

**Innovation, Science and
Economic Development Canada**

Spectrum Management and Telecommunications

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Notice No. SLPB-002-19

***Consultation on a Policy and Licensing Framework for
Spectrum in the 3500 MHz Band***

Reply Comments

of

Xplornet Communications Inc.

September 20, 2019

EXECUTIVE SUMMARY

1. Xplornet Communications Inc. (“Xplornet”) has had the opportunity to review comments filed by parties with respect to the *Consultation on a Licensing and Policy Framework for Spectrum in the 3500 MHz Band* (“Consultation”) currently being undertaken by Innovation, Science and Economic Development Canada (“ISED”) and is pleased to provide the present reply comments.
2. In designing the present auction, ISED is faced with the task of developing a framework that will ensure that the spectrum in the 3500 MHz band (“3500 MHz spectrum”) is allocated to provide maximum economic and social benefits to Canadians, as required by Spectrum Policy Framework for Canada¹ (“Spectrum Policy Framework”). ISED is assisted in this process by directions set out in the enabling guidelines of the Spectrum Policy Framework.
3. Following the directions of the enabling guidelines, we submit that ISED’s design for the present auction should consider the following themes:
 - The auction should address and balance the interests of **all** Canadians in new 5G services;
 - The auction should promote technological innovation in rural and urban areas; and
 - The auction should be inclusive in order to promote the competition needed to maximize the above goals.
4. Canadians in all areas of the country have an immediate need for 3500 MHz spectrum, as this spectrum will be used to provide 5G services to rural and urban Canadians alike. While the services to be supported in rural and urban regions may be different, they are no less important to Canadians, and must be supported by the auction process.

¹ DGTP-001-07, *Spectrum Policy Framework for Canada*.

5. The auction process must equally support the development of competition in wireless services. Competitive forces drive innovation and investment in advanced services, bringing the rapid introduction of the advanced new services that Canadians demand.
6. To this end, Xplornet has made numerous recommendations to ISED on how it can best design the auction framework to meet the objective of the Spectrum Policy Framework. These are described in detail within the present reply comments, and summarized below:
 - **The auction design must include a set-aside.** With their substantial spectrum holdings, national providers are well positioned to deploy advanced services and will not be harmed by the inclusion of a set-aside. However, without a set-aside, rural and competitive providers are likely to be entirely shut out of the spectrum auction. A set-aside is therefore an essential component of the auction framework.
 - **An appropriate set-aside would be 50 MHz of spectrum.** In areas that have less than 40 MHz of spectrum available for auction, the set-aside could be reduced to 20 MHz of spectrum.
 - To be eligible to bid for set-aside spectrum, **a party must be active in the relevant Tier 4 area** in which they wish to bid. As this auction is designed to allow for rapid network upgrades and not for territory expansion, the auction should allocate this initial distribution of mid-band spectrum to existing network operators.
 - **A spectrum cap should not be applied, but if a cap is used, it must not hinder the efficient deployment of spectrum.** Parties require 100 MHz of mid-band spectrum in order to efficiently leverage this resource. Between this auction, and the auction of the 3700-4200 MHz band in 2022, parties must not be prevented from obtaining 100 MHz of mid-band spectrum.

- **Existing partial-tier and grid-cell licences must not be over-counted towards a cap.** If these licences are to apply towards a cap, they should only apply if there is a geographical overlap between the existing licence and a new licence. If there is an overlap, this should be measured fairly. If winning an overlapping licence puts a party over the cap, it should be a condition of winning the new licence that the party return its existing licence.

- **Licences encumbered by partial-tier licences should not be auctioned.** These licences are subject to complex coordination requirements and are not suited for an auction process. These licences should be awarded immediately after the auction through an application process.

- **Calls for complex bid types and bidding rules should be rejected.** Proposals of this nature are designed to allow participants to hide their true preferences in the bidding process. This will only serve to increase speculative bidding and frustrate the auction objectives.

- **Existing licensees must have priority in frequency assignment.** In order to avoid the need for mass customer interruptions, existing deployed licensees should not be required to change to frequencies that their equipment does not support.

- **Deployment conditions should be strengthened.** As this spectrum is currently in use and being taken away from Canadians, it should be returned to their benefit as quickly as possible through stronger, but attainable, deployment conditions.

- **Changes to general conditions of licence should not be considered as part of this process.** If ISED is to consider changes to standard conditions of licence that impact many types of spectrum licences, these changes would be best considered in separate processes.

7. We thank ISED for its attention to these important matters.

An auction design that meets the needs of *all* Canadians

8. As required by the Spectrum Policy Framework, ISED must ensure that the present auction will “maximize the economic and social benefits that Canadians derive from the [3500 MHz spectrum]”.² Included in the Spectrum Policy Framework are a number of enabling guidelines that explicitly direct ISED in achieving this goal. These enabling guidelines require ISED to ensure that spectrum is “made available for a range of services that are in the public interest”,³ and to ensure that its spectrum management practices are “responsive to changing technology and market place demands”.⁴
9. Following the directions of the enabling guidelines, as described in our Comments,⁵ Xplornet submits that ISED’s design for the present auction should consider the following themes:
 - The auction should address and balance the interests of ***all*** Canadians in new 5G services;
 - The auction should promote technological innovation in rural and urban areas; and
 - The auction should be inclusive in order to promote the competition needed to maximize the above goals.
10. There is a pressing and immediate need for 3500 MHz spectrum to serve Canadian consumers in both rural and urban environments. Both rural and urban Canadians need access to this spectrum in order to take advantage of technological innovation and change.
11. While the immediate needs of rural and urban Canadians are not the same – rural Canadians require immediate access to spectrum to support the delivery of

² Spectrum Policy Framework, page 8.

³ Spectrum Policy Framework, Enabling guideline (b).

⁴ Spectrum Policy Framework, Enabling guideline (f).

⁵ Xplornet Comments, filed August 2, 2019.

advanced broadband services, whereas in large urban centres 3500 MHz spectrum will drive mobile developments – these needs of rural and urban Canadians are real and significant.

