1, Place Ville Marie, bureau 3301
Montréal (Québec) H3B 3N2
Telephone: (514) 764-4700
telecom.regulatory@cogeco.com

Via email

30 November 2020

Innovation, Science and Economic Development Canada
c/o Director, Spectrum Regulatory Best Practices
235 Queen Street (6th Floor, East Tower)
Ottawa (ON) K1A OH5

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

Re: Gazette Notice SLPB-002-20 – Consultation on the Technical and Policy Framework for the 3650-4200 MHz Band and Changes to the Frequency Allocation of the 3500-3650 MHz Band – Cogeco Reply Comments

In accordance with the procedures set out in the above-noted Gazette Notice, as published in the Canada Gazette, Part 1 in August 2020, please find attached the reply comments of Cogeco Communications Inc. ("Cogeco").

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

Yours very truly,

Leonard D. Eichel
Senior Director, Regulatory Affairs, Telecommunications

cc.: Paul Beaudry, Vice President, Regulatory Affairs, Cogeco Inc.
Marie Ginette Lepage, Vice President, Wireless Solutions & Innovation
Marc Carrier, Senior Director, Strategic Initiatives

Innovation, Science and Economic Development Canada
Spectrum Management and Telecommunication

Consultation on the Technical and Policy Framework for the 3650-4200 MHz Band and Changes to the Frequency Allocation of the 3500-3650 MHz Band

***Canada Gazette,* Part I, August 2020**
Notice No. SLPB-002-20

Reply Comments of
Cogeco Communications Inc.

30 November 2020

1 Introduction

1) Cogeco Communications Inc. ("Cogeco") is pleased to submit these reply comments on the proposals of Innovation, Science and Economic Development Canada ("ISED") to release portions of spectrum in the 3650 to 4200 MHz band ("3800 MHz Band") for the provision of broadband wireless services.

2) As noted by ISED in its consultation document, the 3800 MHz Band is particularly important as spectrum regulators around the world are in the process of repurposing this band for 5G wireless services:

> *Promoting access to additional flexible use spectrum for mobile and fixed wireless services will enable telecommunication service providers ("TSPs") and wireless Internet Service Providers ("WISPs") to increase their network capacity to meet the traffic demands of increased data usage that is expected with 5G applications and services both urban and rural areas of Canada*.[1]

3) Cogeco is in entire agreement with ISED in this regard.

4) Cogeco supports policies which maximize the use of scarce spectrum resources in all areas in Canada as well as regulatory measures which reduce barriers to entry by broadband service providers. Cogeco notes that this overarching principle has broad support within the comments filed by various parties in this consultation.

5) Access to spectrum is an essential input for the provision of mobile wireless services and is one of the most significant barriers to entry in the Canadian mobile

[1] Consultation on the Technical and Policy Framework for the 3650-4200 MHz Band and Changes to the Frequency Allocation of the 3500-3650 MHz Band, SLPB-002-20, para. 7.

wireless market. Indeed, as noted in Industry Canada's *Policy Framework for the Auction for Spectrum Licences for Advanced Wireless Services*:

> *Radio frequency spectrum is a finite public resource essential to entry into wireless markets, and that resource is not readily available on the open market. Access to spectrum is a barrier to entry that only government can lift* [...].[2]

6) Cogeco is pleased to note that there appears to be broad consensus on various elements of ISED's proposals regarding the 3800 MHz Band, notably: the preference to hold an auction rather than adopt the proposal by Telesat to clear the band (*Fast tracking affordable, Canada-wide 5G and universal connectivity with 3800 MHz spectrum* ("Telesat Proposal")); the necessity of incorporating pro-competitive measures into any future auction framework for this band; the adoption of flexible use licenses for this band and the proposed band plan to use unpaired 10 Mhz blocks as the basis for allocating spectrum in this band.

7) In particular, Cogeco found many issues with the Telesat Proposal that it could not reconcile with either its initial proposal, nor the comments it submitted in response to the ISED consultation document, namely:

a) Telesat's entire proposed process to allocate spectrum using a secondary market mechanism lacked significant detail, relating to such things as Tier sizes, reserve pricing, and what the format of the allocation process that Telesat would use;

b) There was, at best, luke-warm support for pro-competitive measures, and that the process of negotiation proposed by Telesat was fraught with risk for

[2] *Policy Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range*, November 2007, page 3.

bidders and could actually lead to spectrum being awarded much later than anticipated given the level of review each transaction would need to be subject to by ISED;

c) Telesat's proposal was silent on the issue of anti-collusion rules and, given that Telesat has now admitted clearly that it intends to use the proceeds from this secondary spectrum allocation mechanism to fund its Telesat LEO project, there is considerable concern that Telesat's motives to raise as much funding as possible will unnecessarily push the cost of this spectrum higher than it otherwise could be if allocated under an ISED-run auction.

8) As such, Cogeco recommended that ISED conduct an auction for the 3800 MHz band, rather than rely on the Telesat Proposal.

9) In addition, Cogeco has recommended that ISED include the following three measures in any auction for the 3800 MHz band:

a) Tier 5 Service Areas – in order to extract the maximum benefit for Canadians in making this spectrum available for service providers, the use of Tier 5 service areas in the major urban markets of Vancouver, Toronto and Montreal are highly recommended;

b) Pro-competitive measures – the National Mobile Network Operators continue to dominate the industry in their current holdings of mid-band spectrum. As such, it is critical for ISED to continue to use pro-competitive measures (set-aside, spectrum cap, or a combination of both) to ensure that smaller, regional carriers can access spectrum at a reasonable cost;

c) Eligibility for spectrum subject to pro-competitive measures – Cogeco recommended that this spectrum would be limited to entities which are registered with the CRTC as facilities-based carriers, are not NMNOs and

actively providing commercial telecommunications services to the general public in the relevant Tier 4 area of interest.

