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Subject: Notice No. SLPB-002-20: Response to Comments by Other Stakeholders

1. Founded in 1891, the Canadian Electricity Association (CEA) is the voice of more than 40 Canadian electrical utilities. CEA members include electrical generation, transmission, and distribution companies from all provinces and territories.
2. The electrical infrastructure that Canadian utilities operate is critical to the safety, security, and economy of Canada, and is also a key enabler of Canada's decarbonization goals. As reliance on the grid has grown, and the complexity of the generation, transmission, and distribution systems increase, resilient communications networks with access to broadband spectrum are becoming increasingly critical to the safe and reliable operation of the electric system.

Broad Agreement on Several Points

3. In reading the submissions the department has received several themes are present. The following conclusions are widely supported by the majority of respondents including CEA.
 - a) ISED's spectrum policy should align with the US.
 - b) The spectrum should be designated for flexible (both fixed and mobile) use.
 - c) 10 MHz channels appears to have universal support as such channels would align with 3GPP
4. Related to point a) CEA observed strong consensus that equipment specifications should not be Canada specific or it would isolate Canada from global (US & EU) equipment ecosystems. Worse still it would hamstring Canadian device manufacturers by isolating them from global markets and damage their competitiveness. As such there should be consistent rules for devices, including broadcast power for all spectrum users including Wireless Broadband Services (WBS), Mobile Network Operators (MNOs), Industry/Enterprise, etc. As such CEA agrees with Ericsson and others who ask ISED to have internationally consistent device rules. An added bonus is that should the department agree, it will support Wireless Internet Service Providers (WISPs) who will be able to broadcast at higher powers and cover greater areas thus increasing the viability of their business cases and improving rural and remote connectivity.
5. CEA observed strong approval for the use of tier 5 licensing areas for the spectrum and CEA did not read any convincing arguments as to why tier 5 licensing areas would be inappropriate. Also related to licensing areas CEA does agree with Ericsson and others who note that the definition of satellite dependent communities, and the spectrum allocation rules associated with that designation, should be subject to change based on available technology.
6. CEA agrees with statements by actual WBS users including but not limited to CanWISP, BCBA, The Rural Municipalities of Alberta and others who all state that displacement either the 3900-3980 MHz





(ISED option 2) or the 3400-3450 MHz range (proposed by Bell et al.) will damage their businesses. Additionally CEA is not sure that 3400-3450 MHz displacement would work given incumbent radar systems. WISPs, a major WBS user, are the workhorses of rural and remote internet connectivity and their ability to connect Canadians should not be damaged. As such Option 1 in the consultation which does not displace WBS users and changes the channels to 10 MHz is the only reasonable option. **WISPs need an anchor band** with a viable ecosystem if they are to continue to offer needed connectivity to rural and remote communities and the 3650-3700 MHz block of spectrum is such a band. WBS is also important for industrial users and loss of access to WBS by displacement to a frequency band with no device ecosystem would equally damage their businesses and their ability to add to Canada's economy. .

7. Another major theme that CEA noted was that stakeholders, except the largest MNOs, speak favourably of channel aggregation technology. Sasktel in its submission (paragraph 13) notes aggregation is suitable for carriers to achieve high 5G performance. BCBA notes (paragraph 20) that aggregation is acceptable and frequency continuity is less important and CanWISP (para A2.a) agrees that aggregation is sufficient for effective operations. As such CEA repeats our statement that channel aggregation technology is good and 100 MHz of contiguous spectrum is not essential for 5G. We recognize that contiguous spectrum is a 'nice to have' just as we trust other groups will accept that it is not a 'need to have'. We also note that 300 MHz of spectrum at 3500 MHz is expected to be auctioned for an exclusive use model and that our proposal doesn't preclude contiguous blocks in 3800 MHz..
8. While there is broad agreement on many points there are still outstanding issues in this consultation. Canadian innovators like Redline Communications, and Ecotel note that industry needs will not be met by the spectrum allocation unless non-MNO use is enabled. WISPs note that their own spectrum needs are growing and that they too should be eligible to use spectrum outside their traditional 3650-3700 MHz range. And MNOs desire to offer bleeding edge 5G services to cities. CEA wholeheartedly agrees with all these diverse sentiments because we recognize that each group is stating their needs honestly.
9. The CEA position, shared by other innovative groups such as Redline, is that a spectrum allocation system similar to the Citizen's Broadband Radio Service (CBRS) is a reasonable compromise for all these diverse stakeholders. CEA is resolute that our CBRS recommendation will satisfy these diverse stakeholders, including the Canadian taxpayer, because at its heart CBRS is a way for MNOs and non-MNOs to acquire and use spectrum effectively. And, because the system is proving very successful in the United States with an equipment ecosystem that is bursting in its vibrancy, resiliency and low cost.
10. One note that CEA wishes to touch on briefly is a reminder to the department that for many electrical utilities C-band satellite connectivity is a system of last resort and as such continuity of service should not be interrupted.