12. This is evidenced by the number of government bodies that wrote in to support the development of an auction framework that supports the introduction of competitive advanced services in all regions of Canada. Indeed, the municipalities of Cambridge, Burlington, Leduc, Lethbridge, Moose Jaw, Prince George, Stonewall and Victoria, as well as the Strathcona Regional District, the Vancouver Economic Commission and Councillor Michael Thompson, Chair of the Economic and Community Development Committee of Toronto, all wrote to ISED to support the development of competitive advanced services in every region of the country. The Association of Manitoba Municipalities, the municipalities of Selkirk and Winnipeg, as well as Rural Alberta Municipalities, each wrote in to specifically support the development of broadband services.
13. In order to bring competitive advanced services to all regions of the country, ISED must ensure that the auction provides fair access to spectrum to all types of service providers that are prepared and ready to invest for Canadians, including rural, urban, new entrant, regional and national providers.
14. In allocating the 3500 MHz spectrum, we further submit that ISED should focus on addressing the most immediate needs of rural and urban Canadians. ISED has announced that it intends to release significantly more mid-band spectrum (namely spectrum in the 3700-4200 MHz band) in three years time. This spectrum will build on the spectrum allocated as part of the present auction and can be used to address the future needs of rural and urban providers.
15. By balancing urban and rural priorities, and ensuring that the auction is inclusive of all parties who are investing to serve Canadians – including rural, urban, new entrant, regional and national providers – ISED can drive technological innovation and advance the objective of the Spectrum Policy Framework for Canadians.

A set-aside is an essential component of the auction framework

16. Applying a set-aside as part of the auction framework is critical to ensure that the auction effectively promotes competition and technological innovation in rural and urban Canada. Without a set-aside, rural and new entrant providers are likely to be shut out of the auction process.
17. As described in our Comments, the business case for rural providers does not allow them to compete with the national mobile service providers, even if access to capital were not a constraining factor.
18. Rural-focused wireless providers require more spectrum than national providers on a per-subscriber basis because of the different nature of the services that their customers require. Rural providers thus cannot make a business case that would allow for spectrum to be purchased at the prices that the national mobile operators are able and willing to pay. While a typical mobile subscriber of a national operator uses an average of 2GB of data per month⁶, a typical rural household uses 166GB per month⁷. Accordingly, all other variables held constant, a national provider serving in urban areas can serve over 80 times as many subscribers as a rural wireless provider with the same amount of spectrum.
19. Further to this, however, the urban-focused provider has additional advantages concerning its ability to leverage its spectrum across a greater subscriber base. This is because, in urban deployments, and particularly in 5G deployments, the distances that the urban provider requires the spectrum to cover are much smaller than those required by the rural wireless provider (which are typically spans of 20-30 km). By being able to deploy the spectrum over shorter distances, the urban provider is able to leverage a greater degree of spectrum re-use, serving more customers with the same spectrum block. These factors allow an urban-focused national provider to out-bid a rural wireless provider in all cases, unless accommodations are made in the auction design through a set-aside.

⁶ CRTC, 2018 Communications Monitoring Report, Infographic 4.9.

⁷ CRTC, 2018 Communications Monitoring Report, Infographic 4.10.

20. Accordingly, a set-aside is necessary to accommodate the distinct business cases and network configurations of urban and rural providers in order to ensure the auction is able to promote the range of services Canadians require. Without a set-aside, rural providers will be shut out of the auction, leaving rural Canadians behind.
21. A set-aside is equally necessary to ensure that newer entrants have the opportunity to compete and deploy 5G spectrum at the same time as the largest spectrum holders, thereby ensuring newer entrants are not put at a further competitive disadvantage in the timely deployment of 5G service to their customers.
22. As noted by SaskTel in its comments:

“SaskTel has experience being shut out of spectrum by members of the Big Three. Our experience is that when SaskTel has to compete against the Big Three with no restrictions, they take steps to shut out SaskTel from acquiring spectrum, despite very aggressive bidding on SaskTel’s part. A good example of this is the recent AWS-3 spectrum auctions. That is why Saskatchewan spectrum prices are usually higher than the national spectrum average, despite the rural nature of the spectrum blocks. There must be limits on the Big Three or else they will dominate the acquisition of spectrum to the detriment of sustainable competition.”⁸

23. Indeed, the only parties who have argued against the use of a set-aside in this consultation are the “Big Three” national providers. Parties are otherwise unanimous that they are simply not able to compete with the national providers without the use of a set-aside and that a set-aside is an essential component of the auction framework.

The national providers’ arguments against or limiting a set-aside should be dismissed

24. Each of the national providers has made arguments that a set-aside is not necessary as part of the present auction. Each appears concerned that the use of

⁸ SaskTel Comments, paragraph 55.

a set-aside will limit its ability to purchase spectrum as part of the auction and that this will hinder its ability to launch 5G services. These are not real concerns.

25. As we noted in our Comments, the large national providers have significant stores of spectrum, including national footprints of 2500 MHz spectrum and the recently acquired 600 MHz spectrum, that are part of the 5G equipment ecosystems being developed for the large U.S. carriers. Arguably, they do not need to acquire significant rural holdings of 3500 MHz spectrum at this time, given their 5G roll-outs will be in the large urban centres and the 3700-4200 MHz spectrum is anticipated to be made available in three years. Each of the national providers holds between 3 to 6 times the amount of spectrum of the next largest carriers such as Shaw, Videotron and Xplornet in many rural areas and that spectrum frequently is unused or underutilized.⁹

26. Beyond the rural context, these existing spectrum stores remain entirely relevant to the introduction of advanced 5G services. The national providers themselves have specifically emphasized that their 5G roll-outs will be leveraging their 4G spectrum and infrastructure. As Telus highlighted in its comments:

“Assuming that all mobile operators will use similar technology, we can consider data on MHz per subscriber for the various operators as a very good proxy for an operators need. Given that first phase 5G networks will fall back onto 4G networks, an operators total average spectrum depth (normalised by the population it covers) divided by total subscribers is an excellent proxy for how well stocked an operator is in terms of serving a heavy traffic load.”¹⁰ [Footnotes removed]

