Canadian Electricity Association | Association canadienne de l'électricité

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Mr. Claude Doucet, Secretary General
Canadian Radio-television and Telecommunications Commission
Les Terrasses de la Chaudière
1 Promenade du Portage
Gatineau, Québec J8X 4B1

13 January 2019

RE: ***Review of mobile wireless services - Changes to procedure*, Telecom Notice of Consultation CRTC 2019-57-1, 28 October 2019** ("TNC 2019-57-1")

Dear Mr. Doucet,

1. The Canadian Electricity Association ("**CEA**") is the voice of more than 35 Canadian electrical utilities ("**CEUs"**) based in every Canadian province and territory.

2. As electricity generators, transmitters, and distributors, our members have substantial experience in procuring telecom services, investing in telecom facilities, and designing, building, and operating telecom networks. In fact, CEA members have built, operated and, in many cases, sold facilities-based telecom carrier arms acquired by third parties participating actively in the current proceeding.

3. This is the CEA's reply, further to the procedural directions set out in TNC 2019-57-1, to the economic report authored by Dr. Tasneem Chipty of Matrix Economics, for Competition Bureau ("**Chipty Report**"[1]) and Competition Buraeu's supporting comments presenting "the findings of the Bureau and its economic expert".[2]

A. Absent Product Markets

4. Competition analysis generally proceeds by first defining relevant retail markets "in reference to both a product and geographic dimension".[3]

5. Telecom Notice of Consultation CRTC 2019-57 makes general reference to the "retail mobile wireless service market" and "wholesale mobile wireless service market" and to past determinations in respect of "national markets for GSM-based wholesale roaming and MVNO access". But the Notice is clear that among the issues to be determined in this proceeding are working product and

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1 Competition Bureau (Intervener #479 in *Review of mobile wireless services*, Telecom Notice of Consultation CRTC 2019-57), 22 November 2019, Appendix A (Dr. Tasneem Chipty, Matrix Economics, *Report studying the state of competition in the retail wireless marketplace and the benefits of additional competition among wireless service providers*).

2 Competition Bureau (Intervener #479), 22 November 2019 (further comments), paragraph 2.

3 Competition Bureau, *Abuse of Dominance Enforcement Guidelines*, 7 March 2019, paragraph ES.iii.

geographic market definitions that relate to competition in the retail market, and to the related wholesale regulatory framework, for mobile wireless services.[4]

6. The Chipty Report defines the scope of its focus on "retail mobile wireless voice and data services" by reference to the Wireless Code. The Wireless Code applies to "all wireless plans for [retail mobile wireless voice and data services] where the contract is between (a) an individual and a [wireless service provider], or (b) a small business and a [wireless service provider]", where a small business is "one whose average monthly telecommunications bill is under $2,500".[5]

7. But the CRTC did not establish that scope in order to define product or geographic markets in the context of "study[ing] competition in the Canadian retail wireless marketplace".[6] Rather, that scope was established based on a 2012 finding, reached partly on the basis of the jurisdiction already delegated to the Commission for Complaints for Telecommunications Services (as it then was), that "Canadian consumers may not have all the information they need to effectively navigate the competitive mobile wireless market."[7]

8. In fact, the CRTC's findings relating to broader competition, in that 2012 decision, were set out in three short paragraphs.[8] Those paragraphs did not purport to define product or geographic markets. Nor did those paragraphs engage in the finer-grained competition analysis adopted by, for instance, the CRTC's 2015 wireless and wireline decisions[9] and Competition Bureau's guidelines.[10]

9. The retail wireless consumer and small business mobile wireless voice and data services regulated by the Code are no doubt the focus of one or more distinct retail markets. But conclusions drawn from observing these markets as to "competition in the Canadian retail wireless marketplace" are necessarily partial, because they ignore other relevant product markets. "Corporate customers", for

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4 *Review of mobile wireless services*, Telecom Notice of Consultation CRTC 2019-57, paragraph 50, Q1.

5 This definition was established in *The Wireless Code*, Telecom Regulatory Policy CRTC 2013-271, 3 June 2013, paragraphs 23-31; upheld and clarified in *Wireless Code – Clarification of how the Wireless Code applies to corporate wireless service plans*, Telecom Decision CRTC 2014-528, 8 October 2014; and described in *Review of the wireless code*, Telecom Regulatory Policy CRTC 2017-200, 15 June 2017, paragraph 51 and footnote 1. The Chipty Report notes its reliance on the latter recitation at paragraph 10 and related footnote 22.

6 Chipty Report, paragraph 1.

7 *Decision on whether the conditions in the mobile wireless market have changed sufficiently to warrant Commission intervention with respect to mobile wireless services*, Telecom Decision CRTC 2012-556, 11 October 2012, paragraphs 23-24 and 27-28.

