

Comments of Shaw Communications Inc.

**Consultation on a Licence Renewal Process for
Advanced Wireless Services and Other Spectrum**

***Canada Gazette*, Part I, June 17, 2017, Notice No. SLPB-002-17**

July 25, 2017

I. INTRODUCTION

1. The following constitutes the initial comments of Shaw Communications Inc. (“Shaw”) to Innovation, Science and Economic Development Canada (the “Department”) in connection with the proceeding initiated by *Consultation on a Licence Renewal Process for Advanced Wireless Services and Other Spectrum*, Notice No. SLPB-002-17 (the “Consultation Document”).
2. As a newcomer to the wireless industry, Shaw is pleased to be participating in this proceeding and looks forward to reviewing the comments of others. At the outset, we highlight the importance of this proceeding. The Government’s innovation and economic growth agenda depends on the availability of choice among competitive, dynamic telecommunications services that are responsive to the needs of Canadian consumers and businesses. These objectives are reflected in the Minister of Innovation Science and Economic Development’s mandate¹ to help Canadian businesses grow, innovate and export, while keeping Canada at the leading edge of the digital economy through support for competition, choice and availability of services, and fostering a strong investment environment for telecommunications.
3. These objectives are also reflected in the Government’s Innovation and Skills Plan² which seeks to promote innovation-led growth across all sectors of the Canadian economy. Commercial mobile spectrum, including the spectrum that is the subject of this consultation, is a key enabler of innovation-led growth. As noted in the Consultation Document, this spectrum “supports the development of Canada’s digital economy and the aims of the Innovation and Skills Plan by enabling Canadians to participate in the digital economy. This spectrum also allows Canadian companies to take advantage of the latest technologies to better compete globally.”
4. In this proceeding, the Department has established the following objectives for the renewal of AWS-1 and other spectrum:
 - to foster innovation and investment
 - to support sustained competition so that consumers and businesses benefit from greater choice and
 - to facilitate deployment and timely availability of services across the country, including rural areas.³
5. Shaw supports these objectives and notes, in particular, that the second objective, namely to “support sustained competition so that consumers and businesses benefit from greater choice”, is

¹ <http://pm.gc.ca/eng/minister-innovation-science-and-economic-development-mandate-letter>

² <http://www.ic.gc.ca/eic/site/062.nsf/eng/home>

³ Consultation Document, para. 5.

particularly relevant to the spectrum licences that are the subject of this proceeding. All Canadians, including those in densely populated urban areas as well as those in smaller communities and rural and remote areas, deserve to have a choice of wireless service provider, even if that may be more challenging or may take longer to achieve.

6. Almost ten years ago, the Department held an auction for commercial mobile spectrum in the AWS-1, G Block and I Block bands which was designed with the specific intention of promoting competition in Canada's mobile wireless market. Indeed, as part of that design, the Department took the important step of establishing a "spectrum set aside" to ensure that the incumbents who also participated in the auction did not end up with an undue concentration of the auctioned spectrum. Through this mechanism, several new competitors, including Freedom Mobile (previously WIND), acquired their first, and for several years, their only spectrum licences. Even with recent additions to Freedom's spectrum portfolio, the AWS-1 licences remain much more important to Freedom than they do to the incumbents, given that these licences represent a much more significant portion of our spectrum holdings.
7. The policy objective that drove the 2008 spectrum auction is still relevant in today's mobile wireless market and is reflected in the objectives established by the Department for this proceeding, including the need "to support sustained competition so that consumers and businesses can benefit from greater choice."
8. As discussed more fully below, it is against this backdrop that the Department should evaluate the licence renewal process for AWS-1, G Block and I Block spectrum. Consistent with the mandate of the Department and the Minister, Shaw strongly encourages the Department to be mindful throughout this Consultation of how important competition, customer choice and efficient investments are to Canadian consumers and businesses, as well as to the future of Canada's economy. The Department should approach its determinations in this proceeding with full consideration of the circumstances of all competitors and the impact of its decisions on the prospects for competition in all areas of the country. In this regard, the stakes in this proceeding are much higher for Shaw than they are for our incumbent competitors. In Shaw's view, the stakes in this proceeding are also very high for the future of competition in Canada.

II. POLICY AND MARKET BACKGROUND

9. The 2007 Spectrum Policy Framework for Canada (the "SPFC") establishes the principles that the Minister of Innovation, Science and Economic Development relies on in exercising his duties under the *Radiocommunication Act*. With the overall objective of maximizing "the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource," the SPFC sets out enabling guidelines for the Department's spectrum management activities.