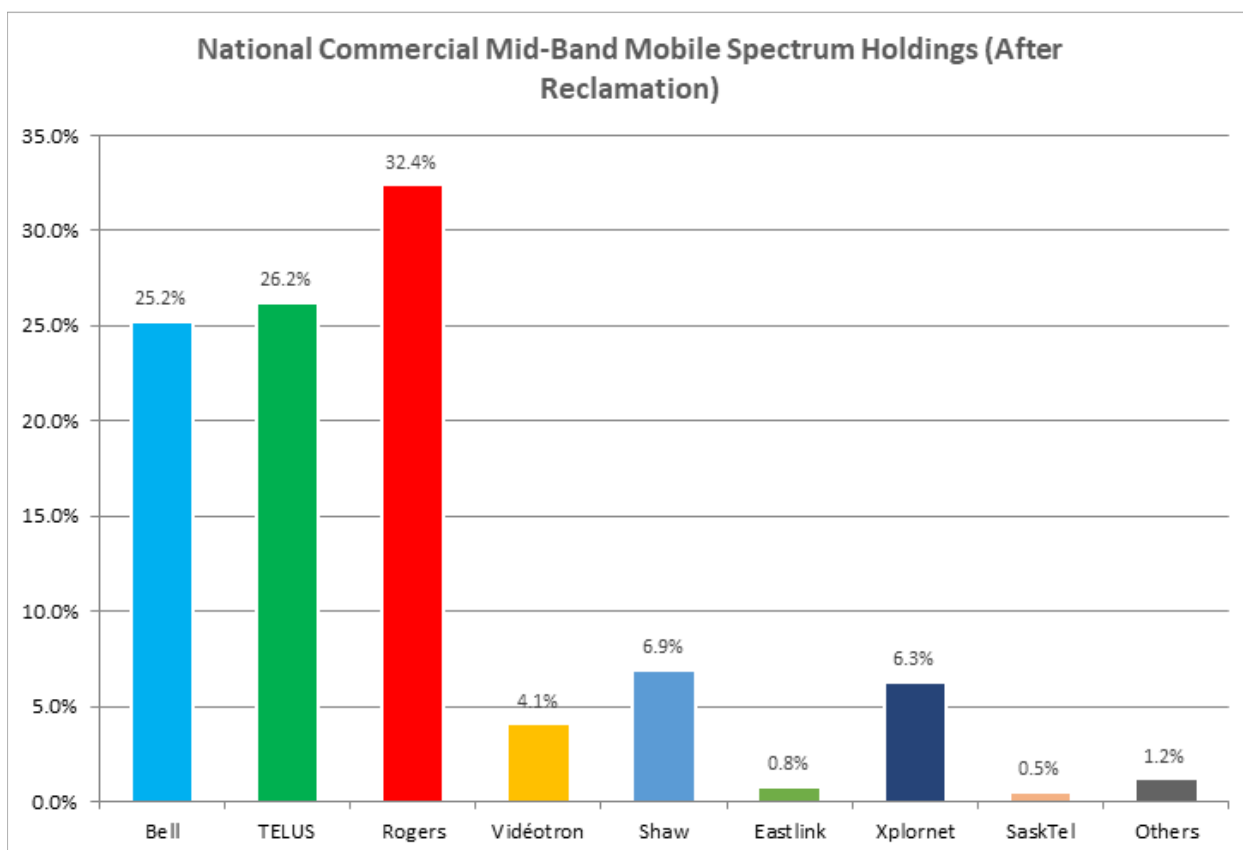
⁹ By way of example, in the Napanee Tier (4-071), the national providers each have on average 31 million MHz/POP of spectrum in this region. Xplornet and Shaw have an average of 7.5 million MHz/POP. This is a very rural Tier 4 area containing only 42,852 people, of which 15,892 are located in the town of Napanee. While Bell and Rogers may only have 30 MHz of 3500 MHz spectrum in this tier, they have other substantial spectrum reserves that are not fully utilized, much of which has already been organized in 5G standards. Accordingly, the large providers should not be allowed to continue to stockpile spectrum, particularly when additional spectrum will be made available in three years.

¹⁰ Telus Comments, paragraph 73.

27. Cogeco¹¹ and Shaw have similarly noted that the national providers are well positioned to begin building 5G networks by their massive existing spectrum holdings. With respect to mid-band spectrum alone, Shaw has included an illustrative graph to demonstrate the strong leadership position that the national providers already maintain in developing 5G services. Through this graph, reproduced below, it can be easily observed that the national providers already hold 84% of existing mid-band spectrum, far more than any other provider.

Figure 1: Reproduction of Figure 3 from Shaw’s comments

Figure 3: National Mid-Band Spectrum Holdings (Weighted MHz/Pop)



28. Arguments from Telus and Bell should be further discredited by the likelihood that their 3500 MHz spectrum resources will be shared through their existing network sharing arrangement. In a recent filing with the Canadian Radio-television and

¹¹ Cogeco Comments, paragraph 41.

Telecommunications Commission (“CRTC”) responding to a CRTC request for information that specifically asked whether Bell and Telus’ existing network sharing arrangements would be extended to 5G, Bell responded as follows:

“The carefully developed network reciprocity arrangements to which we are a party have had the considerable benefit of broadening the area and accelerating the speed at which the highest quality wireless technologies can be rolled out, while maintaining the dynamic competition and complete independence in the retail market among the partners to the arrangement. **The benefits of network reciprocity under these types of arrangements are significant and may reasonably be expected to apply to 5G.**”¹²
[Emphasis added]

29. Rural and competitive providers are clearly at a significant disadvantage to the national providers in launching 5G services for Canadians, as the national providers have far more spectrum than any other provider. Not including a set-aside as part of the present auction would only exacerbate this disadvantage, thereby weakening competition and the development of advanced services for Canadians.

30. Beyond arguing that a set-aside should not form part of the auction framework, the national providers have also argued that a set-aside, if included, should be inappropriately restricted to limit the availability of set-aside spectrum to eligible parties. For example, Rogers has argued that spectrum held by non-national providers following the return of spectrum required by ISED’s decision in SLPB-001-19 (“2019 Decision”)¹³ should be counted towards a set-aside because this spectrum can be used to support a fourth mobile wireless competitor in 5G in these areas:

“For the avoidance of any doubt, whether the Department adopts a set-aside (which we strenuously oppose) or spectrum cap (which we support), the Department must fully account for the spectrum held post-transition by all operators. The Department must not adopt measures that do not account

¹² Response to request for information Bell Mobility(CRTC)5Jul19-304 filed as part of Telecom Notice of Consultation CRTC 2019-57, *Review of mobile wireless services*.

