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CT- 2022-002

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CT-2022-002

OTTAWA, ONT.

Doc. # 201

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c. C-34;

AND IN THE MATTER OF the proposed acquisition by Rogers Communications Inc. of Shaw Communications Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;

B E T W E E N :

COMMISSIONER OF COMPETITION

Applicant

- and -

**ROGERS COMMUNICATIONS INC. AND
SHAW COMMUNICATIONS INC.**

Respondents

- and -

**ATTORNEY GENERAL OF ALBERTA
VIDÉOTRON LTD.**

Intervenors

**MOTION RECORD
(Commissioner's Motion on Rogers' Examination for Discovery Refusals)**

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TAB 1

CT-2022-002

THE COMPETITION TRIBUNAL**IN THE MATTER OF** the *Competition Act*, RSC 1985, c C-34, as amended;**AND IN THE MATTER OF** the proposed acquisition by Rogers Communications Inc. of Shaw Communications Inc.;**AND IN THE MATTER OF** an application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*.**BETWEEN:****COMMISSIONER OF COMPETITION****Applicant**

and

**ROGERS COMMUNICATIONS INC.
SHAW COMMUNICATIONS INC.****Respondents**

and

**ATTORNEY GENERAL OF ALBERTA
VIDÉOTRON LTD.****Intervenors**

NOTICE OF MOTION
(Commissioner's Motion on Rogers' Examination for Discovery Refusals)

TAKE NOTICE THAT the Applicant, the Commissioner of Competition (“**Commissioner**”), will make a motion to the Competition Tribunal (“**Tribunal**”) on September 13, 2022 by videoconference, or on an alternative day and place as may be set by the Tribunal.

THE MOTION IS FOR:

1. An Order compelling the Respondent Rogers Communications Inc. (“**Rogers**”) to answer, as applicable, within one week from the date of the Order those questions set out in Appendix “A” to this Notice of Motion;
2. Costs of this motion; and
3. Such further and other relief as the Commissioner may request and the Tribunal may permit.

THE GROUNDS FOR THE MOTION ARE:

4. On May 9, 2022, the Commissioner filed an application to the Tribunal challenging the proposed acquisition by Rogers of Shaw Communications Inc. pursuant to section 92 of the *Competition Act*, RSC 1985, c C-34;
5. On August 25 and 26, 2022, Dean Prevost was examined for discovery on behalf of Rogers;
6. During the examination, certain undertakings were provided, certain questions were taken under advisement and certain questions were refused;
7. On September 6, 2022, Rogers delivered a document that set out its position on the questions it took under advisement [or refused], as well as its answers to undertakings;
8. Rogers refused to answer certain questions;
9. From the questions Rogers now refuses to answer, the Commissioner seeks an Order in respect of 23 questions, grouped into six categories, listed in Appendix “A”;
10. The questions listed in Appendix “A” are relevant to issues raised in the pleadings, are not unreasonable, unnecessary, or unduly onerous, and the information and documents sought are not privileged;

11. Subsections 8 and 8.1 of the *Competition Tribunal Act*, RSC 1985, c 19 (2nd Supp);
12. Rules 2, 34 and 64 of the *Competition Tribunal Rules*, SOR/2008-141;
13. Rules 240 and 242 of the *Federal Courts Rules*, SOR/98-106; and
14. Such further or other grounds as counsel may advise and the Tribunal may permit.

THE FOLLOWING DOCUMENTARY EVIDENCE will be used at the hearing of the motion:

- a) The Affidavit of Darian Bakelaar affirmed September 7, 2022; and
- b) Such further or other documents as counsel may advise and the Tribunal may permit.

DATED AT OTTAWA, ONTARIO, this 7th day of September, 2022.

ATTORNEY GENERAL OF CANADA

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Appendix A

TAB 2

CT-2022-02

THE COMPETITION TRIBUNAL**IN THE MATTER OF** the *Competition Act*, RSC 1985, c C-34, as amended;**AND IN THE MATTER OF** the proposed acquisition by Rogers Communications Inc. of Shaw Communications Inc.; and**AND IN THE MATTER OF** an Application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;**B E T W E E N:****COMMISSIONER OF COMPETITION****Applicant**

and

**ROGERS COMMUNICATIONS INC.
SHAW COMMUNICATIONS INC.****Respondents**

and

**ATTORNEY GENERAL OF ALBERTA
VIDÉOTRON LTD.****Intervenors**

AFFIDAVIT OF DARIAN BAKELAAR
Affirmed September 7, 2022
(Commissioner's Motion on Rogers' Examination for Discovery Refusals)

I, **DARIAN BAKELAAR**, of the City of Ottawa, in the Province of Ontario, **AFFIRM THAT:**

1. I am employed as a senior paralegal with Competition Bureau Legal Services of the Department of Justice Canada. I have personal knowledge of the matters to which I depose in this affidavit. Where I do not have knowledge, I have set out the grounds for my belief.
2. On August 25 and 26, 2022, counsel for the Commissioner of Competition (the "**Commissioner**") orally examined Rogers Communications Inc. ("**Rogers**") for discovery via Zoom, which I attended via Zoom. Dean Prevost represented Rogers.
3. A court reporter with Neesons, a court reporting firm, attended the oral examination of Dean Prevost via Zoom and transcribed the examination. Attached as **Exhibit "A"** is the Transcript for the Examination of Dean Prevost on August 25, 2022 as prepared by Neesons. Attached as **Exhibit "B"** is the Transcript for the Examination of Dean Prevost on August 26, 2022 as prepared by Neesons.
4. On September 1, 2022, counsel for the Commissioner sent by email a chart of undertakings, under advisements, and refusals given by Rogers at the examination. Attached as **Exhibit "C"** is a true copy of this email. Attached as **Exhibit "D"** is a true copy of the chart of undertakings, under advisements, and refusals attached to the email from the Commissioner.
5. On September 6, 2022, Matthew Law e-mailed the responses of Rogers to counsel for the Commissioner. Attached to Matthew Law's e-mail was a document that sets out the position of Rogers on the questions it took under advisement [or refused], as well as its answers to undertakings. Attached as **Exhibit "E"** is a true copy of the e-mail from Matthew Law. Attached as **Exhibit "F"** is a true copy of the attachment to the email from Matthew Law.
6. Attached as **Exhibit "G"** is a true copy of the document identified as ROG00702825, which is also identified as Tab 10 in Exhibit 1: Commissioner's Brief of Documents for the Examinations of Rogers.

7.A tached as **Exhibit “H”** is a true copy of the document identified as RBCH00013_000000159, which is also identified as Tab 123 in Exhibit 1: Commissioner’s Brief of Documents for the Examinations of Rogers.

8.A tached as **Exhibit “I”** is a true copy of the document identified as ROG00118354, which is also identified as Tab 90 in Exhibit 1: Commissioner’s Brief of Documents for the Examinations of Rogers.

9.A tached as **Exhibit “J”** is a true copy of the document identified as ROG00162187, which is also identified as Tab 154 in Exhibit 2: Commissioner’s Second List of Documents for the Examinations of Rogers.

10.At tached as **Exhibit “K”** is a true copy of the document identified as ROG00454499, which is also identified as Tab 106 in Exhibit 1: Commissioner’s Brief of Documents for the Examinations of Rogers.

11.At tached as **Exhibit “L”** is a true copy of the document identified as ROG00130458, which is also identified as Tab 17 in Exhibit 1: Commissioner’s Brief of Documents for the Examinations of Rogers.

12.At tached as **Exhibit “M”** is a true copy of the document identified as RBCH00013_000000060, which is also identified as Tab 120 in Exhibit 1: Commissioner’s Brief of Documents for the Examinations of Rogers.

Affirmed remotely by Darian Bakelaar)
stated as being located in the City of)
Ottawa in the Province of Ontario, before)
me, in the City of Toronto, in the)
Province of Ontario on September 7,)
2022, in accordance with O. Reg.)
431/20, *Administering Oath or*)
Declaration Remotely.)



Commissioner of Oaths etc.



Darian Bakelaar

Exhibit A

This is **Exhibit "A"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit B

This is **Exhibit "B"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit C

This is **Exhibit "C"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit D

This is **Exhibit "D"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit E

This is **Exhibit "E"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit F

This is **Exhibit "F"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit G

This is **Exhibit "G"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit H

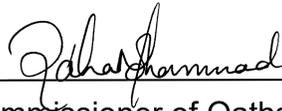
This is **Exhibit “H”** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

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This is **Exhibit "34"** to the affidavit of Laura Sonley, affirmed remotely by Laura Sonley stated as being located in the city of Ottawa in the province of Ontario, before me at the city of Gatineau in the province of Quebec, on May 5, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in black ink, appearing to read 'Raha Araz Mohammad', is written above a horizontal line.

Commissioner of Oaths etc.

Raha Araz Mohammad
Commissioner of Oaths etc.
Province of Ontario
LSO P15816.



Telecom Regulatory Policy CRTC 2021-130

PDF version

References: 2019-57, 2019-57-1, 2019-57-2, and 2019-57-3

Ottawa, 15 April 2021

Public record: 1011-NOC2019-0057

Review of mobile wireless services

In recent years, demand for mobile wireless services has increased significantly as Canadians have integrated these services into many aspects of their everyday lives. In this environment, it is important to ensure that the regulatory framework for mobile wireless services continues to be responsive to the needs of all Canadians.