Among other factors, these guidelines emphasize the importance of market forces and the efficient functioning of markets in managing the spectrum resource as well as transparent regulation, responsiveness to changing technology and marketplace demands, and clarity in the obligations and privileges conveyed in spectrum authorizations.⁴

10. At the same time, in exercising his mandate under the *Radiocommunication Act*, the Minister and the Department are guided by the policy objectives of the *Telecommunications Act*,⁵ which include the orderly development of telecommunications throughout Canada, as well as enhancing the efficiency and competitiveness of Canadian telecommunications and the affordability of telecommunications services for Canadians. Indeed, the policy framework that was established by the Department for the 2008 spectrum auction specifically noted that the renewal process for the licences that were included in that auction will include consideration of “whether renewal in whole or in part supports the orderly development of radiocommunication in light of the policy objectives of the *Telecommunications Act* given known future factors, pressures and the spectrum environment.”⁶
11. Among the various principles, guidelines and objectives that the Department must consider as part of its mandate to manage scarce spectral resources in the public interest, competition, market forces and efficient deployment are key factors. This is also reflected in the Minister’s mandate letter, which highlights competition and choice, as well as the importance of a strong investment environment for telecommunications services to keep Canada at the leading edge of the digital economy.⁷ Affordability is another important factor. Competition is the key driver of affordability. This was recently recognized by the Competition Bureau which concluded, based on market evidence, that in areas of the country where the wireless incumbents “face competition from a strong regional competitor, prices are substantially lower.”⁸

Competition is a Key Factor in this Consultation

⁴ *Spectrum Policy Framework for Canada*, DGTP-001-07, June 2007, p. 8.

⁵ *Ibid*, p. 9.

⁶ *Policy Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range*, November 2017, p. 10, hereinafter referred to as the “Policy Framework” and, along with the *Licensing Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range*, December 2007, and the [Responses to Questions for Clarification on the AWS Policy and Licensing Frameworks](#), February 2008, is collectively referred to herein as the “Licensing Framework”.

⁷ <http://pm.gc.ca/eng/minister-innovation-science-and-economic-development-mandate-letter>

⁸ The Bureau conducted a thorough pricing analysis as part of its *Statement Regarding Bell’s Acquisition of MTS* and found that mobile wireless pricing is substantially lower in areas that have a strong regional competitor (<http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04200.html>)

12. Real, sustainable, facilities-based competition, including in rural areas, is crucial to achieving the Government's innovation and economic growth agenda and must therefore figure prominently in the Department's determinations in this proceeding.
13. Shaw is a new competitor to the wireless sector. We completed our acquisition of WIND (now Freedom Mobile) just last year. In the short time since that acquisition, we have made significant investments in network upgrades, including the launch of our LTE-Advanced network in Calgary, Edmonton, Vancouver, Toronto and Ottawa. These investments were essential for us to keep competing against the wireless incumbents in those markets. In addition, we will spend nearly \$800 million to purchase and deploy the 700 MHz and 2500 MHz licences recently acquired from Videotron. However, even with these additional licences, Shaw has significantly less, and significantly less diverse, spectral holdings in comparison with the incumbents.
14. The substantial difference between Shaw's low-frequency spectrum holdings and those of the incumbents has a profound impact on our relative costs of deployment, particularly outside of densely populated urban centres. In building out wireless networks in remote areas, it is prudent and cost-effective to lead with lower frequency spectrum bands, such as cellular or 700 MHz spectrum. Further, low-frequency spectrum is essential to allow customers to receive wireless service inside buildings in both urban and remote areas. Prior to this month, Shaw had no low-frequency spectrum and, even with our very recent acquisition of 700 MHz spectrum, we still have significantly less low-frequency spectrum, as compared to the wireless incumbents. Network builds also take significant periods of time, as a result of the permitting, negotiation and design considerations involved with radio antenna site acquisitions, which can take years. Given the importance of competition and orderly deployment to the Department's mandate, all of these considerations are highly relevant to the issues raised in the Consultation Document.
15. As noted above, one of the core policy objectives of the 2008 spectrum auction was to promote facilities-based competition in the wireless market. The only significant players at that time were the national incumbent wireless carriers (Bell, Rogers, Telus) and the regional players SaskTel and MTS, the latter of which was recently acquired by Bell. Several new entrants succeeded in acquiring licences, including Freedom Mobile (previously WIND) which spent nearly half a billion dollars through a highly competitive process.
16. In the years following the auction, WIND faced numerous challenges to its deployment plans. For most of the duration of its AWS-1, I-Block and G-Block licence terms, WIND has been significantly capital-constrained, with limited revenue sources to fund deployments. In the early years, in particular, the lack of capital was due to the costs of acquiring the spectrum through the auction and the considerable uncertainty surrounding regulatory, judicial and Cabinet reviews of WIND's ownership structure. In addition, WIND could not secure reasonable terms and

conditions, including rates, for wholesale roaming services from the incumbents. Nor could it gain timely access to reasonable antenna tower and site sharing arrangements. Mobilicity and Public Mobile were confronted with similar challenges and were ultimately acquired by incumbents through acquisitions and insolvency processes. In short, the challenges for new entrants in the early years were significant and largely outside of their control.

