-18 at this time, but reserves the right to reply to comments made by other parties on these questions.

¹ Innovation, Science and Economic Development Canada, *Consultation on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Consultation on Changes to the 3800 MHz Band* (June 2018), SLPB-004-18, online: ISED <[https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/3500-Consultation-2018-EN.pdf/\\$file/3500-Consultation-2018-EN.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/3500-Consultation-2018-EN.pdf/$file/3500-Consultation-2018-EN.pdf)>. [Consultation Paper]

2. Consultation Questions

Question 3. ISED is seeking comments on the proposal to allow flexible use in the 3450-3475 MHz band.

7. PIAC supports less restrictive and more flexible use in the 3450-3475 MHz band. PIAC believes this would benefit Canadian consumers.
8. In Telecom Regulatory Policy CRTC 2016-496, the CRTC found that “access to scalable broadband networks is essential as the digital economy in Canada expands” and that “today, broadband Internet access services are vital to Canada’s economic, social, democratic, and cultural fabric.”² The CRTC also established a universal service objective, namely that:

Canadians, in urban areas as well as in rural and remote areas, have access to voice services and broadband Internet access services, on both fixed and mobile wireless networks.³
9. Likewise, network providers will attempt to meet higher consumer demand. According to Cisco, 54% of all IP traffic in Canada occurred through wireline access, 42% occurred through Wi-Fi, and 4% occurred through mobile.⁴ Cisco projects that by 2021, 55% of IP traffic in Canada will occur through Wi-Fi, 38% will occur by wire, and 7% will occur by mobile.⁵ Evidently, the demand for broadband access is growing, and permitting more flexible use in the 3450-3475 MHz band would help to meet growing consumer needs and demand for broadband access.
10. PIAC believes that allowing flexible use in the 3450-3475 MHz band would also meet the objectives and guidelines set out in the Department’s *Spectrum Policy Framework for Canada*. In particular, Guideline (h) specifies that spectrum policy and management should permit the flexible use of spectrum.⁶
11. PIAC supports the Department in deploying as much spectrum as possible. In PIAC’s view, permitting flexible use in the 3450-3475 band would help achieve that goal. Not only are Canadians increasingly using broadband wireless Internet, but mobile

² Telecom Regulatory Policy CRTC 2016-496, *Modern telecommunications services – The path forward for Canada’s digital economy* (21 December 2016) at paras 19 and 21.

³ *Ibid* at para 37.

⁴ Cisco, “Canada - Device Growth Traffic Profiles,” *VNI Mobile Forecast Highlights, 2016-2021*, online: Cisco <http://www.cisco.com/c/dam/assets/sol/sp/vni/forecast_highlights_mobile/index.html#~Country> (accessed 17 March 2017).

⁵ *Ibid*.

⁶ ISED, *Spectrum Policy Framework for Canada* (June 2007), DGTP-001-07, online: ISED <[https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/\\$FILE/spf2007e.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/$FILE/spf2007e.pdf)> at p. 9.

broadband availability has steadily increased in Canada since 2012.⁷ The CRTC reported that as of 2016, LTE broadband technology, for example, was available in approximately 98% of households across Canada.⁸

12. By permitting flexible use in this band, the Department would be actively working towards the goals identified in the Consultation Paper, namely: enabling new technology and innovations to evolve, allowing existing services to continue, and supporting the growing demand for new services such as 5G services.⁹

Question 5. 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.

13. PIAC believes that Option 1 is the better approach for allowing existing licensees to continue services in the 3500 MHz band while providing additional stakeholders with an opportunity to acquire flexible use spectrum and facilitating the use of spectrum for future 5G technologies.
14. As the Department points out in its Consultation Paper, Option 1 would provide between 120 and 140 MHz of spectrum in each licensing service area for a future licensing process.¹⁰ Comparatively, Option 2 would provide only 50 to 150 MHz of spectrum in each licensing service area, meaning that under Option 2, less spectrum will be available for a competitive licensing process where multiple licensees exist.¹¹
15. While Option 1 would generally provide more spectrum to those with larger holdings, this option would also generate more competition and make more spectrum available for a competitive licensing process.¹²

⁷ Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report 2017* at p. 278. [CMR 2017].

⁸ *Ibid.*

⁹ Consultation Paper at para 36.

¹⁰ *Ibid* at para 47.

¹¹ *Ibid* at para 48.

¹² *Ibid* at para 47.

16. PIAC generally favours an approach that would generate more market competition, as more competition tends to create more favourable prices for consumers.
17. When speaking about the future of 5G in Canada, Minister Bains acknowledged the importance of competition in Canada's broadband market: "The guiding principle for us is more competition ... we fundamentally believe that more competition will drive down prices."¹³
18. In PIAC's view, Option 1 is more favourable to Option 2 because Option 1 would generate more competition and make more spectrum available for a competitive licensing process and availability of 5G services in Canada. This approach would also align with the Department's view towards market competition and its policy objective to maximize the economic and social benefits that Canadians derive from the use of spectrum.¹⁴

Question 6. 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.

19. At this time, PIAC does not have comments on alternative options for licensees to return spectrum to the Department, but reserves the right to reply to any comments made about these proposals and/or alternative options.

Question 9. 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.

20. PIAC supports the Department's proposal to issue all flexible use licences at the same time to both incumbents and new licensees of the 3500 MHz band, rather than issuing flexible use licences to incumbents prior to a future licensing process.
21. PIAC agrees that this proposed approach aligns with the Department's objective of supporting competition. Issuing all flexible use licences at the same time effectively 'levels the playing field' for new and future licensees since incumbents would be unable to deploy mobile services ahead of their future competitors.