In this proceeding, the Commission examined three main issues: (i) competition in the retail mobile wireless service market; (ii) the current regulatory framework for wholesale mobile wireless services, with a focus on wholesale mobile virtual network operator (MVNO) access service; and (iii) the future of mobile wireless services in Canada, with a focus on reducing barriers to infrastructure deployment.

The Commission's determinations in this decision are the result of a public proceeding to review mobile wireless services, including a public hearing held in Gatineau, Quebec.

In assessing the state of competition in the retail mobile wireless service market, the Commission finds that Bell Mobility, RCCI, and TCI (collectively, the national wireless carriers) together exercise market power in the provision of retail mobile wireless services in all provinces except Saskatchewan, where SaskTel exercises sole market power. Bell Mobility exercises market power in the provision of retail mobile wireless services in the Northwest Territories, Nunavut, and Yukon.

While these findings are concerning, there are also positive signs that competition is intensifying. Retail prices, although higher than what would prevail in a fully competitive market, are clearly trending down across Canada, and there is evidence of rivalrous behaviour among wireless carriers. Regional wireless carriers are having an impact on the market in terms of disciplining, to a certain extent, dominant wireless carriers; they have introduced innovative plans and features that have led to new offerings in the market such as unlimited data plans and plans that allow data to be carried over month to month, and have been successful in attracting customers, including customers switching from other wireless carriers.

However, given the extent of retail market power that exists throughout the country, the Commission considers it necessary to apply certain targeted regulatory measures to ensure that the needs of Canadians are met, having regard to the policy objectives of the *Telecommunications Act* and both the 2006 and 2019 Policy Directions.

In considering its regulatory approach, the Commission must take care not to disrupt the competition that is already occurring, but instead foster an environment where this competition can grow and be sustainable over the long term.

In the wholesale market, the Commission is taking the following actions to address its findings of retail market power:

- The Commission mandates the provision of a wholesale facilities-based MVNO access service, which will enable eligible regional wireless carriers to use the networks of Bell Mobility, RCCI, TCI, and SaskTel, where these four exercise market power, to serve new areas while they build out their networks. Terms and conditions for the service are to be filed for approval with the Commission, while rates are to be commercially negotiated between parties, with final offer arbitration by the Commission as a recourse if negotiations fail. The service will be mandated for a period of seven years. This measure aims to bring new competitive choice to millions of Canadians, while also encouraging network expansion and sustainable competition over the longer term.
- The national wireless carriers are required to implement seamless roaming as part of their wholesale roaming service. This measure will benefit consumers by helping to prevent dropped calls and data sessions when consumers move from one network to another. It will also benefit competition because it will enable wireless competitors to offer a higher overall quality of service.
- The Commission confirms that its wholesale roaming policy applies to fifth-generation (5G) networks. This confirmation is important to help ensure that competition can continue to grow as the mobile wireless service market evolves to 5G.

In the retail market, the Commission is taking the following actions:

- Bell Mobility, RCCI, TCI, and SaskTel will be expected (where they exercise market power) to offer and promote low-cost plans and occasional-use plans in an effort to benefit Canadians, including those who are elderly or low-income earners, as well as those who use their mobile devices sparingly.
- These carriers will be further expected to promote low-cost plans and occasional-use plans on their website landing pages, as well as through their customer service representatives in an effort to ensure that consumers are fully aware of their options, especially consumers seeking more affordable mobile wireless service options.
- These carriers will also be required to report back to the Commission with respect to their low-cost and occasional-use plan offerings; the Commission intends to make these reports public on its website. These semi-annual reports will be critical to ensuring transparency and accountability to Canadians, and will allow the Commission to measure the effectiveness of this decision.

- The Commission is prepared to take further action if the desired effects are not achieved.

The Commission's determinations in this decision will foster continued innovation and investment in, and affordable access to, high-quality telecommunications facilities in all regions of Canada, including rural and remote areas; promote sustainable competition that provides benefits such as affordable prices and innovative services to Canadians; and reduce barriers to entry into the market.

Introduction

1. Mobile wireless services are critically important to the everyday lives of Canadians, the country's digital economy, and Canada's international competitiveness. They are key to facilitating not only communications, but also commerce, culture, entertainment, safety, and learning.
2. Mobile wireless services have been the largest and fastest-growing sector of the telecommunications industry in recent years, and that trend is expected to continue with the deployment of new technologies such as fifth-generation (5G) networks and new applications including the Internet of Things (IoT). According to the Commission's 2020 *Communications Monitoring Report*, mobile wireless service revenue reached \$28 billion in 2019, representing over 55.5% of all telecommunications service revenues. The number of mobile wireless service subscribers was 34.4 million in 2019, an increase of 1.2 million over the previous year. Average monthly data consumption also continued to increase, with subscribers now using 2.9 gigabytes (GB) of data on average per month, more than double the average consumption of 1.4 GB per month in 2015.
3. As the prevalence and prominence of mobile wireless services continue to grow, it is important that Canada's mobile wireless service markets are supported by regulatory policies that serve to ensure that the needs of Canadians are appropriately being met. This includes regulatory policies that serve to promote sustainable competition and network investment, and the benefits these bring, including affordable prices, innovative services, an abundance of choice, extensive coverage, and a high quality of service.

Background

4. In the mid-1990s, the Commission forbore, to a significant extent, from regulating the mobile wireless services offered by wireless carriers, including at the retail level, to enable competition and market forces to guide the sector's growth.¹ This meant, among other things, that wireless carriers were not required to obtain prior Commission approval for the rates that they charged.
5. As the retail mobile wireless service market grew and matured through the late 1990s and early 2000s, three wireless carriers emerged as the main and often only choices for Canadians: Bell Mobility Inc. (Bell Mobility), Rogers Communications Canada Inc. (RCCI), and TELUS Communications Inc. (TCI) [collectively, the national wireless carriers].² Flanker brands³ also began appearing, for example with RCCI's acquisition of Fido Solutions Inc. (Fido). The market stayed this way for several years until 2008, when Industry Canada held

the *Auction of Spectrum Licences for Advanced Wireless Services (AWS-1) and Other Spectrum in the 2 GHz [gigahertz] Range*, which introduced a number of new mobile wireless service competitors into the market. ⁴

6. As these new competitors deployed networks and began to offer service, the Commission monitored market developments and held public proceedings to consider a variety of regulatory measures to protect consumers and foster competition. For example, in Telecom Regulatory Policy 2013-271 the Commission imposed a mandatory code of conduct (the Wireless Code) on providers of retail mobile wireless services to address, among other things, the clarity and content of mobile wireless service contracts, and to reduce incidents of bill shock. In Telecom Regulatory Policy 2015-177, the Commission mandated the provision of wholesale roaming service by the national wireless carriers to competitors, namely the smaller, regional wireless carriers, at regulated terms, conditions, and rates.
7. The Commission provided direction regarding the terms and conditions of the national wireless carriers' wholesale roaming services in Telecom Decision 2017-56. The Governor in Council referred that decision back to the Commission to reconsider whether the scope of the national wireless carriers' wholesale roaming services, in particular the definition of "home network" in the context of wholesale roaming, should be broadened. Such a change would have enabled wireless service providers (WSPs) that could not otherwise secure access to a radio access network (RAN) ⁵ to use a tariffed wholesale roaming service to provide retail services.
8. While the Commission ultimately did not broaden mandated access to wholesale roaming service, as part of its reconsideration it committed to initiating a review of its mobile wireless service framework and indicated that wholesale MVNO access policy would be examined as part of that review.

Telecom Notice of Consultation 2019-57

9. On 28 February 2019, the Commission issued Telecom Notice of Consultation 2019-57 for the purpose of initiating a broad review of mobile wireless services and their associated regulatory framework.
10. The Commission indicated that the review would focus on three key areas: (i) competition in the retail mobile wireless service market (the retail market); (ii) the current regulatory framework for wholesale mobile wireless services, with a focus on wholesale MVNO access service; and (iii) the future of mobile wireless services in Canada, with a focus on reducing barriers to infrastructure deployment.
11. The Commission also put forward a preliminary view that it would be appropriate to mandate that the national wireless carriers provide wholesale MVNO access service as an outcome of the proceeding. The Commission also took the preliminary view that the national wireless carriers' mandated wholesale MVNO access service should be in place for a limited amount of time and be subject to a phase-out period as market forces take hold.
12. The Commission invited comments on these matters, posing a number of specific questions to help inform parties' submissions, and asked whether there were any other matters, issues, or

proposals related to mobile wireless services, beyond those listed, that it should be aware of and potentially make determinations on as part of this proceeding.⁶

The proceeding

13. Participants in the proceeding included telecommunications service providers, non-profit organizations representing consumer interests, various levels of government, industry organizations, and individual Canadians.
14. The proceeding included a public hearing, which ran from 18 to 28 February 2020.
15. On 17 March 2020, in light of the COVID-19 pandemic, the Commission suspended all deadlines associated with open proceedings. A revised deadline for the filing of final submissions was subsequently set for 15 July 2020.