17. In fact, a few years following the issuance of the licences, the Department recognized the need to intervene and modified the rules for roaming and tower sharing following a fulsome consultation process. Parliament also intervened by legislating interim roaming rates, pending a CRTC review of the roaming framework. During the same period, the CRTC also intervened by ordering the cessation of unjust roaming practices by the incumbents, setting a new wholesale roaming policy, and ordering the incumbents to file tariffs for cost-based roaming rates.
18. The wireless incumbents had a very different experience than the new entrants during the years following the AWS spectrum auction. By that point, the incumbents had been providing mobile wireless services for over 20 years using cellular and PCS spectrum obtained primarily through comparative selection and review processes. They did not have to undertake the substantial financial costs of acquiring spectrum through competitive auctions in the same way that the AWS new entrants did. Unlike the AWS new entrants, the wireless incumbents had an existing revenue stream from an established wireless business to finance their spectrum acquisitions and deployments. Furthermore, the wireless incumbents had the flexibility to pursue timely and efficient deployments of their AWS-1 spectrum because they had an existing network built with a portfolio of diverse and substantial spectrum, including highly valuable low-frequency spectrum that significantly enhances the economics of network deployments in less urban areas.
19. Notwithstanding the challenges of entering the Canadian wireless market and the ongoing uncertainties in the regulatory environment, Freedom is beginning to emerge as a competitive rival in several markets across the country. It is only very recently that Freedom has gained the stability of committed ownership, through Shaw's acquisition of WIND for \$1.6 billion last year. As Shaw takes the reins, Freedom Mobile's goals will continue to evolve in line with the needs of Canadians.
20. Shaw is clearly committed to positioning Freedom as a strong alternative to the incumbents in markets across Western Canada and in Ontario. However, we still face significant barriers to providing the competitive discipline that we are willing to offer and that Canadian consumers need and want. For example, Shaw does not have access to the same spectral resources as the incumbents, and we continue to face uncertainty over mandated wholesale roaming rates, which remain subject to review by the CRTC.

Efficient Deployment Will Provide World-Leading Network Infrastructure

21. Shaw acknowledges the importance of putting spectrum to use, and encourages the Department to provide incentives against spectrum hoarding. Shaw agrees that spectrum is a valuable public resource and that the public should enjoy the benefits of that spectrum in a timely fashion.
22. Indeed, the Department's approach must promote investment in world-leading network infrastructure and efficient deployment, which drives innovation and provides an enhanced consumer experience. The Department and the Government have recognized the critical importance of digital infrastructure, including wireless networks, and the role that it plays in connecting Canadians and creating economic opportunities. For example, in his June 5th speech at the Telecom Summit, the Minister stated that the Government recognizes the importance of investments to deliver world-leading networks and the need for continued facilities-based investment.⁹
23. Shaw is fully committed to driving competition, innovation and affordability by continuing to build out its network with a view to offering consumers a real alternative through an innovative world-leading converged network. Shaw will continue to invest hundreds of millions of dollars in deploying its spectrum, including in areas outside of the large cities. Shaw is naturally driven to invest in this deployment in order to generate a return against its investment of well over \$2 billion in its wireless business over the last 18 months.
24. However, for the sake of the connectivity experience of our customers, we must build our networks in the most efficient way possible, using the most current technologies and techniques, and in a way that is responsive to consumer needs and the realities of the marketplace. It would hurt consumers, competition and the digital economy to rush deployments for the sole purpose of meeting a regulatory requirement that does not reflect conditions in the market, including the circumstances of new competitors.

III. SHAW SUPPORTS A BALANCED APPROACH TO RENEWAL

25. As described above, the renewal consultation for the AWS-1, G Block and I Block spectrum must take into account the state of the market, the ongoing need to promote sustainable competition, as well as the imperative to deploy networks efficiently and in accordance with the dynamics of the marketplace. These factors are essential to ensure an enhanced consumer experience and to meet the needs of the evolving digital economy. The Department cannot regulate based on the

⁹ The Honourable Navdeep Bains, PC, MP, Minister of Innovation, Science and Economic Development, 2017 Canadian Telecom Summit, June 5, 2017, available online: https://www.canada.ca/en/innovation-science-economic-development/news/2017/06/2017_canadian_telecomsummit.html

needs and capabilities of the wireless incumbents alone, who have been in the market for decades and hold significant amounts of spectrum, a substantial proportion of which they did not have to pay for.