CBRS Allows Canadians to Share

11. After reading the submissions to this consultation CEA remains resolute that our recommendation, largely mirrored by Redline and the PSBN Innovation Alliance, that a system similar to the Citizen's Broadband Radio Service (CBRS) is a good solution for all of Canada's different stakeholders namely, Mobile Network Operators (MNOs), Wireless Internet Service Providers (WISPs), Industry/Enterprise and the Canadian taxpayer. A CBRS approach with its mix of General Authorized Access (GAA) and Priority Access Licenses (PALs) will allow the goals of this consultation (**innovation, competition, timely deployment**) to be realized to the betterment of Canada. If there is one country that has the experience and temperament to support a spectrum allocation system based on sharing (i.e. CBRS) it is Canada.
12. CBRS is not a perfect system, because there is no perfect system for every different stakeholder; what is



perfect for an MNO is not what is perfect for a WISP, etc. For this consultation and the spectrum under consideration the department should focus on finding a good compromise for everyone. CEA and others hold that CBRS is that good system for everyone because it allows spectrum to be used by everyone to its fullest potential. Results from the US are incredibly heartening as Google reports there are 100 000+ active CBRS accounts with no known interference¹.

13. The chief benefit of CBRS is that it is a dynamic system which ensures all spectrum is used and that spectrum purchases cannot be exploited to block competitive entrants. The Dynamic Spectrum Alliance submission to ISED calls this a 'use it or share it' model and CEA is supportive of their sentiment. Additionally, **the GAA portion acts as an anchor band for non-MNOs** allowing them the certainty of spectrum availability.
14. As the department is aware large swathes of Canada have unused spectrum because incumbent owners will not allow reasonable subordination. Cogeco notes, in paragraphs 5 & 9 of their submission, how spectrum is held almost exclusively by Bell, Telus and Rogers while large portions of that spectrum is underutilized. The department, the Canadian Radio-Television and Telecommunications Commission (CRTC), and the Minister have all noted repeatedly that in rural and remote Canada basic connectivity is the problem, not whether 5G is available. There is little reason to believe that allowing MNOs to acquire more spectrum uncontested will improve basic connectivity regardless of what technology generation is deployed.
15. CEA is not saying that MNOs should be excluded from this 3.7- 4.0 GHz spectrum, far from it. What we are saying with our CBRS recommendation is that everyone, not just MNOs, should have the opportunity to acquire spectrum and that **owning spectrum does not give the owner the right to squander that asset's potential**.

The Canadian CBRS Regulatory Leadership Opportunity

16. CEA reached out to diverse stakeholders to this consultation regarding CBRS and we heard three legitimate concerns about CBRS namely,
 - a) CBRS is not adapted for industry in urban areas
 - b) Spectrum Access System(SAS) fees are too high
 - c) Loss of SAS connectivity would cripple remote operations
17. To these three concerns we hold that a future Canadian CBRS system can offer simple, robust and reasonable answers.
 - a) It is CEA's understanding that WBS is not fully used in urban areas because WISPs usually cannot compete with wireline internet operators. As such there would be GAA spectrum (3650-3700 MHz) available in cities for industry. Because of the relatively short propagation of midband spectrum multiple industries, assisted by the SAS, will be able to use the same spectrum without interference despite their relatively close proximity. In the US we see diverse companies including but not limited to sports stadiums, universities, and heavy industry all participating in CBRS and experiencing no interference.

¹ With 100,000 CBRS access points already, spectrum sharing is eyed for other bands - <https://www.fiercewireless.com/wireless/100-000-cbrs-access-points-already-spectrum-sharing-eyed-for-other-bands>



- b) The SAS is a central database system that coordinates multiple parties sharing the same spectrum. CEA holds that SAS fees should be reflective of the service that SAS offers and the business it enables, otherwise it is little more than a financial burden. In areas where a SAS is not required due to no other nearby spectrum users ,i.e. most of Canada's geography, a SAS should be minimally intrusive and burdensome because it does not enable the business case of the spectrum user. This is just a good regulatory principle such that fees should only be charged for a service offered. And here we agree with CanWISP (paragraph 5) that "the department has an important role to play with a central database" and Cogeco (paragraph 48) states that they "favourably [view] a database-driven dynamic spectrum allocation similar to the United States' CBRS for these rural Tier 5" however the system should extend to cities as well.
 - c) With the US CBRS, should a remote and/or critical operation, a mine for example, lose SAS connectivity then their radios would shut down an hour later. But that is how the US system works, this would be easily solved with a Canadian version of CBRS. The SAS verification period is meant to ensure coordination of busy spectrum, not to prevent operations in areas that have no interference. A condition of licence for operators outside urban areas could be a SAS verification period of 1 month or more, alternatively frequent verification with a long hold-over time has a similar effect. This number can be flexible based on the gradient of urban, sub-urban, rural, remote, and satellite dependent communities such that denser population centres have stricter SAS verification regulations.
18. Besides the three challenges we also heard from other stakeholders benefits of CBRS that we had not considered. In short they are.
- a) CBRS will help solves spectrum subordination disputes by preventing them before they start. Should a PAL operator wish to use the spectrum they have purchased they can and have the right to, in all other circumstances other groups can use that spectrum via the SAS. This feature of CBRS reduces the burden on ISED to administer the spectrum utilization policy, and subordination process.
 - b) CBRS enables the full 5G ecosystem by creating a market for mobile, fixed, consumer, and industry systems. As such CBRS will allow Canada to use its own market to stay at the leading edge of 5G by encouraging diverse deployments.
19. In closing we hold that ISED has the opportunity to learn from the US CBRS model and improve on it. The major risks have been conquered, the device ecosystem is in place and flourishing, the SAS been proven out, regulatory problems have been identified and these regulatory problems can be fixed before the system goes live. With CBRS Canada through good regulatory action by the department will reap the rewards of a system it knows will work.





Canadian
Electricity
Association

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canadienne
de l'électricité

All of which is respectfully submitted.

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