¹³ SLPB-001-19, *Decision on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Decisions on Changes to the 3800 MHz Band*.

for Xplornet’s and other non-national mobile operators’ holdings as spectrum available for a fourth operator. To do so would severely limit the spectrum available as open spectrum, should the Department ultimately adopt the poor policy choice of a set-aside, or effectively serve as a set-aside in the case of spectrum caps. Such a policy decision would result in such asymmetric spectrum distributions to networks that it could hobble the early deployment of 5G services in the 3500 MHz band in Canada. Further, we can think of no regulator internationally who has intervened to create five competing mobile wireless operators, primarily in rural areas where the economics of network deployment are already challenging.”¹⁴

31. Telus argues that a set-aside is not needed as a cap of 50 MHz will ensure that regional providers can access up to 50 MHz of spectrum in each licence territory to compete in the delivery of advanced services.¹⁵ This position similarly considers licences currently owned by parties. Telus is taking the full 200 MHz of the 3500 MHz band, providing each of the national providers with 50 MHz of spectrum, and arguing that there will be 50 MHz “left over” for regional providers. This position completely ignores the fact that much of this 200 MHz of spectrum is already in use and not available to be auctioned or dedicated to new advanced services.
32. The transitioned holdings of parties like Xplornet will not allow set-aside-eligible entities to compete in advanced services, as suggested by Telus and Rogers. The purpose of transitioned spectrum is to attempt to allow fixed wireless providers, like Xplornet, who have invested to deploy 3500 MHz holdings to serve rural broadband customers, with the ability to continue to serve that customer base. This spectrum is fully required to try to maintain service for our existing customers. The suggestion that we have spectrum available to compete in new services using this spectrum, or to sublicense to others, is fanciful.
33. The goal of the national providers’ arguments is to maximize the amount of spectrum that is available for them to bid on, shutting out competitive providers from the auction to the greatest degree possible. Their arguments thus run directly

¹⁴ Rogers Comments, paragraph 98.

¹⁵ Telus, paragraph 70.

counter to ISED’s objective to support competition in advanced 5G services. Accordingly, Xplornet continues to submit that a set-aside is a critical component of the auction framework. This set-aside must ensure new spectrum is fairly made available to competitive providers across Canada.

An appropriate set-aside would allocate 50 MHz of spectrum

34. With respect to the size of the set-aside that should be adopted as part of the auction framework, Figure 2 below summarizes the positions of parties to this proceeding. From this table, we note that most parties have advocated for a set-aside of approximately 50-60 MHz of spectrum. Xplornet continues to support a flexible approach, as put forward in our Comments. We believe that an appropriate set-aside would allocate 50 MHz of spectrum in each licence area, except in areas that have less than 40 MHz of spectrum available to be auctioned. In those areas, the set-aside should be 20 MHz.

Figure 2 – Party recommendations for the amount of spectrum to be set aside

Party	Recommended size of set-aside
BCBA	60 MHz
CanWISP	50 MHz
Cogeco	60 MHz
Eastlink	100 MHz
Ecotel	66% of available spectrum
Iristel	100 MHz
SaskTel	50 MHz

Shaw	Where >80 MHz available: 50 MHz Urban where <80 MHz available: 40 MHz Rural where <80 MHz available: 50%
TekSavvy	Urban: 40 MHz + 50% beyond 40 MHz Rural: 60 MHz + 50% beyond 60 MHz
Videotron	50 MHz
Xplornet	50 MHz, except where <40 MHz available, then only 20 MHz

Parties should be active in a Tier 4 licence area to be eligible to bid

35. With respect to eligibility criteria to establish set-aside-eligible bidders, we note that ISED has proposed only to allow “those registered with the CRTC as facilities-based providers that are not National Mobile Service Providers and that are actively providing commercial telecommunication services to the general public in the relevant Tier 2 service area of interest, effective as of the date of application to participate in the 3500 MHz auction.”¹⁶

36. We generally support these proposed criteria. However, we recommend that ISED modify its criteria to only allow parties who are “actively providing commercial telecommunication services to the general public in the relevant **Tier 4** service area of interest, effective as of the date of application to participate in the 3500 MHz auction.”

37. This modification is recommended for two reasons. Firstly, in this auction, we submit that ISED should seek to allocate spectrum in a manner that balances and addresses the immediate needs of both rural and urban service providers. The

¹⁶ Consultation, question Q1C.

immediate needs of service providers are to deploy this spectrum within existing service footprints to support the rapid introduction of cutting-edge new services in rural and urban Canada. Initial deployments of mid-band spectrum will be to upgrade current network facilities – not to expand to new territories. For this reason, we do not believe that the present auction should be designed to encourage network expansion, as the proposed Tier 2 eligibility assessment does.

38. Other parties have equally advocated to modify the requirement to be active in the relevant Tier 2 to a Tier 4 assessment. As Cogeco stated in its comments:

“Cogeco submits that eligibility for set-aside spectrum should be based on actively providing services in the Tier 4 area in which the entity wishes to bid as a set-aside-eligible entity, not the entire Tier 2 service area in which the Tier 4 service area is situated. ISED’s stated objective is to limit set-aside spectrum to those who “...are best positioned to compete...” (par. 39, Consultation Document). However, Tier 2 service areas are simply too large, and having facilities and actively providing services somewhere in a Tier 2 service area cannot be a reliable indicator of the ability to compete in a specific Tier 4 service area elsewhere in that Tier 2 area. For example, being an existing facilities-based service provider in Kamloops is a reasonable indicator that the entity is better able to compete with the NMNOs in Kamloops, but does not mean the entity in question is better able to compete with them in Vancouver or Comox (i.e. other locations in the same Tier 2 area) where the entity in question has neither network nor customers.”¹⁷

39. Secondly, we equally believe that the current spectrum should be awarded to bolster existing networks because the spectrum that is to be auctioned is being used to actively serve Canadians today. Given the displacement of existing service providers from spectrum being used to serve Canadians today in order to facilitate this auction, the spectrum should be re-deployed as quickly as possible for the continued benefit of Canadians. As noted by Bell in its support for modifying the Tier 2 assessment to a Tier 4 assessment, “refining the criterion in this way will increase the likelihood that any spectrum won in the auction will be put to use as quickly as possible to the benefit of Canadians.”¹⁸ Targeting the spectrum to be

¹⁷ Cogeco Comments, paragraph 99.

¹⁸ Bell Comments, paragraph 35.

auctioned in the present process to deployments within existing serving territories will most effectively return the benefits of these resources to Canadians.

40. Assessing eligibility for set-aside spectrum based on Tier 4 areas appropriately ensures that spectrum can be focused on meeting the immediate needs of Canadians. Indeed, ISED should consider applying such a criterion to govern eligibility to bid for a Tier 4 licence generally in this auction, and not only with respect to eligibility to bid for set-aside spectrum.