10) With respect to ISED's proposals regarding the displacement of existing licensees in the band, and in particular, WBS licensees, Cogeco notes there is a wide divergence of views regarding ISED's two proposals as well as the timing of any future auction, and the final disposition of the Telesat Proposal.

11) From a public policy perspective and in anticipation of 5G's far-reaching impact on consumers, businesses and the Canadian economy, Cogeco submits that it is imperative that the Canadian government ensure both strong competition for the offer of 5G services as well as rapid widespread availability of 5G services in all areas in Canada, not only in large urban centres.

12) Cogeco is firmly committed to facilities-based competition and, as expressed on many occasions, is ready to enter the mobile wireless services market if the right conditions prevail. Cogeco can only do so if the conditions for entry support a viable business case by enabling the establishment of new facilities-based entrants. Cogeco is ready to take the opportunity to provide Canadians with expanded mobile offerings.

13) The remainder of this submission addresses certain areas where parties have wide divergences in their views. In particular, Cogeco will provide reply comments in the following broad areas: Technical Questions related to clearing the band; ISED's proposals to displace WBS licensees, and; the appropriate method to allocate this spectrum. Where Cogeco does not address a specific question, this should not be construed as agreeing or disagreeing with the proposal, as lack of interest in the subject matter, or as taking a position on the specific issue.

2 ISED's Proposals to Displace Existing Licensees

2.1 Contiguity & Interoperability

14) In Cogeco's comments in response to ISED's questions related to contiguity of spectrum between the 3500 MHz band and the 3800 MHz band, Cogeco did not provide detailed comments, but did state that Cogeco did not see strong arguments in favour of contiguity between the 3500 MHz and the 3800 MHz bands. The only potential benefit is that a single operator might be able to use a wider bandwidth extending over both bands in a very specific area. Cogeco does not believe that this potential benefit is material enough to promote contiguity between the two bands.

15) In response, BCE Inc. ("BCE") submitted that there would be benefits regarding contiguous bandwidth between the two spectrum bands:

> *5G technology is designed to be optimized through use of large contiguous blocks. While the most often cited benefit of larger channel sizes is greater peak speeds and spectral efficiency, the impact to latency and reliability is also significant. Although current user requirements are based on high bandwidth, latency and reliability are expected to play a vital role in real-time applications and mission-critical networks. To support ultra-reliable transmissions, a large block of spectrum is required to account for the greater amounts of retransmission required to maintain the ultra-reliable quality of service. These benefits cannot be achieved to the same extent without access to contiguous spectrum*.[3]
>
> *Technical and operational limitations would arise if operators have a large frequency separation between blocks in the 3500 MHz and 3800 MHz spectrum bands. In scenarios where carriers hold non-contiguous 3500 MHz and 3800 MHz spectrum, they may need to use multiple radios. Existing limits*

[3] Comments of BCE Inc., 26 October 2020, para. 30.

of the instantaneous bandwidth (IBW) and operating bandwidth (OBW) will prevent the use of a single radio to cover the entire 3300-4200 MHz range.[4]

16) Similarly, Rogers stated:

Referring to separate 3500 MHz and 3800 MHz bands may be appropriate in some instances due to the spectrum being licensed in two awards, which is less than ideal, but does not negate that they are parts of the same band. Equipment for both 3GPP n77 (3300-4200 MHz) and n78 (3300-3800 MHz) is able to tune above and below 3650 MHz, so any Canadian subsets of that band are wholly artificial boundaries.[5]

Although non-contiguous spectrum is supported in 3GPP, it is technically more challenging to deploy networks aggregating multiple, smaller radio frequency (RF) channel bandwidths than using fewer, wider RF channel bandwidths. Deploying non-contiguous bands would be less spectrally efficient, require additional control signalling overhead, and result in greater latency, negating some of the key benefits of 5G.[6]

17) However, other parties disagreed with this approach. For example, Ecotel stated:

Since the 5G radio can accommodate aggregation of multiple non-contiguous carriers within a same band frequency band, the requirement for contiguity between 3500 MHz band and 3800 MHz is no longer a necessity.

Based on its experience with equipment vendors, it is ECOTEL understanding that limitation factor is not around the frequency span over which carriers can be aggregated in a given band but more around the overall bandwidth it can process.

As explained in the previous section, the equipment vendors chose to address the issue by offering a 2-tier approach. A first set of radio equipment that will cover the lower part of the band (3400-3800 MHz) already available to server n78 band, and another set that will address the upper portion of the band spanning from 3700 MHz to 3980 MHz for the moment, but likely to extend to 4200 MHz as this part of the spectrum will become available in the US.

[4] Ibid, para. 33.
[5] Comments of Rogers Communications Canada Inc., 26 October 2020, para. 77.
[6] Ibid, para. 78.

> *As explained above, the 3500 MHz band equipment will not be able to operate in the upper portion of the 3800 MHz band.*[7]

18) Shaw also made a similar point, while admitting that contiguous spectrum bands are preferable, it is not entirely necessary to structure the 3800 MHz allocation framework to accommodate this:

> *Although 3GPP specifications support carrier aggregation between non-contiguous blocks, contiguous blocks are preferred because they provide lower latency, require less signalling overhead, and are more spectrally efficient than non-contiguous blocks.*
>
> *(...)*
>
> *Having said that, the benefit of contiguity between the 3500 MHz and 3800 MHz bands is somewhat limited in that only licensees that hold adjacent blocks in both bands (with a combined bandwidth of not more than 100 MHz) within the same service area would potentially benefit from contiguity.*[8]

19) Cogeco continues to submit that it does not see strong arguments in favour of contiguity between the 3500 MHz and the 3800 MHz bands. Rather, and as pointed out by Shaw, the only potential benefit is that a single operator might be able to use a wider bandwidth extending over both bands in a very specific area if it happens to obtain 3500 MHz spectrum in the upper portion of the band. Cogeco does not believe that this potential benefit is material enough to promote contiguity between the two bands.