RCCI's proposed transaction to purchase Shaw

16. The Commission notes that, subsequent to the close of record of the proceeding, and prior to the publication of this decision, RCCI announced that it had reached an agreement in principle to purchase Shaw Communications Inc. (Shaw), which owns and operates Freedom Mobile. As of the time of publication of this decision, the purchase of Shaw has not been concluded and remains subject to various approvals. The determinations in this decision have been made solely on the basis of the record of the proceeding.

Strategic objectives and the 2019 Policy Direction

17. In its last major review of wholesale mobile wireless services (which resulted in Telecom Regulatory Policy 2015-177), the Commission's determinations, which took into account the policy objectives set out in section 7 of the Act (the policy objectives) and the 2006 Policy Direction,⁷ were made with a view to achieving the following three strategic objectives:
 - o continued innovation and investment in high-quality telecommunications facilities;
 - o sustainable competition that provides benefits, such as reasonable prices and innovative services, to Canadians; and
 - o implementing efficient regulatory measures with respect to wholesale mobile wireless services, along with continued reliance on market forces where appropriate.
18. The present review is broader than that previous review, because it reaches beyond wholesale issues. Further, on 17 June 2019, following the commencement of this proceeding, the Governor in Council issued a new Policy Direction to the Commission (the 2019 Policy Direction).⁸ Section 1 of the 2019 Policy Direction reads as follows:
 1. In exercising its powers and performing its duties under the *Telecommunications Act*, the Commission must implement the Canadian telecommunications policy objectives set out in section 7 of that Act, in accordance with the following:
 - o the Commission should consider how its decisions can promote competition, affordability, consumer interests and innovation, in particular the extent to which they

- i. encourage all forms of competition and investment,
 - ii. foster affordability and lower prices, particularly when telecommunications service providers exercise market power,
 - iii. ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas,
 - iv. enhance and protect the rights of consumers in their relationships with telecommunications service providers, including rights related to accessibility,
 - v. reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional or smaller than the incumbent national service providers,
 - vi. enable innovation in telecommunications services, including new technologies and differentiated service offerings, and
 - vii. stimulate investment in research and development and in other intangible assets that support the offer and provision of telecommunications services; and
- o the Commission, in its decisions, should demonstrate its compliance with this Order and should specify how those decisions can, as applicable, promote competition, affordability, consumer interests and innovation.

19. In the Commission's view, the strategic objectives of its previous mobile wireless service framework remain generally relevant when matched against the 2019 Policy Direction. For example, the strategic objective of continued innovation and investment in high-quality telecommunications facilities espouses similar principles to subparagraphs 1(a)(i), (iii), (vi), and (vii) of the 2019 Policy Direction. Likewise, the strategic objective of sustainable competition that provides benefits, such as reasonable prices and innovative services to Canadians, espouses similar principles to subparagraphs 1(a)(i), (ii), (iv), and (vi) of the 2019 Policy Direction.
20. That said, the Commission is of the view that the strategic objectives of its regulatory framework for mobile wireless services should be refined, as set out below, to make these associations clearer.
21. Accordingly, the Commission's determinations in this decision, which take into consideration the policy objectives of the Act, as well as the 2006 Policy Direction and the 2019 Policy Direction (collectively, the Policy Directions), were made with a view to achieving the following strategic objectives with respect to mobile wireless services (changes marked in **bold**):
- o continued innovation and investment in, **and affordable access to**, high-quality telecommunications facilities **in all regions of Canada, including rural and remote areas**;
 - o sustainable competition that provides benefits, such as **affordable** prices, and innovative services, to Canadians;
 - o implementing efficient regulatory measures with respect to wholesale mobile wireless services, along with continued reliance on market forces where appropriate; and
 - o **reducing barriers to entry into the market for competitors that are new, regional, or smaller than the incumbent national carriers.**

22. In the Commission's view, these revised strategic objectives build on those established in Telecom Regulatory Policy 2015-177 by integrating principles from the 2019 Policy Direction, and form an appropriate policy basis upon which to consider the issues before it in this proceeding.

Structure and approach

23. This decision is structured in four parts. In the first part, the Commission considers the state of competition in the retail market and includes a comprehensive market power analysis. The Commission's findings in this section inform its analysis and determinations in the subsequent sections.
24. In the second part, the Commission considers regulatory measures at the wholesale level, including those related to wholesale MVNO access service, wholesale roaming service, and access to infrastructure.
25. In the third part, the Commission considers regulatory measures at the retail level, including proposals concerning mandated low-cost and occasional-use plans.
26. In the final part, the Commission considers other issues that were raised by parties over the course of the proceeding.
27. In Telecom Decision 2021-129, also issued today, the Commission is disposing of a procedural request made by Bell Mobility relating to an expert report prepared by Dr. Tasneem Chipty of Matrix Economics (the Matrix study) and filed by the Commissioner of Competition (the Commissioner).

State of competition in the retail market

28. In Telecom Decision 94-19, the Commission established a framework to assess competitiveness in a given market and, since then, has generally applied that framework to determine whether there is market power in the provision of a service or class of services. Where the Commission finds that there is market power, it will generally make a finding of fact pursuant to subsection 34(2) of the Act that competition in the provision of that service or class of services is not sufficient to protect the interests of users.
29. Pursuant to that framework, the first step in assessing the competitiveness of a market is to define the relevant market. This is followed by an assessment of a number of criteria, including (i) the market shares of the dominant and competing firms, and (ii) demand and supply conditions, which include the availability of substitutes, barriers to entry into the market, and evidence of rivalrous behaviour. The purpose of the market power assessment is to determine whether one or more market participants have the ability to sustainably raise prices above those that would prevail in a competitive market.
30. As part of this proceeding, parties were requested to identify which market indicators the Commission should consider for the assessment of the state of competition in the retail market. Parties proposed a number of additional factors, such as international comparisons of retail mobile wireless service prices (retail prices) and indicators of profitability.

Relevant market

31. The relevant market represents the smallest group of products and geographic area in which a firm with market power can profitably impose a significant and non-transitory (i.e. sustainable) price increase. A relevant market will therefore have both a product and a geographic component.

Relevant product market

Background

32. Defining the relevant product market involves an assessment of the group of products that consumers would consider to be substitutes for retail mobile wireless services.

Positions of parties

33. The majority of parties submitted that retail mobile wireless services comprise voice, text, and data services, and that these services should be assessed as a whole and not separately.

34. The Coalition for Cheaper Wireless Services (CCWS) submitted that in addition to voice, text, and data services, the relevant product market should include devices, because this would reflect how retail mobile wireless services are requested by consumers and sold in Canada to the vast majority of consumers.

35. Cogeco Communications inc. (Cogeco), the Commissioner, Data on Tap Inc. (Data on Tap), Ecotel Inc. (Ecotel), the Forum for Research and Policy in Communications (FRPC), Tucows Inc. (Tucows), and Xplornet Communications Inc. (Xplornet) submitted that the relevant product market consists of all retail mobile wireless services and should not be further segmented (e.g. between prepaid and postpaid services or between services available to individuals and businesses). They argued that the same competitive conditions exist regardless of product segmentation, and that these services are all close substitutes for each other.

36. Some parties indicated, however, that the market should be segmented and some types of mobile wireless services or technologies should not be considered part of the same product market as certain others. TBayTel submitted that postpaid and prepaid plans are sufficiently different so as to be in different product markets. With respect to services available to individuals and businesses, Bell Mobility; Bragg Communications Incorporated, carrying on business as Eastlink (Eastlink); Quebecor Media Inc., on behalf of Videotron Ltd. (Videotron); and RCCI submitted that they are not in the same product market, because these products are often uniquely designed to meet different needs.

37. With regard to network technology, Bell Mobility, RCCI, and Shaw submitted that it is premature to determine whether 5G services should be considered in the same product market as services delivered through third-generation (3G) and fourth-generation (4G) / long-term evolution (LTE) and LTE-Advanced (LTE-A) ⁹ networks. Competitive Network Operators of Canada (CNOC) and Ice Wireless Inc. (Ice Wireless) submitted that retail mobile wireless services offered over different network technologies (e.g. 3G, 4G, or 5G) are part of different product markets, because they deliver mobile wireless data at significantly different speeds.

38. Some parties, including the British Columbia Broadband Association (BCBA), Bell Mobility, Cogeco, Distributel Communications Limited (Distributel), Ice Wireless, RCCI, Saskatchewan Telecommunications (SaskTel), SSi Micro Ltd. (SSi Micro), TBayTel, and Videotron, argued that it would be inappropriate to include IoT and machine-to-machine (M2M) communications in the same product market as retail mobile wireless services. In this regard, it was argued that IoT and M2M do not provide the same common functionalities as retail mobile wireless services sold to the general public.
39. TCI submitted that there are two relevant product markets – one for mobile wireless connections, and one for data usage, which consists of data services provided over all types of broadband connections (i.e. over wireline, wireless, and satellite networks).
40. SaskTel submitted that the relevant product market should be defined as “communications services” and include fixed and mobile wireless services, as well as other services such as video entertainment, news media, information, and music. It argued that consumers can choose how to meet their needs from a number of different communications services that are substitutes for each other.