¹³ David Paddon, "Canada to hold key 5G spectrum auction in 2020, says Innovation Minister Bains" (6 June 2018), online: CBC/Radio-Canada < <https://www.cbc.ca/news/business/5g-wireless-spectrum-auction-1.4694214>>.

¹⁴ Innovation, Science and Economic Development Canada (ISED), *Spectrum Policy Framework for Canada* (June 2007), DGTP-001-07, online: <[https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/\\$FILE/spf2007e.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/$FILE/spf2007e.pdf)> at p. 8.

22. In PIAC's view, by ensuring that all licensees enter the market at the same time, this proposed approach fosters competition, which should benefit Canadian consumers.

Question 10. ISED is seeking preliminary comments on the importance of price discovery in a licensing process for flexible use licences in the 3500 MHz band.

23. PIAC supports the Department in launching a new consultation following this one that will focus on a technical, policy, and licensing framework for flexible use licences in the 3500 MHz band.¹⁵
24. PIAC also supports the Department's preliminary view that an auction will likely be selected as the optimal licensing process.¹⁶ While PIAC does not know what specific kind of auction the Department may propose, PIAC would support a combinational clock auction format as it should lead to the most efficient allocation of spectrum licenses that should benefit competition and consumers.
25. In PIAC's view, a combinational clock auction would promote price discovery in the auction process. To ensure truthful bidding, this auction format makes use of Vickrey-nearest-core pricing, which minimizes bidders' "total payments subject to competitive constraints."¹⁷ To ensure truthful bidding, an activity rule referred to as 'revealed preference' would be used. This rule encourages bidders to bid in the "straightforward manner of selecting the most profitable package in each round,"¹⁸ and anonymous bidding would eliminate tacit collusion.
26. While PIAC notes that price discovery may slightly lengthen the conducting of an auction,¹⁹ PIAC submits that the benefits to be gained by including price discovery outweigh any delay that might occur.
27. In PIAC's view, price discovery is an important aspect of the licensing process because it would encourage and facilitate transparency in the auction, which in turn holds incumbents and prospective licensees more accountable to consumers.
28. Furthermore, including price discovery in the licensing process would align with Guideline (e) set out in the Department's *Spectrum Policy Framework for Canada*, which

¹⁵ Consultation Paper at para 59.

¹⁶ *Ibid.*

¹⁷ Peter Cramton, "Spectrum Auction Design" (15 April 2012), online: <<http://www.cramton.umd.edu/papers2005-2009/cramton-spectrum-auction-design.pdf>> at p. 15.

¹⁸ *Ibid* at p. 5.

¹⁹ Consultation Paper at para 61.

states that “Regulation should be open, transparent and reasoned, and developed through public consultation, where appropriate.”²⁰

29. Price discovery would strengthen competition in the wireless market for spectrum, and would therefore work to provide consumers with cost-effective services and/or products. This would further align with the Department’s policy objective “to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource,”²¹ as stated in its *Spectrum Policy Framework for Canada*.

Question 11. 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**
30. PIAC supports the Department’s approach to prioritize 5G mobile services in large urban population centres.²² PIAC agrees that 5G services will likely be deployed more quickly in large urban areas compared to rural areas, and as such, requires shorter protection and notification periods.
31. In PIAC’s view, this approach aligns with the Department’s enabling guidelines set out in the *Spectrum Policy Framework for Canada*, which states: “(h) Spectrum policy and management should support the efficient functioning of markets by: [...] making spectrum available for use in a timely fashion.”²³
32. By prioritizing large urban population centres, PIAC generally agrees that the proposed protection and notification provisions would expedite transition to 5G in urban areas,

²⁰ ISED, *Spectrum Policy Framework for Canada* (June 2007), DGTP-001-07, online: <[https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/\\$FILE/spf2007e.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/$FILE/spf2007e.pdf)> at p. 9.

²¹ *Ibid* at p. 8.

²² Consultation Paper at para 62.

²³ ISED, *Spectrum Policy Framework for Canada* (June 2007), DGTP-001-07, online: <[https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/\\$FILE/spf2007e.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/$FILE/spf2007e.pdf)> at p. 9.

while minimizing the disruption of existing services and allowing rural licensees additional time to move to new frequencies.

Question 12. ISED is seeking comments on alternative transition plans, or variations to the times proposed.

33. At this time, PIAC does not have comments on alternative transition plans or variations to the times proposed, but reserves the right to reply to any comments made about these proposals and/or alternative plans.

5. Conclusion

34. PIAC supports the Department's ongoing consultation and a flexible use policy in the 3500 MHz band. PIAC supports the Department in deploying as much spectrum as possible so that 5G technology can be deployed to Canadians in a way that fosters competition and promotes access to mobile broadband.
35. PIAC also submits that price discovery is an important element of the licensing process as it fosters competition and transparency in the mobile broadband market, and that flexible use licenses should be issued to incumbents and future licensees at the same time in order to prevent incumbents from exercising an unfair competitive advantage over their future competitors.
36. Finally, PIAC submits that large urban centres should have shorter protection and notification timelines compared to their rural counterparts, and that doing so would encourage the deployment of 5G technologies to as many Canadians as possible while minimizing existing disruption delays and providing the necessary time for those in rural areas to transition to 5G technology.
37. PIAC thanks the Department for the opportunity to participate in this consultation and looks forward to reviewing and responding to comments provided by other parties in this process.

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