41. In preparing for the release of further mid-band spectrum in the auction of the 3700-4200 MHz band scheduled to take place in 2022, ISED may consider the appropriateness of encouraging network expansion by resuming an eligibility assessment based on providing service within relevant Tier 2 licence areas.

Other changes to set-aside eligibility

42. With respect to other modifications that parties have proposed concerning set-aside eligibility, we note that we agree with parties that broadcast services should not count towards meeting any eligibility criteria.¹⁹

43. However, beyond this, we generally oppose further eligibility restrictions proposed by parties. In this regard, we note the following specific proposals:

- BCBA has recommended that only providers with revenues of under \$25 million should be eligible to bid for set-aside spectrum;²⁰
- CanWISP and TekSavvy have broadly suggested that regional providers should not be eligible to bid for set-aside spectrum;²¹ and

¹⁹ See, for example, Videotron Comments, paragraph 35.

²⁰ BCBA Comments, paragraph 19.

²¹ CanWISP Comments, paragraph 25; TekSavvy Comments, paragraph 26.

- Shaw has suggested that only those providing commercial mobile wireless services should be eligible to bid for set-aside spectrum, excluding fixed-wireless broadband providers from eligibility.²²

44. Each of these proposals inappropriately limits eligibility to bid for set-aside spectrum. As discussed above, a set-aside is required to ensure that the interests of rural and urban Canadians are appropriately balanced as part of the present proceeding. By excluding fixed-wireless providers from bidding for set-aside spectrum, as proposed by Shaw, rural Canadians will be deprived of the benefits of the advanced broadband services that can be enabled through this spectrum. Furthermore, by forcing regional providers to compete for open spectrum with the national providers, in all likelihood the regional providers would be largely, if not entirely, shut out from this spectrum, impairing the ability for competitive networks to deploy advanced services. Given these results would run counter to the objectives of this auction, they should be rejected.

Open licences won by a set-aside-eligible entity should not be subject to restrictions

45. ISED has proposed that “any set-aside licences acquired by set-aside-eligible bidders would not be transferable to set-aside-ineligible entities for the first five years of the licence term.”²³
46. We support this proposal. However, we do not support ISED’s further proposal to categorize all blocks won by set-aside-eligible bidders as set-aside blocks.²⁴
47. If a set-aside-eligible bidder wins open blocks of spectrum, these do not need to be subject to the transfer restrictions associated with set-aside spectrum blocks. These blocks should be treated the same as all other open blocks, and ISED should consider the competitive impacts of a proposed transfer through its

²² Shaw Comments, paragraph 88.

²³ Consultation, Q1D.

²⁴ Consultation, Q4B.

standard analysis as set out in Client Procedure Circular CPC 2-1-23, *Licensing Procedures for Spectrum Licences for Terrestrial Services*.

48. As similarly noted by Bell, this proposal:

“...places an unnecessary constraint on the Minister's flexibility to manage spectrum resources, frustrates secondary spectrum market dynamics and could delay the deployment of spectrum to the detriment of Canadians.”²⁵

49. Xplornet continues to submit that only spectrum designated as set-aside spectrum should be subject to transfer restrictions. If a set-aside-eligible entity wins blocks of spectrum beyond those that have been set-aside, the bidder may designate blocks as open or set-aside blocks following the conclusion of the auction as part of the assignment process.

If a cap is applied, it must not hinder the efficient deployment of 3500 MHz spectrum

50. As we stated in our Comments, spectrum caps should not be applied to the present auction in order to balance the interests of rural and urban Canadians and to promote the public interest in maintaining services that Canadians rely on today.

51. As set out in the 2019 Decision, ISED is requiring current licensees to return spectrum that is actively in use to serve Canadians in order to re-auction this spectrum. By re-auctioning the spectrum, ISED is seeking to provide additional parties with the opportunity to obtain 3500 MHz spectrum. However, ISED is not seeking to displace current uses of the 3500 MHz spectrum.

52. In the 2019 Decision, ISED emphasized that measures are needed to allow existing licensees to continue to provide services, as not implementing measures of this nature “would be contrary to the 2014 Decision²⁶ and undermine the policy objective to facilitate the deployment and timely availability of services across the country, including rural areas.”²⁷ Accordingly, Xplornet does not believe that

²⁵ Bell Comments, paragraph 57.

²⁶ DGSO-007-14, *Decision Regarding Policy Changes in the 3500 MHz Band (3475-3650 MHz) and a New Licensing Process*.

²⁷ 2019 Decision, paragraph 89.

parties should be capped in their ability to re-purchase spectrum that they previously held and used to serve customers, as this would frustrate this objective.

53. However, if a cap is to be applied, Xplornet submits that such a cap must be reasonable and allow parties the opportunity to obtain the spectrum required to support the delivery of advanced services. The cap should be set with consideration of the upcoming auction of the 3700-4200 MHz band in 2022. Between the present auction and the 3700-4200 MHz auction, parties must not be prevented from obtaining a minimum of 100 MHz of spectrum. As noted by numerous parties in this proceeding,²⁸ 100 MHz of mid-band spectrum is necessary to maximize the efficiency of this spectrum for Canadians. Accordingly, if a cap is set below 100 MHz during the present auction, this cap should be temporary in nature and should be removed or revised as part of the auction of the 3700-4200 MHz band in 2022.

If a cap is applied, it should be set at no less than 60 MHz of spectrum

54. Figure 3 below summarizes the positions of parties with respect to the size of a potential spectrum cap.

Figure 3 – Party recommendations for the size of a potential spectrum cap

Party	Recommended size for a potential spectrum cap
BCBA	60 MHz
CanWISP	60 MHz
Cogeco	60 MHz
Eastlink	100 MHz
Ecotel	40 MHz

²⁸ See, for example, Bell Comments, paragraph 14, and Rogers Comments, paragraph 117.

Iristel	40-60 MHz
Rogers	60 MHz (or 80 MHz between two parties sharing a network)
SaskTel	50 MHz
Shaw	50 MHz
TekSavvy	50 MHz
Telus	50 MHz

55. Consistent with the views of many parties to this proceeding, we submit that, if ISED is to adopt a cap in the auction framework, the cap should be set at no less than 60 MHz of spectrum. An additional cap for individual parties who intend to combine spectrum into a single network (and post-auction restrictions on the amount of spectrum that may be combined), as suggested by Rogers,²⁹ may also be appropriate.