Commission’s analysis and determinations

41. Plans offered in the retail market routinely include voice, text, and data services, and the majority of consumers buy such services together as a bundle. Between 2015 and 2018, the percentage of subscribers with a data plan increased from 74% to 85%. ¹⁰ The increasing prevalence of consumers subscribing to a plan that includes data constitutes a trend that is expected to continue in the near future.
42. With regard to the potential inclusion of devices in the product definition, the Commission notes that customers can purchase them separately from their mobile wireless service plans and from a wide variety of vendors, including non-carriers. Further, wireless carriers have little control over prices charged by device manufacturers. Accordingly, it would not be appropriate to include devices in the relevant product market definition.
43. In terms of functionality, an essential attribute of retail mobile wireless services is their mobility – that is, the ability to access voice, text, and data services on a mobile basis. Fixed wireless and wireline services do not provide mobility, and Wi-Fi connectivity does so on only a limited basis, that is, only in the immediate area where the service is provided. Further, there is no evidence that Wi-Fi services would be as ubiquitous as mobile wireless services are, especially in rural and remote areas. Consequently, the Commission considers that fixed wireless, wireline, and Wi-Fi services would not be acceptable substitutes for retail mobile wireless services, and will therefore not be included in the relevant product market definition.
44. Some parties submitted that the retail market should be segmented, for example, between plans offered on a prepaid and postpaid basis; between plans with varying amounts of data, minutes for voice calls, and number of text messages included in a plan; and between services offered on different technologies (i.e. 3G, LTE, LTE-A, or 5G). While there might be differences between the offerings in each of these segments, and further segmentation may be conceptually possible, the Commission considers that regardless of the sub-segment considered, the essential functionality of mobile voice, text, and data communications remains.

As such, the Commission does not consider that it would be appropriate to divide the broader product market into the proposed segments.

45. However, the Commission considers that mobile wireless services sold to large businesses or institutional customers and for IoT/M2M communications are not substitutes for mobile wireless services offered and provided to individuals and small businesses. This is because they tend to be marketed differently and would not generally be available to individuals and small businesses looking for an alternative. Accordingly, mobile wireless services sold to large businesses or institutional customers and for IoT/M2M communications are in a separate product market.
46. That being said, the Commission is of the view that it is more appropriate to focus its competitive assessment on the retail mobile wireless services generally available to individual Canadians and small businesses, since this segment is the most relevant for the purposes of the competition and policy issues raised in this proceeding. Further, this segment represents the largest share of the retail market, in terms of both subscribers and revenues.
47. In light of the above, the Commission finds that the relevant product market consists of retail mobile wireless services, that is, retail mobile voice, text, and data services, offered to individuals and small businesses, irrespective of the network technology used.

Relevant geographic market

Background

48. Determining the relevant geographic market for a product or service involves assessing the geographic area in which a customer purchases a service and whether or not a customer would be willing to switch from a supplier in one area to a supplier in another area.

Positions of parties

49. Bell Mobility and RCCI submitted that the relevant geographic market for retail mobile wireless services is local, and suggested the use of Innovation, Science and Economic Development Canada's (ISED) tier 4 spectrum licence areas (tier 4 areas), which include 172 service areas covering all of Canada. The Commissioner submitted that, based on an analysis of price variations across census metropolitan areas (CMAs) and the census agglomeration of Timmins, Ontario, ¹¹ the relevant geographic market is likely either as narrow as a city, or as broad as a province, depending on the region.
50. CNOC, Distributel, Ice Wireless, and the Independent Telecommunications Providers Association (ITPA) submitted that the relevant geographic market is provincial. Distributel argued that the approach of considering the geographic market provincial would be more administratively efficient and would recognize differences in pricing and product offerings between provinces. The Manitoba Coalition submitted that while this approach may be the best way to reflect actual competitive conditions, the Commission should consider both national and provincial characteristics of the retail market in order to properly assess their dynamics, and to take into account pricing in areas with a local WSP (for example, TBayTel in Thunder Bay) where appropriate.

51. Cogeco submitted that the relevant geographic market is national, because this was the Commission's focus in the last mobile wireless service review; the CCWS submitted that it should be quasi-national to take into account WSPs that are able to offer service in most parts of the country.
52. Videotron submitted that the relevant geographic market should be based on ISED's tier 2 spectrum license areas (tier 2 areas), which consist of 14 provincial and large regional service areas covering all of Canada. It argued that there are significant variations in market conditions in Canada that are primarily explained by the presence of regional wireless carriers and that, in most cases, these carriers align their networks and business operations with tier 2 areas.

Commission's analysis and determinations

53. While it is possible to subscribe to mobile wireless service plans over the telephone or Internet, the vast majority of such plans are still acquired in person, either at a wireless carrier's stores or at third-party stores or kiosks. The Commission considers it very unlikely that customers would travel long distances to buy their plans, such as across provincial boundaries, and there is no evidence on the record indicating that they do so.
54. A geographic market that is defined too widely – that is, on a national or quasi-national basis – would not only misrepresent how customers generally buy retail mobile wireless services, but it would also omit cross-market differentials such as prices, which differ in some cases between regions or provinces/territories, and key market conditions such as the market shares and growth of the regional wireless carriers, ¹² whose operations are generally limited to certain provinces or regions. Accordingly, the Commission considers that it would not be appropriate to use a broad national or quasi-national market definition.
55. The Commission considers that the market is more local in nature. However, relying on a local geographic market definition such as Statistics Canada's CMAs or ISED's tier 4 areas comes with significant challenges. Notably, relying on CMAs to assess local markets would exclude subscribers who live outside these areas, or about 28% of the Canadian population. Also, the record of this proceeding contains very limited information on key variables at such a disaggregated geographic level, including WSPs' market shares outside the CMAs and competitive conditions at both the CMA and tier 4 area levels. In this regard, it appears that not all wireless carriers track subscriber or revenue data at so granular a level. The Commission considers that a significant administrative burden would be involved in the production, gathering, and processing of information that is sufficiently accurate and granular to assess the competitiveness of retail mobile wireless services at the level of CMAs or tier 4 areas.
56. Defining the relevant geographic market as provincial/territorial, however, would reflect the facts that (i) the national wireless carriers generally market their plans on a provincial/territorial basis; (ii) in some cases, they price their plans differently across provinces/territories; and (iii) market conditions within a given province/territory are generally similar (i.e. consisting of the same wireless carriers operating in a similar competitive environment). It would also enable the assessment of the regional wireless carriers' impact based on the provinces/territories where they provide services. The Commission acknowledges that certain local markets may

have different competitors, for example northwestern Ontario (with TBayTel) or Ottawa (with Videotron), but it considers that these markets are exceptions and that, in any event, the competitors in these local markets account for a modest share of the total number of subscribers in the province in which they operate.

57. In Telecom Regulatory Policy 2015-326, the Commission indicated that some degree of aggregation may be appropriate for markets with similar competitive conditions to achieve a balance between the use of meaningful and practical definitions for relevant product and geographic markets and the administrative burden associated with gathering and processing large amounts of data. The Commission considers that this point of view still holds in the context of this assessment of the retail market.
58. In light of all the above, the Commission finds that the relevant geographic market for retail mobile wireless services is provincial/territorial.
59. While the Commission's assessment of market conditions was performed on a provincial/territorial basis, it is being presented, unless otherwise noted, in an aggregated manner because the findings were consistent across most geographic markets.

Market shares

Background

60. Once the relevant market is defined, the next step in assessing market competitiveness is determining the market share held by the largest firm(s), as well as the market shares of other firms in the market. While the Commission did not establish any market share threshold for a finding of market power in Telecom Decision 94-19, all other things being equal, the smaller the share of a market held by the firm or group of firms with the largest share of the market, the less likely it is that they would be capable of exercising market power.

Positions of parties

61. Most parties that commented on this issue submitted that the retail market is highly concentrated because the national wireless carriers collectively account for roughly 90% of both the total mobile wireless service revenues and subscribers. CNOC, Cogeco, the Commissioner, Distributel, and the Manitoba Coalition also submitted that the national market shares of the national wireless carriers combined remained essentially unchanged since the last mobile wireless service review.
62. Bell Mobility submitted that it is not appropriate to aggregate the market shares of multiple competitors, because they compete aggressively against each other and do not operate as a single group. RCCI submitted that high combined market shares are not determinative of joint dominance. It added that such a finding must be supported by evidence that the alleged members of the group (in this case, the national wireless carriers) do not compete vigorously with one another, and that they do not face effective competition from other WSPs – which, in its view, is not the case in the retail market.
63. Bell Mobility also submitted that market shares based on total subscribers reflect outdated market circumstances, and that net subscriber additions provide a better indication of current

competitive vigour in the market, a view shared by RCCI. The Canadian Internet Policy & Public Interest Clinic (CIPPIC) and OpenMedia (collectively, CIPPIC/OpenMedia), however, submitted that considering only net subscriber additions provides an incomplete view of the market.