26. With respect to implementation of spectrum usage going forward, Shaw supports a shift to a firm requirement from the “target” used in the current licence conditions. Shaw also supports the Department’s “Option 1” deployment requirement as described in the Consultation Document at the Tier 3 level. This will drive network builds much deeper into licensed serving areas before the mid-point of the renewal term. It also aligns with the deployment conditions that have been established by the Department for AWS-3 spectrum, which shares similar propagation characteristics with spectrum in the AWS-1 band.
27. Shaw opposes the “Option 2” proposal, which contemplates deployment obligations at the Tier-4 level. Option 2 is not well-suited to the technical nature of the spectrum covered by this Consultation. Adopting Option 2 will also result in significant challenges for new competitors, particularly those such as Shaw that are willing to commit capital and other resources to provide an alternative to the wireless incumbents outside of the large cities. Our network investments in less densely populated areas must be economically and technologically efficient in order to provide Canadian consumers and businesses in those areas with an alternative for high-quality, reliable and innovative wireless connectivity services. Option 2 will force hasty, less advanced deployments.
28. Shaw does not currently have sufficient low-band spectrum in order to offer the same level of in-building signal quality and/or to efficiently cover rural areas as the wireless incumbents, which enjoy a significant spectrum advantage in this regard. As a result, Shaw’s overall cost of network deployment in less urban areas is much higher than the costs of the incumbents. Option 2 will not only disadvantage Shaw in its deployments outside of major cities, it will also put more onerous financial pressure on our business generally, undermining our ability to invest and compete in all markets across Canada. In this regard, Option 2 is inconsistent with the objective of promoting competition and the Minister’s mandate to enhance choice, innovation and affordability in wireless markets.
29. Regarding eligibility for licence renewal, the Department must apply the considerations that were specifically enumerated at the time the licence conditions for AWS-1, G Block and I Block spectrum were first established. Unlike other spectrum licences which have a firm deployment “requirement”, the licences that are the subject of this consultation contain spectrum implementation “targets”. Shaw fully agrees that the Department should consider the deployment of spectrum, and the extent to which the targets have been met, as part of the renewal process. However, to be consistent with the language and determinations of the Department at the time

the licence conditions were finalized, the Department must also take into account other factors, including the need to continue promoting sustainable competition that will enhance customer choice, and to support efficient deployment that will improve the quality and reliability of the consumer experience. As part of these considerations, the Department must assess the impact on competitive entry in licence areas if new competitors lose their licences even if they have partially deployed their spectrum or designated the spectrum for imminent deployment. Denying renewal in these circumstances would undermine the Minister's mandate, the policy objectives and principles of this proceeding and the SPFC and run directly counter to the objectives of the 2008 spectrum auction.

IV. RESPONSES TO THE SPECIFIC QUESTIONS RAISED IN THE CONSULTATION DOCUMENT

30. Set out below are Shaw's responses to the specific questions posed by the Department in the Consultation Document.

A. ISED invites comments on the assessment of the AWS-1, G Block and I Block equipment ecosystems.

31. As discussed above, at the time of the 2008 spectrum auction, Bell, Rogers, Telus, SaskTel, and MTS, were the only major service providers in Canada's mobile wireless market. They enjoyed established hand-set and equipment ecosystems for multiple bands as well as vendor supply arrangements. In contrast, the AWS new entrants were entirely dependent on the equipment ecosystem for AWS-1, G Block and I Block spectrum and the user devices that could operate on this spectrum. In the years following the 2008 auction, this raised challenges for the new entrants. Access to a rich variety of devices, including Apple's iconic iPhone, have not been made available to new entrants in the same timeframe as the incumbents.

32. Shaw is not aware of any equipment ecosystem that has developed for the I Block band, nor does it know of any commercial mobile devices capable of operating in this band. The lack of such an ecosystem makes the development of spectrum in this band practically impossible at this time.

B. ISED invites comments on the proposal to renew AWS-1, G Block and I Block licences that have met their conditions of licence.

33. Shaw generally agrees with the Department's proposal to renew AWS-1, G Block and I Block licences where their conditions have been met, subject to the following comments and observations.

34. In Shaw's view, because the Department chose to establish spectrum implementation "targets" for AWS-1, G Block and I Block licences (as distinct from firm deployment requirements), the

Department should consider the achievement of these targets alongside other relevant factors in order to determine eligibility for renewal.

