Canadian Electricity Association | Association canadienne de l'électricité

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Subject: Notice No. SMSE-014-20-2020, Consultation on the Technical and Policy Framework for License-Exempt Use in the 6 GHz Band

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 increasingly critical to the safe and reliable operation of the electric system.

CEA Supports ISED's Approach to the 6 GHz Spectrum

3. CEA's umbrella comment on this consultation and its proposals are that we see this as a positive step for Canada. We thank ISED for proposing spectrum allocation that can be used by diverse stakeholders including industry. We also thank ISED for recognizing and including protections for incumbent microwave systems and satellite services as CEA members use both technologies for critical communications and loss of those systems would be detrimental to the electrical grid.

4. We see the 6 GHz proposal with its automated frequency coordinator (AFC) as functionally identical in purpose and policy to our recommendation that the department adopt a citizen's broadband radio service (CBRS) that uses a spectrum allocation service (SAS) for the 3.85 GHz spectrum to allow local operations and spectrum sharing. Because of the similar objectives between this 6 GHz consultation and CEA's position regarding the 3.85 GHz consultation here we repeat two recommendations from those earlier submissions as they relate to the AFC.

5. The first is that AFC fees should be reflective of the service that AFC offers and the business it enables, otherwise it is little more than a financial burden. In areas where an AFC is minimally required due to no other nearby spectrum users i.e. most of Canada's geography, the AFC 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.

6. Secondly, the AFC verification period is meant to ensure coordination of busy spectrum, not to prevent operations in areas that have no interference concerns. A condition of licence for operators outside urban areas could be an AFC verification period of 1 month or more, alternatively frequent verification with a long hold-over time has a similar effect. The verification period/hold-over time can be flexible based on the gradient of urban, sub-urban, rural, remote, and satellite dependent communities such that denser population centres have stricter AFC verification regulations. The goal of a flexible verification/holdover

period is to ensure that remote operations with little to no interference concerns can continue if they lose connectivity to the central AFC database. Again, this is good regulatory practise as the AFC is meant to coordinate busy spectrum, not prevent operations if interference is not an issue.

6 GHz is One Part of a Larger Solution

7. However, here we ask that ISED also note that the 6 GHz proposals put forward do not solve all, or even the majority, of industry's spectrum concerns. As such we draw attention to industry's need to access low, mid, and high 3GPP bands as well as an LTE & 5G compliant anchor band. Without access to these bands industry will continue to fall behind other global jurisdictions that recognize industry as key users of spectrum and as a stakeholder class with diverse needs not served by spectrum policy that is exclusively focused on the consumer mobile market. This 6 GHz consultation and its proposals do recognize this, but such recognition needs to extend to other spectrum bands for Canada to unlock the potential of industry to innovate, grow, and compete.

8. Bands that industry are most interested in, as they would allow it to deliver the greatest economic growth and global competitiveness opportunities to Canada, have the following characteristics:

   a. Offer a robust and multi-vendor equipment ecosystem.
      - Single vendor ecosystems can lead to lock in and carry significant business risk as that single vendor may exit the market and thus strand industry.
      - If other jurisdictions have similar industrial applications (i.e. technology optimized for critical applications) this further supports the device ecosystem as Canada is itself a small market in the global context.

   b. Use licensing conducive to long term investments which can include
      - first-come first-serve.
      - all-come all-serve.
      - license exempt.

   c. Have usage patterns that allows industry to enter areas without significant risk of interference, including bands that are currently lightly used and/or not already allocated by auction.

   d. Offer a good balance between cost and performance.

9. Industry specifically needs access to low bands because sensors do not exist for 6 GHz and are years away from the robust ecosystems needed by industry (point a. above). The following 3GPP bands support Cat-M1 and NB-IoT devices that meet industry's sensor need.

   - B71 (600Mhz)
   - B12/13 (700Mhz)
   - B14 (700Mhz PS)
   - B8 (900Mhz)
   - B26 (800Mhz)
   - B5 (850Mhz)
   - B2 (1900Mhz)
   - B25 (1900Mhz G-block)
   - B4 (AWS1)
   - B66 (AWS3)
   - B72 or B31 (450 MHZ)

   Industry also needs an anchor band with LTE and 5G bands. The 3650 to 4200 MHz band offers an

excellent opportunity with existing 4G bands 43 and 48 (CBRS) below 3800 MHz, as well as emerging 5G band n77, which extends to 4200 MHz. CEA detailed our proposal for that spectrum block in our submissions to ISED consultation SLPB-002-20 regarding the 3650 to 4200 MHz spectrum.

10. To build on our comments from that consultation, exclusively licensed and protected spectrum (i.e. an anchor band) is needed for mission critical applications particularly those involving life safety systems. Exclusively licensed spectrum can be effectively augmented with licensed all-come all-serve, and even license exempt spectrum. An anchor band is necessary for industry so that we can have the certainty of spectrum availability and interference protection that will allow us to invest in telecom solutions.

Industrial Spectrum

11. In closing we thank ISED for both recognizing CEA members as incumbents in the 6GHz spectrum and working to protect those incumbents from interference while also working to advance an innovative technology and licensing package that will improve Canada's industrial telecommunication landscape.

All of which is respectfully submitted.

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