64. CNOC, Cogeco, the Commissioner, the Manitoba Coalition, and TekSavvy Solutions Inc. (TekSavvy) submitted that the retail market remains highly concentrated, with the Herfindahl-Hirschman Index (HHI) above the 2,500 mark in every Canadian province and territory, and on a national basis.¹³ The national wireless carriers replied that a high HHI in the retail market is not indicative of market power, because a concentrated market can nonetheless be competitive. They added that, in any event, the Canadian HHI is lower than that of the United States, as well as the averages of the Organisation for Economic Co-operation and Development (OECD) and European countries.

Commission's analysis and determinations

65. Despite the fact that most regional wireless carriers have grown their subscriber bases over the last five years, the market shares in terms of both revenues and subscribers of these carriers has not changed significantly over that period in the provinces/territories in which they operate. In most provincial or territorial markets, the regional wireless carrier is the wireless carrier with the smallest market share and, with the exception of SaskTel in Saskatchewan, they all hold market shares that are either close to 20% or below that amount in the provinces/territories in which they operate, with most regional carriers having less than 10% market share.
66. In each province, except Saskatchewan, the market is highly concentrated among the national wireless carriers, who have a combined market share close to or above 80% in terms of both revenues and subscribers. While market share alone does not establish market power, it does serve as a significant indicator of potential market power, and the Commission is concerned by the levels of market concentration among the national wireless carriers in most provinces. Consequently, the Commission considers that relevant demand and supply factors must be closely examined, as set out in greater detail below, in order to determine whether or not there is market power in those markets.
67. In the case of Saskatchewan, SaskTel is the carrier with the largest market share in the retail market, and by a significant margin. In the three territories, Bell Mobility holds a very large market share, much greater than any of its competitors in those markets. The Commission therefore considers that the market shares held by SaskTel and Bell Mobility suggest that these carriers may exercise unilateral market power in Saskatchewan and the territories, respectively.
68. A conclusion of highly concentrated markets is confirmed when looking at the HHIs, which are above 2,500 in all provinces and territories. With respect to the net subscriber addition measure proposed by Bell Mobility and RCCI, while this measure is informative in the context of assessing the competitiveness of the mobile wireless service market, it does not in and of itself measure market concentration. The question of net subscriber additions will be assessed below in the section on rivalrous behaviour.

69. In light of the above, the Commission finds that market shares in the retail market are highly concentrated in every province and territory.

Demand conditions

Background

70. In Telecom Decision 94-19, the Commission indicated that a number of factors should be considered in addition to market share in assessing market power, starting with demand conditions, because they affect the potential ability of a dominant firm or dominant firms to exercise market power. The Commission also indicated that in assessing demand conditions, the focus was on the ability of customers to switch to another supplier or reduce consumption of the good or service in response to a price increase. Demand conditions include the availability of economically feasible and practical substitutes, and the costs to customers of switching suppliers.

The availability of economically feasible and practical substitutes

Positions of parties

71. The Canadian Wireless Telecommunications Association (CWTA) and the national wireless carriers submitted that Canadians can choose from diverse retail mobile wireless service plans from four wireless carriers in every province (i.e. the three national wireless carriers plus one regional wireless carrier) with 10 or more mobile wireless service brands, including flanker brands. TCI added that Canada counts 13 independently owned MVNOs, a number that it submitted was between the average and the median numbers of independently owned MVNOs among OECD countries.
72. Distributel submitted that options are generally limited to retail mobile wireless services offered by the national wireless carriers or by a regional wireless carrier, provided that the customer is located within a network coverage area of the carrier. Similarly, Ecotel submitted that in rural and remote areas where it offers services, customers do not have a wide choice of options when it comes to selecting their WSP, a view shared by Bob Boron, Bruce Kirby, and Alek Krstajic (collectively, Boron et al.).
73. CNOC, Cogeco, Distributel, Ice Wireless, the Manitoba Coalition, and TekSavvy submitted that other than a few marginal branded resellers such as Petro-Canada Mobility and 7-Eleven's SpeakOut Wireless, there is no MVNO market in Canada. Distributel and TekSavvy added that MVNO arrangements with the national wireless carriers do not provide MVNOs with any control over their service offerings and pricing, and that they pose minimal competitive threat to the national wireless carriers. The Manitoba Coalition also argued that there has been virtually no MVNO activity that would provide additional competitive retail options to customers. The Commissioner submitted that, after reviewing the agreements currently in place between the MVNOs and wireless carriers, he considered certain terms to be highly restrictive, which limits the MVNOs' ability to compete.

74. Based on the conclusion concerning the relevant product market definition reached above, the Commission considers that there exists no other retail service that would constitute an acceptable substitute for retail mobile wireless services; that is, there is no alternative that would provide a substitute for their mobile functionality and ubiquity. Accordingly, the Commission considers that the only acceptable substitute for the mobile wireless service of one WSP is a similar service offered by another WSP.
75. Regional wireless carriers have made important investments in their mobile wireless networks and now reach significant portions of the population in many provinces. Nonetheless, regional wireless carriers tend to deploy their networks first in the more profitable urban centres, such that customers' access to their services is more limited in rural and remote areas. Regional wireless carriers' services, consequently, do not constitute a substitute that is available across all of the regions that comprise Canada's geographic markets. In most provinces, the regional wireless carrier's network does not cover the entire market in which it operates, and it therefore does not have as ubiquitous a network as those of the national wireless carriers, or of SaskTel in Saskatchewan. Furthermore, viewed nationally, the regional wireless carriers' collective market share, although growing, has increased by a very modest two percentage points in the last five years, to about 10% in 2019.¹⁴ This suggests that there are likely certain factors that influence the willingness of customers to switch to a regional wireless carrier, which the record of the proceeding suggests includes issues related to dropped calls when users' calls transit between two networks.
76. All three national wireless carriers also offer services on flanker brands. While these services constitute an option in the retail market, they are nonetheless ultimately provided by the same wireless carriers or their affiliates, thereby allowing for control over what products these brands offer and their marketing strategies so as to avoid competition with and cannibalization of related premium brands. Accordingly, the Commission considers that the national wireless carriers' flanker brands are not independent competitors and that their services do not represent additional competitive substitutes in the retail market.
77. While services offered by existing MVNOs are an option for some consumers, the MVNOs currently offering services in Canada essentially resell the services of the national wireless carriers and target very narrow segments of the market. Furthermore, current MVNO agreements in Canada are highly restrictive. All of this serves to limit the ability of these MVNOs to effectively compete with their wholesale service providers. As such, while MVNOs do exist in the market as alternative WSPs, their offerings are limited and these services do not represent meaningful competitive substitutes in the retail market.
78. Further, consumers have even fewer alternatives in the North, since no territory counts more than three wireless carriers.
79. From a theoretical point of view, reducing consumption is also an option available to consumers faced with rising prices. However, there is no ambiguity in the evidence that demand for, and importance of, retail mobile wireless services is consistently increasing, making this scenario highly impractical and unlikely.

80. In light of the above, the Commission finds that there remains a significant number of retail mobile wireless service customers who have limited access to economically feasible and practical substitutes if faced with rising prices.

The costs to customers of switching suppliers

Positions of parties

81. RCCI submitted that customers are willing and able to switch WSPs, and indicated that some 3.3 million users did so in 2018. According to RCCI, switching between competing WSPs has been facilitated by wireless number portability and by the requirements set out in the Wireless Code, including that all new cell phones must be sold unlocked, and that term service contracts may be terminated on payment of any remaining device subsidy amount.
82. CNOC, Distributel, and Ice Wireless considered that the costs of switching WSPs remain high, despite the measures adopted in the Wireless Code to reduce them. Distributel submitted that a customer looking to switch to another WSP may face significant fees associated with device subsidy repayment amounts. CNOC submitted that certain practices by the national wireless carriers continue to make switching WSPs costly and make it more difficult for a new entrant to attract customers from the national wireless carriers. ¹⁵
83. The CCWS submitted that there is a perception in some cases, specifically among low-income demographics, that customers receive poor service from the national wireless carriers' premium brands, so there is no incentive to switch to their flanker brands. Ice Wireless argued that customers are dissuaded from switching by the amount of time and effort required. CIPPIC/OpenMedia and the Commissioner submitted that the way WSPs present their retail mobile wireless service plans on their websites generally lacks clarity and transparency, thereby making it difficult for customers to make informed decisions on the purchase of a new plan.

Commission's analysis and determinations

84. The Commission has addressed a number of significant impediments to customers' switching WSPs through various actions. For instance, wireless number portability, which enables customers to keep the same telephone number when changing WSPs, was introduced in 2005. Also, the Wireless Code, introduced in 2013 and amended in 2017, effectively eliminated three-year contracts, limited early cancellation fees, and ensured that customers are provided with unlocked devices. Notwithstanding these measures, there remain barriers to switching WSPs in the retail market.
85. The Commission acknowledges that it can be costly for some customers wishing to switch WSPs if they have to pay the remaining balance for their device when cancelling their current contract. These costs are growing with the increasing costs of popular devices. Other costs of switching include one-time ancillary fees charged to new customers, such as network connection fees, or fees associated with subscriber identity module (SIM) cards, which could represent non-negligible up-front costs, especially for lower-income Canadians.