20) Cogeco also notes that given the 3GPP band plan for 5G/NR, where equipment supporting the 3800 MHz in band n77 must also be supported in the 3500 MHz band, it is anticipated that an equipment ecosystem supporting both bands is expected to be available once the 3800 MHz band becomes available in different jurisdictions. Cogeco also notes that most U.S. operators will initially leverage the

[7] Comments of Ecotel Inc., 26 October 2020, paras. 49-52.
[8] Comments of Shaw Communications Inc., 26 October 2020, para. 81.

CBRS band for private LTE networks, before using it for 5G, whilst in many other jurisdictions, including Canada, operators are focusing on 5G for the 3500 MHz band. This will possibly lead to a fragmented ecosystem. These factors should be taken into account by ISED in order to decide on an alignment with the U.S. or European Union.

2.2 Treatment of Existing Users & Other Technical Considerations

21) In its consultation document, ISED noted the current users of the 3800 MHz band include two classes of service provider: Wireless Broadband Service ("WBS") providers and Fixed Satellite Services ("FSS") where Telesat is the primary user of that portion of the Band.

22) With respect to WBS services providers, ISED noted that there were some 338 licensees as of August 2020, and that the preponderance of these licenses were being used for the provision of broadband Internet services in rural and remote areas.[9] ISED further noted that access to this part of the band was popular as there was a low barrier licensing process, and lack of a license fee.[10]

23) ISED also noted that, in order to clear the band of existing licensees for the purposes of its re-licensing and band clearing exercise, it was proposing two options for Wireless Internet Services Providers ("WISPs") using the 3650-3700 MHz part of the band today:

a) Option 1 allows WBS licensees to remain in 3650-3700 MHz but subject to new technical rules that would also align with the proposed block sizes and increase the efficiency of the band for flexible use;

[9] ISED Consultation Document, para. 38.
[10] Ibid, para 84.

b) Option 2 displaces WBS licensees from 3650-3700 MHz while introducing a new licensing process for a portion of the 3800 MHz band, specifically in the frequency range 3900-3980 MHz, which would optimize the 3800 MHz band for flexible use while giving WISPs a means of accessing alternate spectrum, i.e., accessing a total of 80 MHz of spectrum versus the 50 MHz that is currently being used.[11]

24) In its comments, Cogeco submitted that the only benefit of displacing existing WBS licensees (Option 2) is that, at most, a single operator in a specific Tier 4 area would have the potential to extend 3500 MHz spectrum holdings into the 3650-3900 MHz band to have a contiguous range of spectrum. At the conclusion of the 3500 MHz auction, there would be a single known operator in a specific Tier 4 area at the top of the 3500 MHz band that would be capable of exercising this option. For all the other operators who will have been outbid in the 3500 MHz assignment stage, there would be no benefit. The 3500 MHz auction licensee that holds the 3640-3650 MHz high block would also need to win the low blocks in the assignment stage of a 3650-3900 MHz auction or there would be no benefit either for that single operator of having displaced WBS.

25) Cogeco also noted that another benefit of Option 2, and of displacing the existing WBS licensees in the 3800 MHz band, is that ISED is suggesting that a total of 80 MHz additional bandwidth could be made available for shared use to allow operators the opportunity to deliver 50/10 Mbps wireless broadband access.

26) That said, Cogeco also noted that ISED could extend this same benefit of increasing the total shared licensing bandwidth by extending the existing WBS band from 3650 MHz to 3730 MHz. This would have the advantage of not imposing an equipment swap on every WBS operator. WBS operators, with a software upgrade of

[11] Ibid, para. 87.

their current gear, could comply with ISED's new interference minimisation measures and could continue to operate with little disruption of services to their customers and no additional capital expenditures. To take advantage of the additional bandwidth, the WISP would need to swap gear made for 5G n77 or n78 capable bands.

27) In addition, Cogeco submitted that avoiding the displacement of WBS licensees to the 3900-3980 MHz range also eliminates the need for a displacement period and makes more of the 3800 MHz band available sooner for 5G deployments.

28) Cogeco was of the preliminary opinion that Option 1 provided more benefits to more operators compared to Option 2. Cogeco submitted that the implementation of Option 1 and the extension of the WBS band allows ISED to achieve the objectives of providing more shared use spectrum, minimize equipment replacement costs for WBS operators and make all 3800 MHz spectrum available sooner than 2023 in non-urban areas.

29) Cogeco would note that numerous parties commented on this issue in their comments, citing differing positions regarding how WBS licensees would be treated with any band clearing proposal including: support for Option 2 as-is; support for Option 2, but only with 50 MHz of spectrum; support for Option 1 as-is; support for Option 1, but at a lower frequency band, and limited to 50 MHz. One party even proposed a third option - moving WBS to 3400-3450 *and* giving access to 80 MHz in the 3900 MHz band.

30) With regard to the support for Option 2, Bell, Telus, Xplornet and Quebecor all supported this option, citing the main advantage noted by Cogeco in its comments, i.e., that moving WBS licensees out of the 3650-3700 MHz band would permit certain parties to achieve spectrum contiguity with 3500 MHz spectrum, post-auction. Further, certain of these parties noted that, for 5G purposes, having 100 MHz of

contiguous spectrum is a requirement in order to fully take advantage of the benefits associated with the rollout of this new service.

31) However, other parties noted some serious issues related to moving WBS licensees further up the band from where they were operating today, even with a greater amount of spectrum available.