56. We further note that Cogeco has proposed to have a separate cap that applies only to set-aside bidders:

“Cogeco further recommends that ISED establish an additional cap of 30 MHz on the amount of set aside spectrum that any one set-aside-eligible bidder can acquire. Cogeco’s recommendations are summarized in Appendix A to this submission.”³⁰

57. This proposal should be rejected. It would not be appropriate for ISED to apply caps of different sizes to the national providers relative to smaller competitors. Hindering competitive providers in this manner goes against ISED’s goals of supporting competition.

²⁹ Rogers Comments, paragraphs 25 and 108.

³⁰ Cogeco Comments, paragraph 94.

If a cap is used, partial-tier and grid-cell licences should not be overstated to limit eligibility

58. If a cap is to be applied in the auction, existing partial-tier and grid-cell licences should not be overstated if they are counted towards a cap. Indeed, as noted by Bell in its comments, 50 MHz of spectrum covering 0.001% of the population in a Tier 4 should not be counted as 50 MHz across the entire Tier 4.³¹
59. Xplornet respectfully submits that ISED should adopt a fair method for assessing partial-tier and grid-cell licences.
60. To this end, as we noted in our Comments, in many circumstances there would be no justification for counting a partial-tier or grid-cell spectrum at all. For example, if a bidder holds a partial-tier licence covering a certain geographic area within a Tier 4 licence area and that bidder wants to buy the complementary encumbered block that covers the remaining areas of the Tier 4 area, then there would be no overlap between their existing partial-tier licence and the new encumbered licence to impact cap considerations. The existing partial-tier licence should have no impact on the bidder's ability to win this spectrum.
61. If, however, there is an overlap between a partial-tier or grid-cell licence owned by a bidder and a new licence that they wish to purchase (for example, if they wish to buy an unencumbered block covering the full geography of a Tier 4 in which they hold a partial-tier or grid-cell licence), then the overlapping spectrum may be counted. The overlap in spectrum must not be over-stated.
62. In handling an overlap, we submit that ISED should follow the proposals put forward by Bell and SaskTel. Bell has proposed that ISED should weight partial-tier and grid-cell holdings by population.³² Under Bell's proposal, a block of 50 MHz of spectrum covering 30% of the population would be counted as 15 MHz of spectrum, not a full 50 MHz of spectrum. We agree with Bell that this is a fair way to count spectrum that does not cover a full licence area.

³¹ Bell Comments, paragraph 45.

³² Bell Comments, paragraph 44.

63. SaskTel has proposed that existing partial-tier and grid-cell licences should be counted only if they cover a material amount of the population. SaskTel has recommended that a coverage threshold of 25% of the population be used.³³ We equally agree with this proposal, as amounts of spectrum covering only a small fraction of the population are immaterial and should not impact cap considerations.
64. Accordingly, in assessing existing partial-tier or grid-cell licences for cap considerations, we recommend that this spectrum be counted as follows. Partial-tier and grid-cell spectrum should only be counted where there is geographic overlap with a new licence that the bidder wishes to purchase and the geographic overlap covers greater than 25% of the population of the licence tier. In these cases, the spectrum of a partial-tier or grid-cell licence would be weighted by population, as proposed by Bell. If the weighted spectrum of the partial-tier or grid-cell licence, plus the new licence that a bidder wishes to purchase, puts the bidder over a cap, then the bidder would be required to return spectrum.
65. In cases where a holder of a partial-tier or grid-cell licence wishes to bid for an amount of overlapping spectrum in the same tier that would put it over the cap, the bidder should not be required to return its partial-tier or grid-cell licence in advance of bidding. Instead, as a condition of winning spectrum, the bidder should be required to return its partial-tier or grid-cell licence, with a reasonable period to migrate its customers from this spectrum. The returned partial-tier or grid-cell licence could then be allocated with the process we propose be used for spectrum blocks encumbered by partial-tier licences, described below.
66. With respect to bundling of encumbered licences, Xplornet continues to support ISED's proposal because bundling will minimize the number of parties that are required to coordinate to avoid interference. We also agree with ISED's proposal that bundled blocks should not count towards the cap in the auction. We note that other parties have equally supported this proposal.³⁴

³³ SaskTel Comments, paragraph 59.

³⁴ See, for example, Videotron Comments, paragraph 52.

Treatment of encumbered licences

67. Certain parties, such as Videotron³⁵ and Cogeco³⁶, have suggested that many encumbered areas should be treated as unencumbered in order to make more unencumbered spectrum available for the auction. Given that licences are to be auctioned in a generic manner, we cannot support this proposal. For licences to be auctioned fairly in a generic manner, all licences auctioned must have an equal value, and encumbrances necessarily impact the value of a spectrum block. Other parties similarly share these concerns with us. As noted by SaskTel:

“SaskTel agrees with the Department and wishes to emphasize the importance of recognizing all partial Tier licences as encumbered, regardless of the amount of encumbrance in terms of population percentage. **Any encumbrance, even with a small percentage of population and/or over a small geographical region, will require discussion, coordination and negotiations with the incumbent licence holder. This may likely require the establishment of buffer zones to reduce interference. This added complexity could hinder network deployment using this partial Tier licence, and therefore de-valuing this spectrum. This lower spectrum value must be incorporated into the licensing process through the designation as being an encumbered spectrum block.**”³⁷ [Emphasis added]

Licences encumbered by partial-tier licences should not be auctioned

68. Beyond these considerations, in our Comments, Xplornet emphasized that licences encumbered by partial-tier licences should not be included as part of an auction. These represent highly sensitive licence blocks that will entail careful adherence to deployment requirements related to interference. The complexity associated with deploying service in these blocks does not allow for these areas to be auctioned.

³⁵ Videotron Comments, paragraph 4.

³⁶ Cogeco Comments, paragraph 130.

³⁷ SaskTel Comments, paragraph 87.