8 TD 2012-556, note 7 above, paragraphs 19-21.

9 *Regulatory framework for wholesale mobile wireless services*, Telecom Regulatory Policy CRTC 2015-177, 5 May 2015 (sections on market power assessments); *Review of wholesale wireline services and associated policies*, Telecom Regulatory Policy CRTC 2015-326, 22 July 2015, paragraphs 26-53 (revising the Commission's approach to mandated network unbundling based in part on an assessment of competition in related downstream markets); referred to in TNC 2019-57, note 4 above, at paragraph 29 and at footnote 20 and its accompanying text.

10 For instance, *Abuse of Dominance Enforcement Guidelines*, note 3 above.

instance, are said to "constitute a separate product market as they purchase services through alternate channels and have different requirements".[11] Considerable information the CEA has placed on the record of this proceeding further demonstrates that, alongside such "corporate customer" markets, a distinct demand exists for always-on, pervasive connectivity that provides for a high degree of self-management to operate and maintain geographically-far-flung critical infrastructure, like electricity grids.

10. The status of competition in these separate retail markets matters. If the Commission is to consider "improving consumer welfare"[12] in respect of mobile wireless markets, it must consider how competition for telecom services for geographically-dispersed critical infrastructure grids impacts the reliability, safety, and cost of these grid services to consumers. Indeed, the public policy goals established for distinct, critical infrastructure sectors[13] form part of the non-price social welfare that it is the task of competition policy and industrial economics to maximize.

11. In the past, CEUs have fulfilled these policy goals both by procuring telecommunications services commercially and, to a very significant degree, by developing them internally. That has resulted in CEUs which, today,

- employ dozens of telecom engineers,
- operate copper and fibre networks spanning thousands of route-kilometres,
- maintain telecom towers across Canada's most challenging geographies, and
- administer wireline and wireless communications equipment for which downtime is simply not an option.

12. However, the "major transformations" on whose verge mobile wireless service markets are perched[14] will also, it is submitted, transform demand for telecom services for the geographically-dispersed critical infrastructure grids (henceforth, "critical grid services") stewarded by CEU members. On one hand, the capacity to deploy higher device density will enable the IoT and machine-to-machine communications that enable an omnidirectional "smart grid"—with attendant security enhancements, resilience and up-time gains, and carbon-emission reductions.[15] On the other hand, the device density and persistent connectivity required by a smart-grid environment will demand an unprecedented level of CEU interconnection with, and reliance on, commercial telecom networks. To fulfil demand, such

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11 *Competition Bureau statement regarding Bell's acquisition of MTS*, Competition Bureau, 15 February 2017, cited in the responses to Bureau(CRTC)07-05-19-106(e) *("In prior examinations under the Competition Act, the Bureau has not considered residential and business mobile wireless services as part of the same product market")* and Bureau(CRTC)07-05-19-111 *("The Bureau plans to perform an econometric study of competition in the Canadian wireless marketplace, and plans to include this study as part of its October submission").*

12 Chipty Report, paragraph 10.

13 See, *e.g.*, Public Safety Canada, *National Strategy for Critical Infrastructure*, 2009.

14 TNC 2019-57, note 4 above, paragraph 18.

15 CEA, *The smart grid: a pragmatic approach*, appended to our 15 May 2019 submissions; S.M. Jordan & K. Surana, "We calculated emissions due to electricity loss on the power grid – globally, it's a lot", *The Conversation*, 11 December 2019.

interconnection and reliance will have to continue to support the self-management functionality that has always been a part of critical grid services, and which is essential to the agility CEUs require and invest in accordingly.

13. The Chipty Report, the Bureau notes, "analyses the state of competition in the retail wireless marketplace and evaluates the benefits of incentivizing additional competition among wireless service providers."[16] Including critical grid services from the marketplace it analyses would, it is respectfully submitted, have allowed the Chipty Report to attend to certain barriers to competition, and to certain of competition's benefits, that are absent from i.

B. Insufficient Upstream Inputs

14. The Notice focuses on competition in retail markets; the wholesale mobile regulatory framework; and the future of mobile wireless services in Canada,[17] which will affect both retail markets and the wholesale services that support them.

15. The Essentiality Test that the Commission adopted in TNC 2015-326[18] describes the relationship between retail markets and the wholesale framework by analysing whether

- a given wholesale element is required as an input by competitors to provide telecom services in a relevant downstream product market;
- a firm has market power in the upstream market for that wholesale element and denying or withdrawing access to it would likely result in a substantial lessening of competition in the relevant downstream market; and
- it is impractical or unfeasible for competitors to duplicate the element's functionality,[19]

in addition to any policy considerations.

16. The Essentiality Test illustrates how a given wholesale element may be an upstream input for more than one downstream market. To this end, the Chipty Report's conclusions as to the market power exercised jointly by Rogers and by Bell and TELUS in "many local geographies in Canada"[20] are relevant, not only to retail consumer and small business markets, but also to the critical grid services market to which the Private Virtual Network Operator ("**PVNO**") model, described in the CEA's submissions in this proceeding, is a response. Any absence of competition for mobile wireless data in a geographic market will affect a CEU, just as it affects a consumer or small business user or, for that matter, non-CEU corporate user.