32) The primary issues identified by a number of parties is the issue of available equipment at the higher band for WBS licensees. For example, Bragg Communications Inc. stated:

> *Eastlink submits that Option 2 would require Eastlink to completely replace the equipment used to offer our WBS, or discontinue the service. Option 1 would allow us to continue to offer WBS with minimal change to the service.*[12]

33) Similarly, Shaw Communications Inc. stated:

> *Option 2 may not be optimal from a device ecosystem and efficiency perspective. Many of the purported benefits of Option 2 can be achieved without displacing the WBS users, including by adopting new technical rules, and a new licensing and sharing approach. This would avoid the complexity, potential delays and costs associated with the relocation of WBS users to a new frequency range.*[13]

34) Iristel adds to these comments, identifying further issues that will be introduced for existing WBS licensees if Option 2 were to be implemented:

> *In paragraph 87 of the Consultation document, ISED describes Option 2 mentioning the introduction of a new licencing process for the 3900-3980 MHz range without providing any details. This creates a business risk for WBS users. The transition period proposed does not consider other activities such as the timing of the 3800 MHz auction, FSS spectrum satellite clearing, and the development of a usable equipment ecosystem. Any timeline for the*

[12] Comments of Bragg Communications Inc., 26 October 2020, para. 11.
[13] Ibid, para. 94.

proposed transition period must consider these activities which are in the critical path for relocation.[14]

35) CanWISP has been more categoric in noting that:

a) *Ecosystem Availability: According to Canadian vendors' roadmaps, the creation of a commercial ecosystem for Canadian service providers in the 3900-3980 MHz band will require 3-4 years of design, manufacturing and commercialization post completion of the FCC C-Band auction in early 2021.*

b) *WISPs will need a subsequent 18-24 months - post availability of equipment for design and deployment of the new networks and CPEs. Overall, WISPs will not be able to provide commercial services in the 3900-3980 band before the end of 2026.*

c) *These timelines go well beyond that envisaged by ISED of Dec 2023 for urban areas and 2025 for rural areas.*

d) *Cost: The cost of swapping the entire current gear of LTE network (core, radios, CPEs) is going to be very high and potentially will cause many WISPs to stop provision of services to customers, as it means the entire network has to be replaced. This service interruption will be particularly felt by rural subscribers who have few options for alternative service providers*.[15]

36) Iristel also noted that, since 2010 when ISED initiated the framework of permissively awarding spectrum to WBS service providers on the basis of a shared 'all-come, all-served' basis, the service provider community has stepped up, rolling out fixed wireless networks, and increasingly using certified LTE equipment to provide broadband services to some 300,000 end-customers in mostly rural and underserved locations in Canada.[16]

37) The question remains, therefore, what is the best path forward amongst all the suggestions received for WBS service providers in Canada?

[14] Comments by Iristel, 26 October 2020, para. 40.
[15] Comments by Canwisp, 26 October 2020, para. 20.
[16] Ibid, page 13.

38) In Cogeco's opinion, the answer to that question has to begin with determining the appropriate role for ISED to play within the broader policy framework to bridge the digital divide in Canada. As has been amply demonstrated in the context of the COVID-19 pandemic, the importance of reliable high speed Internet services has risen dramatically, and service providers across the country have stepped up to ensure their customers remain connected. Furthermore, service providers like Cogeco are aggressively participating in public funding programs from a variety of sources to dramatically expand our network to reach more households on our Canadian footprint than ever before. Cogeco submits that WBS service providers are a key participant in the mix of service providers providing vital Internet services to Canadians, as has been demonstrated by Iristel in their comments. As such, any migration activities undertaken by ISED needs to accommodate WBS service providers and their end-customers. This means, at a minimum, ensuring that those end-customers continue to receive service during the transition period and, further, that a transition plan be implemented to minimize the costs to WBS licensees associated with transitioning out of the current spectrum band for this class of service provider.

39) For those reasons, Cogeco submits that, after careful examination of all the parties' comments, it continues to recommend that ISED use Option 1, for the following reasons:

a) Equipment availability - As has been noted by many parties, equipment at the higher band of 3900-3980 MHz is currently not available. Further, as noted by Canwisp, such equipment is not expected to be available for a period of 3 to 4 years, plus the time it will take for their members to purchase, install, test and to transition their own customers to the new equipment. Such a timeline could have deleterious effects on the operations of certain WISPs currently offering vital services to Canadians. Option 1 provides a smoother transition process

for WISPs as they can adjust their current equipment to accommodate continued operations in the current sub-band, a slightly lower sub-band as some parties have suggested, or an expanded sub-band to provide 80 MHz of spectrum.

b) Transition cost - there are two elements to the costs imposed on WISPs with transitioning further up the band: the cost of new radio equipment, and the operations costs associated with moving their customers to that new band. In both cases, the cost burden is significant and Cogeco cannot recall seeing any proposals in ISED's Option 2 to compensate existing licensees for any anticipated move up the band. As such, Option 1 provides a least cost option for continuing the operations of current licensees.

c) Minimizing customer disruption – clearly, when ISPs are to be tasked with making a dramatic change as contemplated with Option 2, their own customers will be affected. The ISPs need time to acquire new equipment, install it, test it and incur additional costs in migrating their customers to the new network. Clearly, in this case, Option 1 will provide the least amount of disruption on their end-customers.

d) There are alternatives - While both Option 1 and 2 are well-thought out options for WBS licensees, other viable options have been presented to ISED as part of this consultation that could be considered. One example is moving WBS licensees slightly lower in the band, essentially a variation of Option 1 that has as many positive attributes as Option 1 itself.

40) Cogeco therefore recommends that ISED carefully consider the submissions of Canwisp and others who are directly affected by any proposed transition plan.