35. At paragraph 18 of the Consultation Document, the Department states that it proposes to renew licences “where the licensee can demonstrate that they are in compliance with all licence conditions, including deployment.” The Department further states that:

It is proposed that deployment will be considered met where the licensee can demonstrate that they are actively providing commercial mobile wireless services with their licence to at least the levels set out in appendix C of the Licensing Framework. Licences with deployment below that level will not be eligible for a new long-term spectrum licence under the renewal process.¹⁰

36. The Consultation Document seems to imply that if a deployment target has not been reached, then the licensee has not “met” its conditions of licence. However, a “target” is not the same thing as a concrete deployment “requirement”. The Oxford English Dictionary defines a “target” as “*an objective or result towards which efforts are directed.*”¹¹ Accordingly, the inability to reach a “target” to which efforts may be directed (but not necessarily achieved) should not be treated in the same fashion as the failure to meet a specific “requirement”.
37. The Department’s choice of the word “target” in the Policy Framework for the 2008 spectrum auction cannot be disregarded, particularly when the language of the SPFC is taken into account. This latter document states that spectrum policy and management should support the efficient functioning of markets by “clearly defining the obligations and privileges conveyed in spectrum authorizations”.
38. The Department has established firm deployment requirements for other spectrum licences. Therefore, the use of the word “target” in the licences that were made available in the 2008 spectrum auction must have been intended by the Department. Shaw is certainly not aware of this word being used in any other spectrum implementation condition of licence either prior to, or subsequent to, the 2008 auction.
39. As noted above, a “target” creates a very different set of expectations, as compared to a requirement. It would be unfair and an arbitrary change to the licence conditions to ignore the use of the word “target” or substitute it with a different meaning. The Consultation Document’s characterization of the implementation targets as a firm requirement is not a reasonable interpretation of this licence condition. In fact, a review of the Department’s Policy Framework for

¹⁰ Consultation Document, para. 18.

¹¹ Oxford English Dictionary, online: <https://en.oxforddictionaries.com/definition/target>

the auction of this spectrum indicates that the Department specifically turned its mind to this issue, but rejected the notion of specific deployment requirements, other than with respect to licensees seeking to become “national new entrants”.¹² In making this determination, the Department noted that the use of “targets” as opposed to specific roll-out obligations would allow licensees to better respond to market factors in making build-out decisions for their networks:

*Taking into account the overall policy framework for this auction, and the stated intentions of both incumbents and new entrants, the department is of the view that specific roll-out obligations are appropriate only in relation to roaming provisions for national new entrants. Allowing general flexibility in this respect will enable winning bidders to respond to market factors in determining infrastructure build-out decisions.*¹³

40. This contrasts with the deployment conditions that are contained in other commercial mobile spectrum licences, such as those in the 700 MHz, AWS-3 and 2500 MHz bands, which are not worded or described in the same fashion. These latter licences contain a condition of licence which explicitly makes spectrum deployment an actual “requirement” of the licence, as distinct from the 2008 “target” that was ostensibly designed for purposes of assessing eligibility for the roaming provisions for national new entrants (which ultimately became a moot point because of revisions to the rules for mandated roaming). Specifically, the licences that were issued by the Department for AWS-3 spectrum contain the following deployment “requirement”:

Deployment Requirements

*Licensees will be required to demonstrate to the Minister of Industry that this spectrum has been put to use as specified in Annex E of SLPB-007-14, Technical, Policy and Licensing Framework for Advanced Wireless Services in the Bands 1755-1780 MHz and 2155-2180 MHz (AWS-3) within eight years of the initial issuance of the licence. When the spectrum is put to use, it shall be used to provide services predominantly to Canadians within the service area*¹⁴. [Emphasis added]

41. It is clear from the foregoing that the licences for AWS-1, G Block and I Block licences do not contain firm or mandated deployment requirements. Instead, they contain an “implementation of spectrum usage” condition of licence that references certain deployment “targets” which the

¹² *Policy Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range*, Notice DGTP-007-07, 28 November 2007, p. 10.

¹³ *Ibid.*

¹⁴ *Technical, Policy and Licensing Framework for Advanced Wireless Services in the Bands 1755-1780 MHz and 2155-2180 MHz (AWS-3)*, SLPB-007-14, 18 December 2014, Annex D.