86. There is also a perception among some users that switching WSPs may not be easy. According to the *Telephone Survey on Mobile Wireless Services in Canada* conducted for the Commission by Phoenix Strategic Perspectives Inc. (the Phoenix telephone survey), commissioned for this proceeding, 37% of respondents who had never switched WSPs expressed the view that, were they to switch, it would be “somewhat difficult” or “very difficult.”¹⁶
87. Certain parties offered explanations that could explain this perceived difficulty in switching. For example, information relevant to selecting a new WSP may not be presented clearly enough on the new WSPs’ websites (e.g. important terms presented in footnotes or in a small font). Also, there is a significant number of offers and promotions available in the retail market that are not publicized. The Commission considers that these factors can decrease transparency and make it difficult for customers to research, shop comparatively, and ultimately make informed decisions regarding their retail mobile wireless services. Although these factors do not themselves constitute direct economic costs for customers switching WSPs, they are nonetheless important to take into consideration to fully understand customers’ experience in the retail market, because they represent barriers to switching for certain customers.
88. In light of the above, the Commission finds that there remain financial costs to switching WSPs, such as repayment of outstanding device balances and one-time ancillary fees for new customers. The Commission considers that these could be significant enough to prevent some customers from switching, especially those with lower incomes. In addition, there are non-economic barriers to switching WSPs, including, for some customers, a perception that switching is complex, as well as a certain lack of clarity and transparency in retail mobile wireless service offers and the adverse impact this can have on customers’ ability to make informed decisions.

Supply conditions

Background

89. The Commission indicated, in Telecom Decision 94-19, that supply conditions need to be considered in its assessment of a market. Supply conditions affect the ability of other firms in the market to respond to a change in the price of the product or service. Supply conditions include likelihood of entry and barriers to entry, evidence of rivalrous behaviour, and innovation and technological change.

Likelihood of entry and barriers to entry

Positions of parties

90. Several parties, including CNOC, Cogeco, the Commissioner, the ITPA, the Manitoba Coalition, Shaw, SSi Micro, and Xplornet, submitted that barriers to entry and expansion in the retail market are high. These parties, in addition to the BCBA and Distributel, argued that spectrum scarcity and high acquisition costs for spectrum are significant barriers for new entrants in the market. The Commissioner and Shaw argued that the national wireless carriers

continue to hold the vast majority of spectrum in Canada, which limits the coverage and capacity that competitors' networks can offer against the national wireless carriers' networks.

91. CNOOC, Cogeco, the Commissioner, Ice Wireless, the ITPA, the Manitoba Coalition, and Shaw submitted that another significant barrier is the high cost of investment in facilities (e.g. towers, antennas, and backhaul). Shaw added that new competitors face both physical and technical barriers to competition and investment, and challenges in gaining timely access at reasonable rates to infrastructure, including access to municipal rights-of-way and incumbent local exchange carrier (ILEC)-owned and -controlled support structures.
92. The Commissioner and the Manitoba Coalition argued that the national wireless carriers and incumbent regional wireless carriers have taken decades to construct their existing infrastructure, and therefore possess a considerable advantage over a new company attempting to establish or grow its presence in the mobile wireless service industry.
93. RCCI and TCI submitted that competitors were granted advantages at recent spectrum auctions that have allowed them to acquire spectrum at below-market rates. They also pointed to regulatory benefits by way of the Commission's mandated wholesale roaming service (whereby domestic roaming can be obtained from the national wireless carriers at regulated rates) as another competitive advantage for competitors. Bell Mobility submitted that while a new competitor may not be able to acquire sufficient spectrum to enter the retail market on a national basis, strong regional Canadian facilities-based competitors would be able to come into the market. It also argued that mobile wireless networks were duplicated in the past. RCCI submitted that while further competitive entry into the retail market would be possible, the probability of a fifth entrant in a market with declining prices and existing competition between four facilities-based wireless carriers is very low.
94. Several parties, including Cogeco, Distributel, TekSavvy and Tucows, indicated that their attempts to gain MVNO access failed because the national wireless carriers were unwilling to negotiate. TekSavvy argued that the national wireless carriers resist all efforts from competitors to access their networks in any way that would allow for meaningful, stable competition. The CWTA and the national wireless carriers, however, submitted that wireless carriers are negotiating with prospective MVNOs in good faith and that they would voluntarily enter into an agreement if it were beneficial for them to do so. Bell Mobility indicated that it was not generally interested in entering into MVNO agreements with parties seeking access to its network in order to offer similar services in similar market segments as those already served by Bell Mobility, since this would undermine its competitive differentiation efforts.

Commission's analysis and determinations

95. In Telecom Regulatory Policy 2015-177, the Commission found that the barriers to entry into the retail market were very high and included access to and cost of spectrum as well as the high cost of investment in facilities. Since then, both the Commission and ISED have applied measures to address certain barriers to entry and expansion (e.g. mandated access to wholesale roaming service under regulated rates, terms, and conditions, as well as spectrum set-aside – that is, blocks of spectrum reserved for a particular type of bidder, typically new

entrants ¹⁷). Despite these measures, the Commission considers that barriers to entry and expansion in the retail market remain high for a number of reasons.

96. Spectrum is a scarce resource and, while set-asides may have improved access for competitors, it can still prove to be relatively expensive to acquire. For example, large amounts were invested in the 600 megahertz (MHz) auction by each successful WSP, and these amounts were proportionally higher for carriers that benefited from the set-asides.
97. Further, market participants do not control when and what types of spectrum are made available. Spectrum auctions may also take place well before wireless carriers are ready to use the spectrum. This can affect their business cases because they have to carry the related costs until they start generating revenues, a toll that might be disproportionate for smaller wireless carriers.
98. The mobile wireless service industry is also highly capital-intensive: it takes considerable investments to build, upgrade, and maintain a RAN, and mobile wireless network deployment involves lengthy construction periods. Furthermore, it takes time to build the minimum subscriber base required to generate sufficient revenue for a WSP to generate positive cash flows, which makes new entrants and smaller wireless carriers particularly vulnerable to both their competitors and creditors. These barriers are exacerbated in markets with low population densities, such as Saskatchewan and the territories, since the subscriber base to support the deployment of mobile wireless networks is more limited in these areas.
99. A key impediment to the entry of MVNOs specifically into the retail market lies in accessing the RAN of a wireless carrier. Without such access, a prospective MVNO cannot provide mobile wireless services. Few MVNOs have been able to successfully negotiate RAN access with the national wireless carriers and, as indicated above, current MVNO arrangements tend to be highly restrictive. This suggests that the national wireless carriers are only willing to provide access to their RANs on a very limited basis, which, in turn, limits the ability of prospective MVNOs to successfully enter the retail market and efficiently compete with their wholesale service providers.
100. In light of the above, the Commission finds that barriers to entry into the retail market remain high and adversely impact new market entry or market expansion by regional wireless carriers and others.
101. The Commission also finds that those barriers relate mainly to the availability of spectrum, the capital-intensive nature of the industry, the time it takes to deploy mobile wireless networks and to generate positive cash flows, and, for prospective MVNOs, the ability to access the RANs of wireless carriers.

Evidence of rivalrous behaviour

102. In Telecom Decision 94-19, the Commission indicated that evidence of rivalrous behaviour may include falling prices, vigorous and aggressive marketing activities, or an expanding scope of activities by competitors in terms of products, services, and geographic boundaries. As part of this proceeding, several parties suggested that the Commission also consider price and profit levels, and how they compare internationally, in its assessment of the retail market's competitiveness. As previously indicated, the Commission considers it appropriate to also

consider, as part of its assessment of rivalrous behaviour, the matter of net subscriber additions.

Positions of parties

103. Many parties submitted that Canadians pay some of the highest prices in the world for retail mobile wireless services, and supported such submissions by pointing to various international price comparison studies and reports. CNOC, the Commissioner, Ice Wireless, and the Manitoba Coalition argued that despite the challenges associated with international comparisons, different approaches that use different data and different methodologies come to the same conclusions that prices in Canada are generally substantially higher than those in other countries.
104. While acknowledging that prices have been trending downwards, Boron et al., the CCWS, CIPPIC/OpenMedia, CNOC, Cogeco, Distributel, the FRPC, Ice Wireless, the Manitoba Coalition, TekSavvy, and TNW Wireless Inc. submitted that the decline in prices has been slower than that experienced in other countries.
105. CNOC, the Commissioner, Ice Wireless, and the Manitoba Coalition also submitted that prices in Canada are lower in areas where there is a strong regional competitor. The Commissioner argued that, based on the Matrix study, markets with no regional wireless carrier, or with a regional wireless carrier with a market share below 20%, are experiencing the effects of an exercise of market power since the national wireless carriers can charge significantly higher prices in these areas. Videotron argued that the lower prices in Quebec relative to other markets in the country were attributable to the competitive discipline that it offers.
106. Several parties further submitted that profits in the Canadian mobile wireless market are also high. The Manitoba Coalition submitted that based on the national wireless carriers' earnings before interest, taxes, depreciation, and amortization (EBITDA) margins, Canada's mobile wireless network operations remained highly profitable despite the entry of new carriers and various regulatory measures designed to aid competition. Cogeco and TekSavvy submitted that profitability is significantly higher for Canada's national wireless carriers than in Australia and the United States.
107. In addition, CIPPIC/OpenMedia submitted that despite the regional wireless carriers' relatively high numbers of net subscriber additions, it will take many years before they reach market shares comparable to those of the national wireless carriers in their respective markets. The CCWS added that the national wireless carriers' decreasing churn rates over the last few years demonstrates a lack of competition in the retail market.
108. With regard to the extent to which these revenues are being redirected back into mobile wireless networks, CIPPIC/OpenMedia, the Commissioner, and the Manitoba Coalition argued that, having regard to capital intensity (i.e. capital expenditure as a percentage of revenue), Canadian wireless carriers do not invest as much as those in other countries.
109. In response, the national wireless carriers submitted that the studies relied upon to support the claim that prices in Canada are high compared to those in international markets were based on flawed methodologies, do not reflect promotional activities, and fail to take into account market-specific factors including differences in quality, geography, population density, and

market conditions. At the national level, the CWTA and the national wireless carriers submitted that the national and regional wireless carriers compete aggressively against each other by offering a wide variety of plans at different price points, including prepaid and postpaid options and various combinations of voice, text, and data. They also submitted that competition in the retail market has led to a significant downward trend in prices, providing Canadians with greater choice, better services, more value, and, ultimately, affordable prices.