41) Further, Cogeco recommends that ISED's approach to the licensing framework for this 80 MHz of spectrum be the least burdensome possible, particularly for those service providers who require greater spectrum/capacity resources in rural and underserved areas of Canada. The existing approach for 3650 MHz licensing could be maintained but with additional licence conditions to improve interference coordination. Cogeco also views favorably a database-driven dynamic spectrum allocation similar to the United States' CBRS for these rural Tier-5s.

3 Licensing Process for the New Flexible Use Licenses

42) In its comments, Cogeco submitted that it was favourable for the use of an auction as the preferred licensing process for the flexible use spectrum in the 3800 MHz band. However, Cogeco also submitted that, in any auction design for this spectrum band, and taking into account the principle of ensuring the spectrum is broadly available to existing and new service providers who are prepared to close the digital divide in rural and underserved areas of Canada, a number of considerations should be taken into account, including:

a) **First,** Tier 5 license areas should be used, similar to the approach recommended by Cogeco in ISED's consultation on the 3500 MHz spectrum auction framework, where Tier 4 license areas are used for most areas of the country, with the exception of the major urban markets of Vancouver, Toronto and Montreal, where Tier 5 license areas would be used. As noted by Cogeco, using this hybrid approach would generate competitive benefits by allowing smaller, regional players to acquire spectrum in a cost-effective manner, reduce the complexity of the auction as it limits the use of Tier 5 license areas to urban areas, thereby reducing the total number of products at

auction, and reduces barriers to entry for smaller, regional players as it makes spectrum within those Tier 5 license areas less costly from the outset.

b) **Second**, pro-competitive measures should be favoured. Given the amount of spectrum that potentially could be auctioned (depending on the successful implementation of spectrum clearing measures noted in this ISED consultation), Cogeco recommended that any auction for the 3800 MHz band include pro-competitive measures. Cogeco noted that such measures would be necessary for the 3800 MHz band for a number of reasons, including the amount of spectrum to be made available, the technical characteristics of using this spectrum for 5G, the necessity for a number of smaller operators to participate in the auction due to potential displacement actions to clear the band, and that, in general, National Mobile Network Operators ("NMNOs") have a mixed record in fully utilizing the spectrum assets they have acquired through auction, or other means, particularly in rural areas of the country.

Cogeco notes, in particular, the public statements of Telus Communications Inc. ("Telus") at the 2020 Canadian Telecom Summit where, for the first time, a NMNO admitted that certain spectrum was being left fallow and that, in order to help solve connectivity issues in rural areas, changes to spectrum policy would need to be made to compel spectrum holders to deploy network in a more timely manner:

> *Shaw, Eastlink and Videotron have deployed less than 20% of their rural spectrum, whereas Telus has deployed in the neighbourhood of 65% of its rural spectrum. So, right there, without a dollar of public funding, if we simply asked more of license-holders in terms of deploying more rapidly, more stringently, not over the 30-year*

> *timeframe that is allowed with AWS-1, but say, over a ten-year timeframe, we'd be doing a lot more for the country*.[17]
>
> *When asked during the Q&A period after his speech what should be done with spectrum* [Tony Geheran, Executive Vice President, Chief Customer Officer, Telus Communications Inc.] *says* [it] *is not being deployed in rural areas by the regional wireless companies* [;] *he said: "If they're not going to use it and they don't have plans to use it in the next 18 months, then I would suggest we recover that spectrum and re-allocate it so that it can be put to work effectively, to the benefit of rural Canadians.*[18]

While the issue of lengthy license terms, and the ability of license-holders to deploy is a constructive issue to raise as part of the debate around how Canada solves its connectivity issues, Cogeco submits that Mr. Geheran's comments are somewhat self-serving in the targeting of the performance of regional MNOs. While Eastlink, Shaw and Videotron are more than able to defend their deployment record and plans, it is useful to note that all three of those companies have only obtained their spectrum relatively recently and are still in the build-out phase of their network deployment, while NMNOs have had spectrum assets for more than 30 years and still have not deployed all of the spectrum they've been allocated. Cogeco would note, for example, that if one were to use Mr. Geheran's time frame of 18 months literally, then Telus itself would be off-side with respect to its 600 MHz licenses. Those were officially awarded to Telus on May 27, 2019 and, as of the time of writing this submission - as per information contained in ISED's own spectrum database - had not been deployed. Given that, Cogeco welcomes a debate around the issue of 'fallow spectrum' and would even recommend that, if any spectrum is

[17] Remarks by Stephen Schmidt, Vice President, Telecom Policy & Chief Regulatory Legal Counsel, Telus Communications Inc., at the Regulatory Blockbuster Panel, Canadian Telecom Summit 2020, 18 November 2020.
[18] 'CTS 2020: Geheran outlines Telus's commitment to Indigenous communities; calls for spectrum policy overhaul', Cartt, Denis Carmel, 20 November 2020.

to be ‘re-allocated’, ISED take the lead in recuperating such spectrum, and provide opportunities for smaller, regional service providers to access this asset to ensure better deployment in rural areas since NMNOs already have access to more than 70% of total spectrum assets in Canada.

Another option for ISED to consider regarding the issue of spectrum left fallow for too long a time it to structure an auction framework with some of the suggestions Cogeco made leading up to the publication of the 3500 MHz auction framework. In its comments to ISED, Cogeco made at least three suggestions that would improve the timeframe of network rollout in rural areas:

- The use of Tier 5 License areas, which do a better job of separating rural and urban areas of the country, and provide a more cost-effective option for smaller, regional, rural-focussed service providers to surmount the barrier in acquiring licensed spectrum to serve their customers;

- Ensure that the amount of set-aside sufficiently large to permit multiple carriers to benefit, but also, add a supplementary round after the clock rounds where unsold set-aside is open to all to ensure than any unassigned spectrum can be allocated without resorting to a supplemental allocation process some months, or years, in the future; and

- Accelerate the current 20 year deployment obligations for Tier-4 coverage to be at 10 years (or even 7 years) to make sure MNOs bidding on rural licences have the necessary incentive to deploy network and services more rapidly.