Department stated it would take into account in considering the eventual renewal of these licences.¹⁵

42. In Shaw's view, because the Department chose not to establish firm deployment requirements for AWS-1, G Block and I Block licences, it is entirely open to the Department to determine how much weight should be given to the achievement of these targets and whether other factors should be taken into account when considering renewal of the licences. In this regard, it is important to remember that the licences that are the subject of this proceeding were the very first commercial mobile spectrum licences that were made available to new competitors after a lengthy period of consolidation in the market. In fact, the 2008 spectrum auction was designed with the specific objective of promoting additional competition in the market. However, the new competitors that emerged from the auction faced several barriers to entry and, as a consequence, were not able to ramp-up services in the time frames that they had originally planned.
43. One of the principal barriers to entry that was encountered by new entrants in the market was the problem of negotiating reasonable rates, terms and conditions for wholesale roaming with the incumbents as well as continuous delays in gaining access to the incumbents' tower and antenna sites. In fact, these problems became so pronounced in the years after the auction that the Department, the CRTC and even Parliament were required to intervene in order to remedy the situation.
44. For instance, in 2012, the Department initiated a proceeding to reconsider its rules for mandatory roaming and tower and site sharing, noting that it has taken "*a considerable amount of time*" for new entrants to conclude roaming agreements with the incumbents and that their experience in negotiating tower sharing arrangements was even "*less successful, considering the number of agreements negotiated and the time that it has taken to reach those agreements.*"¹⁶ The upshot of this proceeding was that the Department decided to make a number of important amendments to its rules for mandatory roaming and tower and site sharing. However, it took a total of five years after the 2008 spectrum auction before these changes were made.
45. For its part, the CRTC conducted a fact-finding exercise on wholesale roaming arrangements which led to a determination that Rogers had unjustly discriminated against WIND (now Freedom Mobile) by levying excessive roaming rates and imposing other unreasonable terms and conditions of service. The CRTC then initiated a broader consultation to consider the market for wholesale roaming services which culminated in a finding that the incumbent wireless carriers

¹⁵ *Ibid.* See also *Licensing Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range*, 22 December 2007.

¹⁶ *Proposed Revisions to the Frameworks for Mandatory Roaming and Antenna Tower and Site Sharing*, March 2012, DGSO-001-12, para. 9.

exercised market power in the provision of wholesale roaming services and, as a consequence, these services should be subject to rate regulation and mandatory tariffs. Since that time, the CRTC has been engaged in a process of reviewing the rates, terms and conditions of the wholesale roaming services offered by the incumbent wireless carriers with a view to ensuring *“sustainable competition that provides benefits to Canadians, such as reasonable prices and innovative services, as well as continued innovation and investment in high-quality mobile wireless networks.”*¹⁷

46. In the meantime, Parliament intervened in the market by taking the unusual step of amending the *Telecommunications Act* in 2014, in order to establish interim roaming rates pending the CRTC's review of the regulatory framework for wholesale roaming.
47. As noted above, the CRTC's review of the wholesale roaming rates of the incumbents is ongoing, with the result that there is still uncertainty over roaming rates in the marketplace.
48. It is important to bear in mind that new entrants had no control over these barriers to entry – they were caused by factors that were entirely external to them. Yet, they had a tremendous impact on their deployment plans, making it difficult for them to proceed with their roll-out plans.
49. It is also important to bear in mind that, even if these barriers to entry had not existed, not all competitors emerged from the 2008 spectrum auction on the same footing. At the time of the auction, the incumbents had been providing mobile wireless services for over 20 years and were well established in the market both in terms of their network deployment and market share. By contrast, the new entrants that participated in the auction did not hold any commercial mobile spectrum prior to the auction and therefore, they did not have a pre-existing network on which they could “add” their new spectrum nor did they have a base of customers or source of wireless revenues from which they could finance their network roll-out programs. These are important factors to consider when determining the relative ability of various licence holders to achieve the spectrum implementation usage targets specified in their licences.
50. A final factor to take into account when considering eligibility for licence renewal is the state of the equipment ecosystem for the spectrum that is the subject of the licence. As noted above, there is no equipment ecosystem for spectrum in the I Block at the present time which makes deployment in this band a practical impossibility.

¹⁷ *Regulatory framework for wholesale mobile wireless services*, Telecom Regulatory Policy CRTC 2015-177, 5 May 2015. See also *Wholesale mobile wireless roaming service tariffs – Final terms and conditions*, Telecom Decision CRTC 2017-56, 1 March 2017.