110. Eastlink, SaskTel, Shaw, TBayTel, SSi Micro, Videotron, and Xplornet submitted that sustainable competition is beginning to gain momentum in Canada and that regional wireless carriers are having a positive impact on competition by disciplining the national wireless carriers. Eastlink, SaskTel, Shaw, TBayTel, and Videotron argued that retail prices have been decreasing in markets served by regional wireless carriers, and that these carriers continue to expand network coverage and invest to improve services to their customers.
111. The national wireless carriers raised concerns about the Matrix study. They submitted that the use of a plan-limit adjusted price ¹⁸ in the study is not an appropriate proxy for actual prices, since this measure can vary with usage without any variation in prices. Bell Mobility, the CWTA, and TCI also argued that the study did not take into account recent developments in the retail market (e.g. the introduction of unlimited plans by the national wireless carriers) and the acceleration of competitive activity since the data used to inform the report was collected.
112. Bell Mobility argued that provincial price differences were not caused by differences in the level of competition experienced in different markets but rather reflected differences in network quality, a claim that other parties, notably the Commissioner, disputed. TCI submitted that lower prices in Quebec were due to a higher uptake of flanker brands, and that average revenue per user (ARPU) levels in Quebec were lower than those elsewhere in Canada even before Videotron entered the retail market, which demonstrates that the lower prices for those services in the province are not due to the presence of Videotron.
113. The CWTA and the national wireless carriers argued that the intense rivalry between wireless carriers was evidenced by thousands of offers in the retail market, including device discounts, bonus data, gifts with purchase, in-store credits, gift cards, bill credits, and other types of promotions.
114. Bell Mobility, the CWTA, and RCCI submitted that in 2018, the regional wireless carriers accounted for over 25% of net subscriber additions in Canada, which suggests a highly competitive dynamic between four wireless carriers in every market. RCCI indicated that a significant number of subscribers are changing WSPs and that, in every year since 2015, five to six million customers have switched WSPs, which represents over 17% of the retail market. RCCI also argued that its falling churn rate is attributable to increased promotional activities and focus on customer service in order to retain customers in the face of competition.
115. With regard to the question of profitability, RCCI and TCI disagreed with the use of EBITDA as a proxy for profitability, noting that this measure does not include the cost of capital expenditures, spectrum purchases, interest, and income taxes. They argued that it is therefore not appropriate for the capital-intensive mobile wireless service industry.
116. The national wireless carriers submitted that Canadian wireless carriers invest more in their mobile wireless networks than is the case in peer countries, resulting in high-quality networks.

Bell Mobility and RCCI argued that Canada ranks third highest in capital expenditure per subscriber among the G7 countries and Australia, and TCI added that the difference would be even greater if spectrum costs were included in the calculations. The CWTA and the national wireless carriers submitted that Canadian wireless carriers have paid significantly higher spectrum costs than their international peers.

Commission's analysis and determinations

117. Given that market power is defined as the ability to raise prices above what would prevail in a competitive market, higher prices in a given area in comparison to others can provide direct evidence relevant to a determination regarding market power.
118. Most international studies provided or referred to by parties found retail prices in Canada to be among the highest in the world. For instance,
- ISED's 2019 edition of the Wall Report found that Canadian retail prices were either the highest or second highest across a range of categories of plans among the eight countries surveyed;
 - data from the OECD suggested that Canada had among the highest retail prices in the 35 countries surveyed in 2017; ¹⁹
 - a study by tefficient AB showed that Canada had the highest total mobile wireless service revenue, whether considered on a per-GB-consumed or per-SIM-per-month basis in 2018.
119. Some parties submitted or referred to studies that used econometric techniques to control for factors other than the level of competition that could explain price differences across jurisdictions. For instance, in a 2019 study, Seong Hun Yun, Yongjae Kim, and Minki Kim found that after controlling for factors other than competition (such as network quality), prices in Toronto are the highest or second highest among the 12 major cities analyzed for the study, which are located in 10 countries (i.e. all G7 countries plus Australia, Spain, and Sweden). ²⁰ Another example, from the United States, is the Federal Communications Commission's (FCC) 2018 study that looked into international retail prices using an econometric model to correct for the potential effects of country-level differences in costs, demographics, and network quality. The study found that Canada had some of the most expensive retail prices in the 29 OECD countries surveyed. These two studies suggest that it is the lack of competition that drives Canadian retail prices to be among the highest in the world, and not other factors such as income, network costs, or network quality.
120. The Commission acknowledges that there are challenges associated with the comparisons of retail prices across countries. In this regard, considerable debate occurred with regard to the validity or appropriateness of the methodologies and data used in studies cited in this proceeding. That being said, almost all international reports and studies that were submitted or referred to throughout this proceeding, despite using different methodologies and different datasets, pointed to similar conclusions and consistently reported higher retail prices in Canada.
121. One notable exception, though, which came to a different conclusion, is the study prepared by Dr. Christian Dippon of NERA Economic Consulting and commissioned by TCI. This study

found that, after controlling for factors such as income, network quality, and costs, retail prices in Canada are actually lower than international benchmarks. Despite the fact that the study appears to generally be using a sound methodology, the study has a significant flaw insofar as it uses an unrepresentative sample of Canadian retail mobile wireless service plans. This serves to artificially lower the average price index used in the study, and leads to underestimating the prices Canadians actually pay for retail mobile wireless services. In the Commission's view, this selection bias in the data sheds doubt on the validity of the conclusions drawn in the study.

122. The Commission is satisfied that the evidence before it shows that retail prices are higher in Canada than in other comparable jurisdictions. Furthermore, factors such as network costs or network quality do not appear to explain the price differentials. Rather, it is likely that insufficient competition in Canada contributes to higher prices in comparison to other countries.
123. The Commission recognizes that retail prices have been falling in Canada over the last decade, a fact cited by the national wireless carriers as evidence that they are vigorously competitive with each other and with regional wireless carriers, and by regional wireless carriers to support their position that it is effective competition from them that has resulted in the decline in prices. The recent introduction of unlimited plans by the national wireless carriers represented a notable development in the Canadian retail market and appears to have put additional downward pressure on retail prices. However, this price reduction applied to large data plans specifically, and the extent to which it was driven by competition in the market is not clear.
124. Regardless, with retail prices clearly trending downwards, the Commission acknowledges that the market is moving in the right direction, and that it is reasonable to expect that this trend will continue in the future as wireless carriers' network capacity increases as a result of ongoing investments and innovation.
125. Notwithstanding the above, however, falling retail prices in Canada are part of a worldwide trend, because retail prices have also declined in other countries over the same period. The Commission notes that Canadian retail prices have not fallen as much as they have in other jurisdictions, and remain above international benchmarks. This also serves to suggest that competition is not currently sufficient to discipline the market and protect the interests of consumers.
126. Evidence pertaining to wireless carriers' profitability also corroborates this conclusion. Since market power is an ability to raise prices above competitive levels, the presence of excessive profits would constitute an indicator of market power.
127. Although subject to debate as to its appropriateness as a measure of profitability for the mobile wireless service industry, EBITDA remains a widely used metric by the industry to report financial performance and profitability. While it is not uncommon for EBITDA margins to exceed 40% in the industry, profits of the Canadian national wireless carriers are on the higher end when compared to the G7 countries and Australia. This indicates that the Canadian national wireless carriers are highly profitable, and that they have consistently been reporting relatively high EBITDA for a number of years, which is inconsistent with assertions of a highly

competitive market. With regard to SaskTel, its profits have increased over the last number of years, with an EBITDA level now higher than that of other regional wireless carriers, and closer to that reported by the national wireless carriers. This is also inconsistent with assertions of vigorous competition in Saskatchewan.