All three of these measures should be seriously considered for any upcoming allocation mechanism for the 3800 MHz band.

c) **Third**, an important element of a set-aside is the definition of the entities that should be eligible to bid for the set-aside spectrum. ISED proposed in the consultation on the licensing framework for the 3500 MHz band that, if it adopted a spectrum set-aside, eligibility for that spectrum would be limited to entities which are registered with the CRTC as facilities-based carriers, not NMNOs and actively providing commercial telecommunications services to the general public in the relevant Tier 2 area of interest. Cogeco agreed with the first two criteria, but had reservations concerning the third, noting that ISED should consider the concept of actively providing services within a Tier 4 area in which the entity wishes to bid as a set-aside eligible entity. The reasons for this was that Cogeco considers Tier 2 license areas simply too large given that, having facilities and actively providing services somewhere in a Tier 2 service area is not a reliable indicator of the ability to compete in a specific Tier 4 service area elsewhere in that Tier 2 area, nor is a Tier 2 license area a good indicator a particular service provider's ability to serve rural and underserved Canadians.

43) Cogeco is pleased to note that most parties support the use of an auction to allocate spectrum in the 3800 MHz band.

44) Where parties differ is in the use of pro-competitive measures. Again, most parties supported the use of pro-competitive measures - including the use of Tier 5 license areas - given the potential amount of spectrum available for auction, the particular circumstances of some service providers currently operating in the band, such as smaller, independent WISPs and a recognition of the barriers to entry that continue to exist in Canada regarding access to spectrum.

45) For example, Canwisp stated:

> *CanWISP supports this process as a means of releasing 3800 MHz spectrum. It will give the opportunity for both incumbents and WISPs to participate and extend their services to Canadians. However, given the relative commercial power of the incumbents, the interests of the WISPs as a public service providers targeting rural areas, should be protected by the use of set asides along with use of Tier 5 licensing as key pro-competitive measures and this in turn, would ensure access to affordable, secure spectrum,*[19]

46) The Canadian Communications Systems Alliance ("CCSA") stated:

> *In addition to its recommendation, below, regarding Tier sizes, CCSA strongly supports use of a set-aside as a key, pro-competitive measure. Use of a set-aside mechanism could be used to encourage affordable access to spectrum by independent providers and, so, consistent with the Government's over-arching mandate of "Connecting Canadians", encourage extension of high-quality broadband service to Canadians regardless of where they live and work.*[20]
>
> *(...) CCSA strongly supports the use of Tier 5 licensing areas for auctioning spectrum in the 3,500 – 3,800 bands. Otherwise, CCSA fears that a number of its members will be effectively foreclosed by the cost of securing licences for the "large population" Tier 4 areas with significant resulting impairment of their ability to extend their fixed networks to serve new rural communities within their footprints.*[21]

47) The British Columbia Broadband Association ("BCBA") also favoured the use of set-asides, and smaller license areas to make the 3800 MHz spectrum band accessible to its members:

> *In order to support continued investment into rural connectivity, spectrum must be available to small local carriers. An auction process that provides access to small participants is crucial to building a more competitive, sustainable, and equitable future for the communications industry.*

[19] Ibid, para. A52
[20] CCSA Comments, 26 October 2020, para. 26.
[21] Ibid, para. 29.

> *Spectrum caps and set-asides are necessary to ensure that Canadian consumers have access to competitive prices. Smaller service areas are necessary to ensure that rural Canadians have access to urban-grade connectivity services from small, local carriers*.[22]

48) Similarly, Xplornet supported the use of an auction framework, duly formulated by ISED, with safeguards and measures designed to ensure that spectrum would be used to benefit consumers in rural and underserved areas of the country:

> *(...) Xplornet supports ISED's proposal to hold a further consultation to set the parameters of the auction, including competitive measures and other key elements of an auction structure (e.g., type of auction, deposits, etc.). As with the 3500 MHz auction, it will be essential for ISED to establish competitive measures to govern the allocation of spectrum. Only through an auction that is carefully designed and run by ISED can ISED ensure that spectrum will be available to meet the broadband needs of rural and urban Canadians, and that spectrum will be allocated to promote the continued development of a competitive marketplace, all as required by the Spectrum Policy Framework.*[23]

49) Last, Shaw Communications Inc. ("Shaw") elaborated on why it was arguing for the use of an auction, noting in particular the accumulation of mid-band spectrum in Canada by incumbents as an issue that needed to be addressed in the context of any spectrum allocation of the 3800 MHz band:

> *The Big 3 continue to enjoy a significant spectrum advantage, making it challenging for wireless disruptors to gain scale, which in turn limits our impact and the number of Canadians that can benefit from our more diverse and affordable offerings.*[24]
>
> *The release of 3800 MHz spectrum is the last significant opportunity for the Department to level the competitive playing field with respect to mid-band spectrum, as it is the last anticipated major spectrum release on the horizon for sub-6 GHz spectrum. As the Department has stated, the issue of pro-*

[22] Comments of the BCBA, 26 October 2020, paras. 59 & 60.
[23] Comments of Xplornet, 26 October 2020, para. 37.
[24] Ibid., para. 7

> *competitive measures will be directly considered in a further process. At this stage, it is crucial that the Department adopt band and transition plans that facilitate a significant set-aside in that future licensing process.*[25]
>
> *With respect to mid-band spectrum, which will be the spectrum workhorse for 5G, the Big 3 have dominated the holdings landscape for decades, owing in large part to benefitting from gifted spectrum. For example, the Big 3 were gifted 10 MHz of midband PCS spectrum each. New entrants Microcell and Clearnet, which were acquired by Rogers and TELUS, respectively, were gifted 30 MHz of PCS spectrum each. The incumbents also acquired virtually all of the PCS spectrum that was auctioned in 2001*.[26]

50) To support their arguments, Shaw compiled the mid-band spectrum holdings of all licensees in Canada, and concluded that the NMNOs held 84% of this spectrum. Further, Shaw also noted that the 3800 MHz band is the last major release of mid-band spectrum for the foreseeable future and as such, it was imperative that any future band plan and technical rules associated with an auction for this band include a 'significant set-aside' to prevent the enhancement of spectrum concentration barriers in the Canadian wireless market.