51. Taking these considerations into account, Shaw believes that achievement of the spectrum implementation targets that were established for AWS-1, G Block and I Block licences is an important consideration in the renewal of a given licence, but it is not the only consideration. Carriers that have not deployed their spectrum and have no actionable plan to do so do in the near term should not have a high expectation that their licences will be renewed. However, licensees that are in the midst of deployment or have imminent, actionable business plans and dedicated budgets to deploy the spectrum in satisfaction of the targets, should be considered for renewal on the condition of meeting the targets within a specified, reasonable period of time. In these circumstances, a conditional short renewal would be appropriate for AWS-1 and G Block spectrum. Once the original targets have been satisfied, licensees should be eligible for renewal for the balance of the full twenty-year term. With respect to I Block licences, given the lack of an equipment ecosystem for this spectrum, Shaw supports the shorter renewal term that has been proposed by the Department for these licences in the Consultation Document. For clarity, Shaw's proposal in this regard would apply to all licensees.
- C. ISED invites comments on the likely timeframe for availability of equipment capable of providing access to licensed spectrum on an opportunistic basis
52. In the Consultation Document, interested parties are invited to comment on the likely timeframe for the availability of equipment capable of providing access to licensed spectrum on an opportunistic basis. It is not entirely clear, however, what specific proposals are being contemplated by the Department for opportunistic access to licensed spectrum in the AWS-1, G Block and I Block bands. Without further details on such a proposal, Shaw is not in a position to provide further comments on this issue. Once Shaw has had the opportunity to review the initial submissions of other parties in this proceeding, Shaw may be in a position to provide further comments on this issue in the reply stage of this proceeding.
- D. ISED invites comments on the proposal to renew **AWS-1** and G Block licences that have complied with their conditions of licence for a new term of 20 years and I Block licences that have complied with their conditions of licence for a new term of 10 years.
53. Shaw supports the Department's proposed licence terms of 20 years for AWS-1 and G block licences and 10 years for I Block licences. In the case of the AWS-1 and G Block licences, a 20 year term is appropriate and consistent with the conditions for 700 MHz, 2500 MHz, and AWS-3 licences. In the case of I Block licences, the 10-year term is appropriate given the uncertainty surrounding the equipment ecosystem for this spectrum as noted in the Consultation Document.
- E. ISED invites comments on the proposal to apply deployment levels at the **Tier 4** population coverage level, within eight years of the new licence term, as described above and provided in **annex C**, to the **AWS-1** and G Block licences issued through the renewal process.

- F. ISED invites comments on whether or not the proposed Tier 4 deployment option should apply to I Block licences issued through the renewal process.
- G. ISED invites other proposals for deployment requirements for the **AWS-1**, G Block and I Block licences issued through the renewal process.
54. Shaw encourages the Department to implement clear and appropriate incentives to deploy spectrum which take into account the technical characteristics of the spectrum, the conditions of the market and the deployment aspirations of all competitors, not just the incumbents. Accordingly, Shaw supports the Department's proposed shift from spectrum implementation "targets" to firm deployment "requirements." For purposes of this requirement, Shaw supports the Department's "Option 1" proposal as set out in paragraph 30 of the Consultation Document, which would apply the Tier 3 deployment requirements that currently apply to AWS-3 spectrum licences to the AWS-1, G Block and I Block licences that are up for renewal in this proceeding.¹⁸
55. Shaw strongly opposes the application of a deployment requirement at the Tier 4 level as contemplated under the "Option 2" proposal described at paragraph 31 of the Consultation Document. In Shaw's view, this Option will impede competition and degrade the consumer connectivity experience because it would force inefficient network deployments. Shaw notes in this regard that each of the AWS-1, G Block and I Block spectrum bands is located well above 1 GHz and, therefore, does not share the same technical requirements or propagation characteristics as spectrum in the cellular or 700 MHz bands. For example, AWS-1 spectrum cannot be substituted for lower band spectrum in the cellular and 700 MHz bands. AWS-1 spectrum is ideally deployed in more densely populated urban areas where it can be used and reused efficiently. By contrast, spectrum in the cellular and 700 MHz bands is better suited for network expansion programs, particularly in rural and less densely populated areas given the greater signal propagation characteristics of this spectrum. This is one of the reasons why the Department did not establish Tier 4 deployment targets for AWS-3 and 2500 MHz spectrum.
56. It is also important to remember that not all providers in the wireless market are similarly situated. They do not have the same spectrum portfolios, nor are they at the same stage in the deployment of their networks.
- As discussed above, Shaw faces a significant shortfall in low-frequency spectrum compared to the incumbents. In circumstances where licensees do not have access to sufficient low-band spectrum to facilitate deployment in less urban areas, requiring those licensees to deploy their

¹⁸ *Technical, Policy and Licensing Framework for Advanced Wireless Services in the Bands 1755-1780 MHz and 2155-2180 MHz (AWS-3)*, SLPB-007-14, 18 December 2014.

higher band spectrum to the Tier 4 level will force inefficient network builds that will result in higher costs and a less optimal consumer experience.