69. As noted in our Comments, Xplornet is the licensee of a number of the partial-tier licences that represent the complementary part of many encumbered licences in the proposed auction.
70. Xplornet acquired the relevant partial-tier licences in 2008 in a spectrum transfer from MIPPS Inc. (“MIPPS”). MIPPS and Xplornet entered into an agreement for Xplornet to purchase a portion of certain Tier 4 licence areas that MIPPS did not require. MIPPS and Xplornet filed a transfer application with ISED (then Industry Canada).
71. As part of ISED’s evaluation of this proposed spectrum transfer, many considerations related to interference arose. ISED was concerned about the close proximity that MIPPS’ and Xplornet’s networks would be in, and specifically required MIPPS and Xplornet to enter into coordination arrangements to satisfy it that interference concerns would not arise, prior to allowing the transaction.
72. MIPPS and Xplornet entered into an interference mitigation agreement that set out the requirements of each party’s network and operations in order to ensure that they would co-exist without issues.
73. Subsequent to this transaction, Inukshuk Wireless Inc. (“Inukshuk”) acquired MIPPS’ remaining interest in certain of the Tier 4 licence areas where Xplornet is operating on a partial-tier licence.
74. Inukshuk deployed a site without regard for the interference mitigation agreement that governed the spectrum it acquired from MIPPS. By deploying a single new tower in one of these tiers not in conformity with the coordination agreement, Inukshuk immediately caused so much interference with our network that 1,100 of our customers immediately lost service. ISED was drawn into the interference situation immediately to assist in a resolution.
75. In light of the sensitivity of existing deployments, if ISED is to allocate the remaining portions of the Tier 4 areas where Xplornet holds existing partial-tier licences, these licences must be allocated with the conditions that existing deployments can

continue to operate and all new deployments must be coordinated to minimize interference.

76. In order to ensure that these licences are allocated to wireless operators who appreciate the interference complexity, deploy proper filters on their radios and are able to manage the conditions of the coordination agreements, we submit that blocks encumbered by existing partial-tier licences should not be auctioned in the main process.

77. Instead, these licences should be allocated through an application process conducted immediately subsequent to the main auction but before the assignment stage takes place. The price of each encumbered block could be set using the same \$/MHz/Pop figure to be paid for full blocks in the same Tier 4 area as determined in the auction. Parties would be given the opportunity to provide ISED with proposals for the services that they would deploy within the encumbered block, and how the deployment would protect the existing infrastructure that is currently in place from interference. ISED could choose the party that is best placed to use the spectrum based on these proposals.

Auction process

78. From our review of party submissions, Xplornet has noted that there is broad agreement with most aspects of the clock auction format as proposed by ISED, apart from the matters discussed below.

3500 MHz spectrum should be allocated on a Tier 4 basis

79. Certain parties have recommended that the 3500 MHz spectrum be auctioned using licence areas smaller than Tier 4.³⁸ However, there is strong support for auctioning spectrum on a Tier 4 basis as proposed by ISED. Indeed, Rogers,³⁹

³⁸ See, for example, BCBA Comments, paragraph 32; Ecotel Comments, paragraph 33; and Cogeco Comments, paragraph 110.

³⁹ Rogers Comments, paragraph 112.

Telus,⁴⁰ Eastlink,⁴¹ SaskTel,⁴² Videotron⁴³ and Iristel⁴⁴ each support Tier 4 licensing.

80. Xplornet continues to support Tier 4 licensing, as this is best suited to deployments of 3500 MHz spectrum. In the case of rural wireless providers, rural applications most effectively leverage 3500 MHz spectrum to cover distances spanning 20 km to 30 km from the broadcast site. If this spectrum were licensed on a Tier 5 basis, this would significantly impact the efficiency with which the 3500 MHz spectrum could be deployed by requiring the reduction of power to stay within a small Tier 5 area. This will compromise the ability to provide effective and affordable broadband service to Canadians in rural areas. Accordingly, licensing 3500 MHz spectrum on a Tier 5 basis would not be appropriate.

Proposed changes to bidding rules should be rejected

81. As part of the clock auction process, ISED has proposed a process that allows for simple bidding.
82. Certain parties have asked for more complex bid types and bidding rules to be allowed in the auction, such all-or-nothing bids, switch bids, and changes to activity rules, activity rule waivers and withdrawals.⁴⁵
83. All of these proposals should be rejected because they encourage gaming and speculative bidding. Indeed, each of these proposals is designed to facilitate game playing, to encourage parties to make bids on spectrum that they are not necessarily committed to purchasing, or to allow parties to avoid bidding on spectrum of interest while other serious bidders actively participate in the auction process, distorting the price discovery process.

⁴⁰ Telus Comments, paragraph 113.

⁴¹ Eastlink Comments, paragraph 23.

⁴² SaskTel Comments, paragraph 77.

⁴³ Videotron Comments, paragraph 44.

⁴⁴ Iristel Comments, paragraph 17.

⁴⁵ See, for example, Cogeco Comments, paragraphs 168 to 200.

84. The simple bids and bidding rules proposed by ISED represent the best way for ISED to ensure that the auction is simple, efficient, and achieves its goals. By focusing parties' bids on spectrum that is of highest value to them, the auction will award spectrum to winners who are most determined and thus best positioned to acquire and make use of the spectrum.
85. If ISED wishes to further reduce the potential for speculative bidding, particularly concerning the practice whereby parties bid eligibility points in areas of high demand in order to meet activity rule requirements while minimizing demand (and driving a lower price) for spectrum that they ultimately wish to purchase, ISED could consider applying additional requirements to eligibility points. For example, ISED could require bidders to purchase eligibility points that are specific to each Tier 4 licensing area that the bidder is interested in bidding on. This would prevent bidders from shifting eligibility points between Tier 4 areas in order to game activity rules and demand/price.

Pre-auction deposits

86. Finally, we reiterate our views concerning pre-auction deposits for set-aside-eligible parties. As we noted in our Comments, the pre-auction deposits set out in annex D to the Consultation are highly burdensome for smaller bidders. Xplornet believes that set-aside-eligible bidders should only be required to provide pre-auction deposits representing 50% of the amounts set out in annex D. This would continue to serve ISED's goals while reducing the burden on smaller entities.

Assignment

87. In the 2019 Decision, ISED emphasized that measures are needed to allow existing licensees to provide services, as not implementing measures of this nature "would be contrary to the 2014 Decision and undermine the policy objective to facilitate the deployment and timely availability of services across the country, including rural areas."⁴⁶

⁴⁶ 2019 Decision, paragraph 89.