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16 Bureau, further comments, note 2 above, paragraph 12a.

17 TNC 2019-57, note 4 above, paragraph 21.

18 Note 9 above.

19 Note 9 above.

20 Chipty Report, paragraphs 56-59.

17. However, while competition for mobile wireless data services is a necessary part of the analysis both for retail consumer and small business and for the critical grid services markets, it is insufficient in the latter case. In counter-distinction to the line drawn by the Competition Bureau's distinction—between activity in a market evidencing market failure, on one hand, and subsequent "regulatory intervention", on the other[21]—such market failure in the critical grid services market is in part a result of existing regulation and industry standards.

18. The CEA's past submissions have set out in detail why this is so. They have noted that CEUs require self-management features, have a track record of investing in self-supply in order to obtain it, and have the expertise to make use of it. They have described the ways in which the *Canadian IMSI Assignment Guideline*'s restraints on self-management constitute barriers to entry *caused* by regulatory and industry standards-making choices:

- CEUs require assignment of a two-digit Mobile Network Code ("**MNC**") in order that smart grids and the control and monitoring devices they organize can multi-home, seamlessly switch between upstreams, and function as part of hybrid networks. These hybrid networks include both self-supply in remote areas where no connectivity is available but spectrum, including Public Service Broadband Network ("**PSBN**") spectrum, may be; and multi-homed commercial supply that CEUs will obtain on a commercial basis.
- However, revisions mandated by TRP 2015-177 to the *Canadian IMSI Assignment Guideline* define an "MVNO" as *"a service provider who uses the spectrum and RAN of a wireless carrier and, in some cases, other facilities and/or services, to provide mobile wireless services to consumers"*; and define a "WSP", for the purposes of that Guideline, as "*a Canadian entity authorized … to provide two-way common carrier wireless mobility communications service to the public*."

19. MNCs are a wholesale element that is an essential input for the provision of critical grid services. Other jurisdictions have made MNC numbers available to similar critical infrastructure users. The *Canadian IMSI Assignment Guideline* itself makes an MNC number available to another user, the PSBN. Successful PVNO trials are already ongoing at B.C. Hydro, a CEU, using an MNC number made available for test purposes. But for the restrictions implied by the underlined words reproduced from the *Canadian IMSI Guidelines*, CEUs would thus be in a position to fulfil their requirements.

20. An MNC number is an upstream essential input for downstream critical grid services. Because the Chipty Report and supporting comments by the Commissioner of Competition do not address the market for critical grid services, whose market failure would plainly be welfare-reducing, it is unsurprising that they do not address the barrier to procuring this essential input. The CEA respectfully submits that a complete portrait of the "state of competition in the retail wireless marketplace" and "benefits of incentivizing additional competition among wireless service providers"[22] would attend to this barrier to entry and its consequences for potentially-disruptive competition.

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21 Bureau, further comments, note 2 above, paragraph 14-17.

22 Note 14, above, and accompanying citation in text.

C. Additional Disruptors

21. The Chipty Report focuses particularly on the salutory impact on competition of facilities-based entry over the long run, which the Commissioner of Competition's supporting comments refer to as "wireless disruptors" that he counterposes to service-based MVNOs unlikely to deliver sustained, vigorous competition, on one hand, and the "predictable innovations" driven largely by equipment manufacturers and by standards bodies, on the other.[23]

22. The materials filed by the CEA in this proceeding have reviewed the ways in which deploying PVNOs as a preferred supply response to critical grid services market demand would spur *(a)* continued innovation in efficient, hybrid solutions able to meet critical infrastructure requirements for always-on, reliable, and highly secure self-managed networks, and *(b)* continued investment in telecom facilities and expertise where they are most needed to fulfill CEUs' functions which, as smart-grid technologies move from next-generation to today's technologies, are even more heavily weighted towards telecom than they have been in the past.

23. It is the CEA's respectful submission that, notwithstanding the absence of this important critical infrastructure sector and its demand profile from the Commissioner of Competition's economic study and supporting materials, it is essential that the Commission unblock barriers to continued CEU innovation and investment in the smart grids of tomorrow as a result of this proceeding—consistent with the scope of the proceeding set out in the Notice, and with the CRTC's policy responsibilities assigned by the *Telecommunications Act*.[24]

Yours sincerely,

[transmitted electronically]

Sol Lancashire, Manager Telecom Engineering,
BC Hydro

Chair, CEA Operating Technology &
Telecommunications Committee

Justin Crewson

Director Transmission and Distribution Policy,
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23 Note 9 above, paragraphs 257 and 118.

24 CEA (Intervener #456 in TNC 2019-57), 12 September 2019, Appendix A (October 2018 submission by the CEA to the CRTC), paragraphs 84-89.