51) Given these comments, it is still the position of Cogeco that an auction, run under the auspices of ISED, is a requirement for any allocation of this spectrum band.

52) Further, given the analysis conducted by Shaw, it is also undeniable that pro-competitive measures are required, either through the establishment of a set-aside, a spectrum cap, or both.

53) Lastly, Cogeco would note the considerable support for the use of Tier 5 license areas for any allocation of this spectrum. Cogeco cannot stress enough that using Tier 5 license areas, in conjunction with pro-competitive measures, will

[25] Ibid, para. 9.
[26] Ibid., para. 51.

address the spectrum barrier issue that has plagued previous spectrum allocation frameworks. Also, the hybrid license area method proposed by Cogeco addresses most of the inequity issues that are prevalent in spectrum auctions of the past, while ensuring that the auction does not become overly complex. Finally, the hybrid approach proposed by Cogeco will address many of the affordability issues that also make spectrum hard to acquire for smaller, regional carriers.

4 Proposed Accelerated Spectrum Clearing Approach

54) As part of the 3800 MHz consultation, ISED made available for comment a proposal by Telesat to provide an avenue to clear the 3800 MHz under a more accelerated calendar.

55) Very briefly, Telesat proposed the following measures:

a) As the lone occupant and licensee of the 3800 MHz band in Canada, Telesat would lead a process to clear the band to make way for the issuance of flexible use licenses;

b) Telesat proposed that it be granted a Tier 1 flexible use license for 200 MHz of this spectrum in the 3700-3900 MHz band;

c) Following this, Telesat would then seek to allocate that 200 MHz spectrum to other service providers via a secondary spectrum market in June 2021 – the same time as the 3500 MHz auction begins – via license subdivisions and transfers, or subordinations in accordance with ISED's existing policies for commercial radio spectrum;

d) Telesat would then use the proceeds of this reallocation process to cover all the costs associated with the transition of Telesat's FSS service out of this band, including funding investments in Telesat LEO, a venture to deploy 300

low earth orbit satellites for the provision of broadband services around the globe.

56) Telesat took no firm position on the issue of whether or not pro-competitive measures should be imposed in their proposed process of allocation, but did state that, if a set-aside is to be implemented, no spectrum cap be applied.

57) In terms of the process that Telesat would take in allocating spectrum via the secondary market, Telesat seemed to propose a kind of expedited clock auction process, where eligible bidders, a reserve price and a time limit are all proposed by ISED, and then Telesat would proceed with negotiations with the highest bidder regarding the commercial terms of the spectrum to be transferred.

58) While Cogeco commended Telesat for proposing such an accelerated spectrum clearing operation, Cogeco found the lack of detail in the Telesat Proposal raised serious questions:

a) It was unknown on what basis Telesat intends to allocate the spectrum across the country. Was it to be by Tier? A SMRA, CA or CCA auction format? Are there packages and is package bidding permitted? If by Tier, what Tier size is appropriate, and why? Is there any mechanism to make suggestions as to the appropriate license area and auction format?

b) The reserve price was unknown. While it is possible that the allocation method proposed by Telesat could result in lower spectrum costs for any beneficiaries, it is entirely dependant on what the reserve price will be, and further, what that reserve price will be based on.

c) Lack of clear support for pro-competitive measures. As has been noted above, the importance of pro-competitive measures – in the context of a highly

concentrated Canadian spectrum market where the bulk of the spectrum is owned by the NMNOs – is a critical consideration.

d) Cogeco had concerns with the fact that bidders who successfully win spectrum may, in the end, lose it should negotiations with Telesat fail post-auction as indicated in paragraph 46 of the Telesat Proposal. The process proposed by Telesat has significantly more risks for bidders and ultimately requires a transfer or subordination request to be submitted to the ISED and the Minister which could be denied. It is also not clear if the Minister will be able to review all negotiated transactions simultaneously to holistically assess if spectrum ownership concentration issues arise.

e) No firm indication of the inclusion of anti-collusions rules.

f) Length of time in concluding negotiations with Telesdat and gaining approvals from ISED. Although Telesat may be able to rapidly conduct a fair secondary market auction that respects any ISED imposed conditions and pro-competitive measures, this process implied that a series of transfer or subordination requests be submitted to ISED following negotiations. Considering the secondary market auction itself, multiple parallel negotiations between Telesat and winning bidders, and preparation, submission and approval of subordination requests by ISED, Cogeco submitted that the overall process may not be any faster than if ISED conducted the auction of the first 200 MHz block following the 3500 MHz auction.

g) Use of secondary market proceeds. As indicated by Telesat, the proceeds of the secondary market allocation are supposed to fund two initiatives – defraying the costs associated with clearing the band, and funding their new Telesat LEO venture. As such, Cogeco noted that Telesat had the financial

> incentive to wring the maximum financial value out of the spectrum they intend to allocate, in order to raise the maximum amount of funds for their purposes.