88. To this end, through its frequency-assignment process, we submit that existing operators must be given priority. These operators have invested to deploy networks that are configured to use radio equipment (i.e., both radios and customer premise equipment) with current spectrum holdings and that may not be compatible with other blocks. Changing these configurations could result in significant service disruptions for customers.
89. Other existing providers have equally raised these concerns, including BCBA,⁴⁷ CanWISP⁴⁸ and TekSavvy.⁴⁹
90. Providing assignment priority to avoid requiring existing licensees to unnecessarily expend resources in order to deploy new radio equipment is a measure that would promote the determinations set out in the 2019 Decision. More importantly, customers should not have their service disrupted or be inconvenienced. If an existing operator is assigned a block that is not compatible with existing consumer premise equipment, thousands of customers could face the inconvenience of having their service disrupted until they can be at home to allow the equipment on their house to be changed. ISED and all operators have a responsibility to minimize the potential disruption this licensing process has on consumers. Accordingly, Xplornet believes that existing licensees should be granted assignment priority to continue using the blocks that they are currently using.
91. With respect to the assignment of contiguous spectrum, Xplornet agrees with ISED's proposal that contiguous spectrum should be assigned to parties who win full- or partial-tier licences through the auction process, as well as to parties with full-tier licences from the transition process.
92. ISED has further proposed that parties with partial-tier licences from the transition process will not be guaranteed contiguous spectrum. We continue to recommend that this proposal be modified to provide that, should a party holding a partial-tier

⁴⁷ BCBA Comments, paragraph 41.

⁴⁸ CanWISP Comments, paragraph 46.

⁴⁹ TekSavvy Comments, paragraphs 39 to 40.

licence from the transition win a licence adjacent to this licence, the abutting licences should be provided with contiguous spectrum. Contiguous licences should be granted to the greatest degree possible in order to best serve Canadians.

93. We submit that, prior to engaging in the assignment round, ISED should provide parties with the opportunity to collectively determine agreed-upon assignments, subject to pre-defined conditions (e.g., existing operators should not be required to move to different spectrum blocks causing customer disruption). This could involve a closed-door meeting amongst all parties eligible to participate in the assignment round to negotiate spectrum assignments. Such a meeting could address equipment range issues to avoid potential customer disruption.

94. The formal assignment round could be used as a dispute resolution tool to assign spectrum where parties fail to otherwise agree.

Deployment conditions

95. As noted in our Comments, Xplornet was shocked by the proposed deployment levels because they do not require the 3500 MHz spectrum to be put to use in a manner consistent with the urgent need for the redeployment of this spectrum that has been used to justify taking it back from operators who are currently using it to provide service to Canadians. The comments filed by Kris Joseph and Michael McNally have also provided extensive comments on the weakness of the proposed deployment conditions.

96. As we have said many times, the spectrum being removed from Xplornet and being auctioned in this process is in use serving Canadians today and often deployed well above the required deployment levels in the existing conditions of licence. It is inconceivable that the Government of Canada would take this spectrum away from serving Canadians and then let the spectrum lay fallow – unused – for potentially 10 or more years.

97. Those parties that sought access to the 3500 MHz spectrum and called for its return claimed there was an urgent need for the spectrum and that ISED needed to act quickly to ensure Canada was not left behind in the development and implementation of 5G technology.
98. ISED should take these parties at their word and require fast implementation of this first allocation of the 3500 MHz spectrum for the benefit of all Canadians.
99. In order to return the benefits of this spectrum to Canadians, we submit that, at a minimum, the five-year deployment levels for new licences should be at least equal to the current deployment levels that exist in the relevant Tier 4 licence areas. The proposed levels of deployment fall far below this standard in many cases.
100. We submit that ISED should revise its proposed deployment levels in this manner to encourage the rapid deployment of 3500 MHz spectrum. We do not believe that doing so would place an unreasonable burden on service providers, particularly given the immediate, pressing need of service providers to deploy this spectrum within existing network footprints. Even as a small operator, Xplornet was able to achieve similar deployment levels to the ones we are proposing within a five-year period. Accordingly, we have no reason to believe that other service providers could not achieve these levels for all Canadians.

Shaw's "no head start" proposal should be rejected

101. Similarly, we also submit that the "no head start" proposal advanced by Shaw⁵⁰ should be rejected by ISED. Through this proposal, Shaw is seeking to delay the deployment of advanced 5G services that providers are ready to deliver to Canadians. We do not believe that the competitive concerns raised by Shaw over a potential six-month window of time warrant setting Canadians back in the global race to 5G. Indeed, as this proposal argues to unnecessarily deprive Canadians of access to advanced services and delays Canadian innovation in the 5G world,

⁵⁰ Shaw Comments, paragraphs 114 to 126.

it is entirely inconsistent with the objective of the Spectrum Policy Framework and should be rejected.

Other changes to conditions of licence

102. We note that a number of parties⁵¹ have also asked for additional changes to the standard conditions of licence that ISED has proposed would apply to 3500 MHz licences. These changes primarily relate to: 1) requirements to perform research and development, 2) mandated roaming, and 3) annual reporting requirements.

103. We agree that ISED should consider opportunities to simplify and streamline the annual reporting requirements associated with spectrum licences. However, we note that ISED has indicated that it intends to launch a separate consultation on this issue. As reporting requirements are a general condition that apply to many types of spectrum licences, we believe that changes to this condition are best considered as part of a separate proceeding and that these should not be considered as part of the present proceeding. We would encourage ISED to initiate its consultation on this matter.

104. As conditions of licence relating to roaming and research and development are equally general conditions applying to many types of spectrum licences, we similarly do not believe that ISED should consider changes to these conditions as part of the present proceeding. If ISED were to consider changes to these conditions, this should be done through separate consultations.

CONCLUSION

105. Both urban and rural Canadians have an immediate and pressing need for 3500 MHz spectrum. This spectrum will be leveraged by providers in order to upgrade networks to promote the delivery of advanced 5G services.

⁵¹ See, for example, Bell Comments, paragraphs 99 to 117; Rogers Comments, paragraphs 204 to 213; and Telus Comments, paragraphs 198 to 200.

106. While 5G technologies will deliver a variety of services that may be different between rural and urban deployments, these services are equally important to Canadians and the competitive growth of these services should be fostered as part of the present auction process.

107. As described in this submission, in designing an auction framework, ISED should seek to balance urban and rural priorities and ensure that the auction is inclusive of all parties who are investing to serve Canadians – including rural, urban, new entrant, regional and national providers. By promoting these overarching goals, ISED can drive technological innovation and advance the objective of the Spectrum Policy Framework for **all** Canadians.

108. In this submission, Xplornet has provided recommendations to ISED to assist it in achieving these goals.

109. Xplornet thanks ISED for the opportunity to provide input on its auction design.

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