- In addition, unlike the incumbents, Shaw does not have a pre-existing network made up of hundreds of towers and antenna sites which can be easily upgraded to accommodate new spectrum bands and equipment. Spectrum deployment for new competitors poses a completely different set of challenges than it does for the incumbents who can leverage their existing network infrastructure and network sharing arrangements as a means of meeting highly granular deployment requirements, such as those established at the Tier 4 serving area level.

57. In Shaw's view, if the Department adopts the Option 2 deployment proposal, it would ultimately compromise the state of competition in Canada's wireless market overall and could run the risk of jeopardizing any possibility of competitors deploying innovative and differentiated networks in less populated areas outside of big cities. Canadians in these less urban areas would therefore not experience the benefits of choice. The Option 2 deployment requirement would force Shaw to deploy spectrum in an uneconomic, inefficient fashion, through less advanced, rather than leading-edge networks. This would deprive Canadians of high quality network experiences and impose a substantial financial disadvantage relative to our competitors which would negatively affect our ability to compete effectively in all markets where we operate.
58. With respect to I Block Licences, given the uncertainty surrounding the equipment ecosystem for this spectrum, Shaw does not believe that a deployment "requirement" is appropriate for these licences. In fact, given the shorter, 10 year licence term that has been proposed for these licences, Shaw believes that it would be more appropriate to establish deployment "targets" for these licences. These targets could match the original deployment targets that were established for these licences or they could be aligned with the deployment requirements proposed by the Department under its "Option 1" proposal.
- H. ISED invites comments on the proposed conditions of licence for the **AWS-1**, G Block and I Block licences issued through the renewal process as set out in **annex A**.
59. Shaw has reviewed the proposed licence conditions set out in Annex A of the Consultation Document. With the exception of Condition 10 pertaining to deployment of spectrum and Condition 9 relating to research and development, Shaw does not object to the proposed conditions.
60. With respect to Condition 10, for the reasons set out above, Shaw supports the "Option 1" approach discussed at paragraph 30 of the Consultation Document for AWS-1 and G Block spectrum. As mentioned, with respect to I Block spectrum, Shaw submits that deployment

targets remain more appropriate for this spectrum given the current lack of an equipment ecosystem for this spectrum.

61. Additionally, Shaw opposes the Department's proposed Condition 9, which provides that entities with revenues over \$1 billion from wireless services are required to invest 2% of gross revenues from the licences toward eligible R&D activities related to telecommunications. Shaw is very supportive of innovation and investment in advanced telecommunications networks. Indeed, that commitment translated into our transformation into an enhanced connectivity company. However, the challenges that arise with meeting the technical eligibility requirements associated with the R&D condition are significant. The condition raises challenges for Shaw's approach of pursuing innovations through partnerships and investing in a world-leading converged network that will provide choice in the marketplace. Shaw believes this requirement distorts the marketplace and the investment decisions of licensees, which should be driven by the connectivity needs and wants of Canadian consumers and businesses.
62. As a final observation, Shaw notes that there is a large administrative burden associated with the gathering, auditing and generating of R&D reports which is of no direct benefit to the licensees that are subject to the R&D condition of licence.
63. Accordingly, in the interest of promoting connectivity, competition and investment in world-leading telecommunications networks, Shaw would suggest removing the R&D condition.

V. Conclusion

64. Despite the challenges we face as a new competitor in the wireless market, Shaw is well-positioned to provide consumers in a wide variety of markets across Ontario and Western Canada with a strong alternative to the incumbents. We are committed to achieving this goal and to providing our customers with a world-class, converged network experience.
65. As noted above, there are a number of important factors that should be taken into account when considering the renewal of AWS-1, G Block and I Block licences, including the state of the market, the ongoing need to promote sustainable competition, as well as the imperative to deploy networks efficiently and in accordance with the dynamics of the marketplace. These factors are essential to ensuring a high quality, enhanced consumer experience and are key requirements in meeting the needs of the evolving digital economy.
66. In these circumstances, it would be inappropriate and, indeed, unfair for the Department to establish rules for the renewal of these spectrum licences that are focussed solely on the needs and capabilities of the wireless incumbents, who have now been in the market for more than 30 years and hold vast reserves of spectrum in multiple frequency bands. The Department must

consider the particular circumstances of all holders of AWS-1, G Block and I Block licences when determining eligibility for licence renewal and not just those of the incumbents.

67. The Department should also ensure that it does not establish deployment requirements that distort network efficiencies and investments or degrade the consumer experience. Critically, in making its determinations in this Consultation, the Department must ensure that it does not compromise choice or competition, either in urban or more remote areas. For these reasons, as well as those discussed above, Show submits that, on a going forward basis, the most suitable spectrum deployment obligation for spectrum in the AWS-1 and G Block bands is that which is contemplated under the Department's Option 1 proposal.