59) Given these concerns, Cogeco recommended not moving forward with the Telesat Proposal. Rather, Cogeco favoured the use of an ISED auction to allocate this spectrum. Cogeco does encourage ISED to discuss and negotiate with Telesat the opportunity to clear 400 MHz in total to be returned to ISED in two blocks of 200 MHz on the timelines suggested by Telesat, plus a commitment by Telesat to enhance service in satellite dependent areas.

60) Cogeco has noted, with a certain level of disappointment, Telesat's comments filed in this consultation. Cogeco submits that Telesat has said nothing that alleviates any of the concerns expressed by Cogeco in reaction to its proposal by failing to address a single concern noted by Cogeco. Telesat has not provided any additional detail or commentary on any of the substantive issues concerning the design of its allocation process, the reserve price, measures to ensure that smaller, regional carriers can benefit from its proposed clearing scheme, anti-collusion measures and the timeline associated with direct negotiations with Telesat.

61) On the other hand, statements by Telesat concerning the use of the proceeds of its proposed approach were, in fact, much clearer than noted in its original proposal:

> *Specifically, Telesat has committed to investing **all** of the net proceeds from this process into new facilities and satellites, in particular Telesat's advanced Low Earth Orbit (LEO) satellite constellation Telesat LEO, which is a key component of Telesat's plan to clear 3800 MHz spectrum* [emphasis added].[27]

62) Cogeco submits that this is an incredible statement to make, considering that Telesat has yet to make public the total cost of its Low Earth Orbit ("LEO") project.

[27] Comments of Telesat, 26 October 2020, para. 17.

Some observers have pegged the cost of Telesat LEO at some US$3 billion dollars, just for the initial investment that would cover the satellite manufacturing component. This excludes the costs associated with launching the satellites into orbit, annual maintenance costs, ground receiver costs and end-user equipment costs. By any measure, this is a huge investment to undertake.

63) As a result, Cogeco continues to be of the opinion that Telesat's motives in proposing an accelerated clearing operation of the 3800 MHz band is to raise as much cash as they can to fund their LEO investments. This simply confirms Cogeco's fears that Telesat will be incented to raise as much as possible from its private spectrum allocation approach. Such an overriding incentive completely clouds other public policy considerations, such as addressing the concentration of mid-band spectrum in the hands of the NMNOs, the transition of WBS licensees to another part of the band, and using this clearing exercise as an opportunity to provide spectrum to smaller, regional operators.

64) As Shaw stated in its comments:

> *The proposal seeks to fast-track – without due process – integral elements of the Department's standard reallocation and licensing processes, including consideration of pro-competitive measures, deployment requirements and other conditions of licence, auction design, and anti-collusion rules, among others. A thorough consideration of these issues in a proper public consultation is critical to ensure the integrity of the entire rule-making process. In particular, it is entirely inappropriate for the Department to make any determinations relating to pro-competitive measures prior to the establishment of a band plan – these determinations must be made as part of a subsequent consultation, as the Consultation Document states.*[28]
>
> *(...) Telesat's clearing proposal is not an appropriate mechanism for Telesat to fund its LEO project. The proposal would unnecessarily and fundamentally alter standard reallocation and licensing processes and take Canada out of*

[28] Ibid, para. 12.

> *step with international band-plans, all in a manner that will hurt, not help, competitive deployment of 5G in Canada.*[29]

65) In light of the comments noted above, Cogeco would continue to submit that the Telesat Proposal – in its current form – remains deficient, and is an inappropriate method to allocate spectrum in this band as it does not adequately respond to the questions noted by ISED regarding rural/remote connectivity, promotion of competition in mobile services, and making more mid-band spectrum available to support 5G services.

5 Conclusions

66) Cogeco welcomes ISED's initiative in consulting with the public on the potential availability of valuable, mid-band spectrum. Making more spectrum available for the deployment of the next generation of mobile broadband services is key in continuing Canada's lead in deploying modern wireless networks, but also, in addressing the digital divide that separates urban from rural Canadians in many parts of the country.

67) The opportunity to make available a potential 400 MHz of spectrum in the 3800 MHz band is a unique moment for ISED to not only enhance the spectrum positions of current regional service providers, but also, to encourage new entrants that have opportunities to serve Canadians in areas where the NMNO's have traditionally been late in deploying advanced wireless services.

68) In response to some of the technical questions raised by ISED regarding the clearing of the 3800 MHz band, Cogeco has made a number of observations and recommendations relating to some of the key technical aspects of clearing this spectrum band of incumbent licensees.

[29] Ibid, para. 15.

69) Once cleared of incumbent licensees, Cogeco has recommended that ISED's approach of auctioning off spectrum in the 3800 MHz band is preferable to the Telesat Proposal. The Telesat Proposal – while laudatory in its novelty – lacks considerable detail in how spectrum will eventually be allocated and appears oriented more to maximizing a windfall for Telesat than in the equitable allocation of spectrum in adherence to ISED's spectrum allocation policies and more general connectivity objectives.

70) In addition, Cogeco is recommending that competitive measures be used in any planned auction of spectrum in the 3800 MHz band, in order to ensure equitable access to spectrum and to mitigate the consolidation of spectrum in the hands of the MMNOs. Cogeco also recommends that ISED adopt Cogeco's proposal to use a hybrid license area method of allocating this spectrum, i.e., Tier 5 license areas for the three major urban areas of Vancouver, Toronto and Montreal, and Tier 4 license areas in the rest of Canada.

71) Lastly, Cogeco is recommending that, if ISED decides to not conduct the auction itself, that it – at a minimum – dictate all terms and conditions to Telesat regarding auction format and rules, pro-competitive measures, anti-collusion rules, payment terms, etc. as would be found in a typical ISED auction framework.

72) Cogeco would like to thank ISED for the opportunity to provide comments in this Consultation.

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