128. A number of parties argued that the prices and profit levels in the Canadian market are reflective of the highly capital-intensive nature of the mobile wireless industry, which requires significant investment in both capital and spectrum. The Commission acknowledges that while the level of capital investments made by wireless carriers at a single point of time may not provide an accurate picture of their expenditures, because such expenditures depend on where the wireless carriers are in their investment cycle, this concern is mitigated by looking at average investment levels over a period of time. Over the 2009 to 2018 period, Canada had an average capital expenditure (excluding spectrum) per subscriber (capital expenditure to subscriber ratio) that ranked relatively highly among the G7 countries and Australia. However, when put in relation to revenue per subscriber, that ratio for Canadian national wireless carriers over the same period is actually one of the lowest. In other words, these carriers are spending less on capital investments on average in relation to their revenues on a per-subscriber basis than most of their peers in the G7 countries and Australia.
129. Similarly, the national wireless carriers argued that their prices and profit levels are justified because of their high levels of expenditures on spectrum relative to other countries. Canadian spectrum prices are indeed high when compared to other countries. However, spectrum prices in Canada are determined through an auction process; accordingly, the prices are a reflection of not only the number of bidders involved in the auctions, but also of the expected profits to be realized from the assets being bid on. As such, spectrum auction prices in Canada can be seen as confirming the level of profits that wireless carriers expect to generate from that resource.
130. The Commission acknowledges that the capital expenditures and spectrum costs of Canadian wireless carriers are high, and that they have had, and continue to have, an impact on retail prices because wireless carriers need to recoup the associated costs. However, these costs do not fully justify the retail price and profit level differentials seen between Canada and peer countries.
131. At the national level, cross-provincial comparisons of retail prices and the causes behind any price differences were subject to much debate. Historically, lower retail prices have been observed in Manitoba, Quebec, and Saskatchewan relative to other markets.
132. A number of parties submitted that these regional retail price variations were attributable to differences in the level of competition across markets – the Commissioner in particular presented evidence and argued that lower retail prices in Manitoba, Quebec, and Saskatchewan were a result of the strong competitive presence of MTS Inc. (now Bell MTS, a division of Bell Canada), Videotron, and SaskTel, respectively.
133. The national wireless carriers presented evidence and argued that retail price differences between provinces/territories were due to factors such as differences in network quality, penetration of flanker brands (which typically offer lower-priced services), and data usage. However, these factors either exhibit little correlation with provincial/territorial retail pricing or

do not consistently explain the differences in all provinces/territories. For example, according to 2018 network quality data collected by PCMag and referred to in the Commissioner's submission, network quality is higher in Quebec compared to the Atlantic provinces, but retail prices are higher in those provinces compared to Quebec. With respect to flanker brand penetration, provinces with higher retail prices, such as British Columbia and New Brunswick, also have high flanker brand penetration rates when compared to other provinces, and provinces with lower retail prices, such as Manitoba and Saskatchewan, have relatively low flanker brand penetration rates. Lastly, compared to Manitoba and Quebec, retail prices are higher in provinces with lower usage rates, such as New Brunswick, Newfoundland and Labrador, and Nova Scotia; however, retail prices in Alberta, a province with higher average data usage, are similar to those in New Brunswick, which had lower average data usage.

134. With respect to TCI's claim that ARPU in Quebec demonstrates that retail prices were lower in that province even before Videotron entered the market, ARPU alone is not a measure of retail prices. Furthermore, retail prices in Quebec were comparable to those in other provinces, with the exception of Manitoba and Saskatchewan, prior to Videotron's entry into the retail market.
135. Based on the above, the Commission concludes that retail price variations between provinces are not explained by differences in the quality of networks, flanker brand penetration, or data usage level among provinces.
136. The existence of lower retail prices in Manitoba, Quebec, and Saskatchewan alone does not lead to the conclusion that such prices in these jurisdictions are competitive. Rather, retail prices in these markets are still high by international standards. This is so even in Quebec where prices are generally among the lowest in Canada, and where Videotron holds a relatively significant share of the market (albeit less than any national wireless carrier), which suggests that subscribers across Canada, including in Manitoba, Quebec, and Saskatchewan, would benefit from increased competition.
137. Notwithstanding the above, the Commission recognizes the presence of encouraging signs showing a level of rivalry among wireless carriers. Notably, the national wireless carriers and most regional wireless carriers, including SaskTel, offer a large number of promotions and discounts on retail mobile wireless service plans and devices.
138. Another example of evidence of rivalrous behaviour can be seen from recent net subscriber addition figures, which is defined as the number of new subscribers minus the number of customers that drop service, as well as from porting data, which represents the number of subscribers' telephone numbers that have been transferred to and from different carriers. Most of the regional wireless carriers have been successful in attracting customers, including customers switching from other wireless carriers.
139. Despite the fact that net subscriber addition figures and porting data suggest that the market is moving in the right direction in terms of growing regional wireless carriers, the provincial/territorial market shares of the national wireless carriers combined have not changed in any significant way over the last five years. The same is also true for SaskTel in Saskatchewan; the carrier has largely maintained its market share over the last five years. In addition, even if the growth patterns witnessed in the last five years continued, this would very

likely not result in gains large enough that the regional wireless carriers' market shares would grow in a significant way in the foreseeable future in most parts of Canada.

140. In conclusion, although the Commission considers that markets have generally been moving in the right direction, retail prices remain high in Canada compared to other jurisdictions, and factors such as costs or network quality do not entirely explain these differences. High profit levels, even accounting for the large investments made by the national wireless carriers and by SaskTel, in addition to their high and stable market shares over the last five years, also point to a lack of rivalrous behaviour in Canada.
141. In light of the above, the Commission finds that there is still an insufficient amount of rivalrous behaviour among the national wireless carriers and between these carriers and SaskTel in Saskatchewan, and that rivalry between these carriers and regional wireless carriers in the retail market, although present, is still limited in all provinces and territories.

Innovation and technological changes

142. In Telecom Decision 94-19, the Commission indicated that the nature of innovation and technological change in the relevant market may be a useful indicator to assess market power, because industries characterized by rapid innovation in products, processes, and technology tend to experience greater price movements and more new entry, thereby making it difficult to exercise market power.

Positions of parties

143. The national wireless carriers submitted that the telecommunications industry is a leader in research and development in Canada, that they continue to roll out LTE-A on their mobile wireless networks, and that they are undertaking massive investments towards the successful deployment of 5G infrastructure throughout the country. They further submitted that Canadian wireless carriers are innovating to improve their products and services to keep up with an intensely competitive market.
144. Eastlink, SaskTel, Shaw, Videotron, and Xplornet submitted that they provide innovation in the retail market. Most of these parties, in addition to TBayTel, argued that they are also undertaking efforts to build and enhance their mobile wireless networks, including by working toward the transition to 5G services.
145. The CCWS and CIPPIC/OpenMedia submitted that Canada's retail market lacks innovation because many of the services or options that have emerged in other jurisdictions, such as data rollover, are not widely available in Canada. CIPPIC/OpenMedia submitted that the national wireless carriers' recently introduced unlimited data plans do not compare favourably with similar plans offered in other jurisdictions because they are generally more expensive, offer a lower data usage threshold before data is throttled, and/or throttle data to a lower speed. The Commissioner and TekSavvy questioned the timing of the introduction of these plans, arguing that the threat of regulatory intervention may have played a role in their launch.

Commission's analysis and determinations

146. The Commission notes that wireless carriers have expanded the scope of their products and services. A notable example was the national wireless carriers' introduction of unlimited data plans across the country. However, while these offerings represent a new option in various parts of the country, unlimited plans have been available for some time in other jurisdictions, such as the United States and some European countries, as well as some areas in Canada, notably in Saskatchewan, prior to their introduction by the national wireless carriers.
147. With regard to technological changes, Canadian wireless carriers have deployed LTE networks that cover virtually all of the Canadian population, and are continuing to invest with a view to upgrading their networks to handle growing data demand. Accordingly, the Commission considers that Canadian wireless carriers are adopting technological innovations into their networks at a relatively rapid pace.
148. However, adopting network innovation comes at a cost; the mobile wireless industry has proven to be a capital-intensive industry, as discussed above, and there are no indications that it will be less so with the deployment of 5G networks.
149. The deployment of 5G networks is likely to be particularly challenging for regional wireless carriers that are still in the process of building and expanding their networks, and are working towards strengthening their financial performance. Under these circumstances, instead of helping competition by facilitating entry and expansion, technological changes in the industry may actually impede regional wireless carriers' ability to compete against bigger and more established wireless carriers and may compromise their financial viability. This is particularly true in areas with low population densities, since the capacity of the market to support these investments is even more limited.
150. In light of the above, the Commission finds that innovation and technological changes in the Canadian mobile wireless industry do not prevent an exercise of market power in any province or territory for the provision of retail mobile wireless services.

Conclusion

151. Despite evidence of growing rivalrous behaviour among WSPs and downward trends in retail prices in Canada, the Commission considers that, with the exception of Saskatchewan and the territories, the national wireless carriers together exercise market power and that the competitive dynamics in Canada are not currently sufficient to discipline the exercise of market power of these carriers. In these markets, market share is highly concentrated between the national wireless carriers. Furthermore, prices and profits are high and not fully accounted for by way of investments made in networks. Competitive discipline is limited by the presence of barriers to entry into the retail market and by barriers to switching service suppliers. Finally, innovation in the market would not prevent an exercise of market power in the mobile wireless service industry.
152. Accordingly, the Commission finds, as a question of fact, that the national wireless carriers together exercise market power in the provision of retail mobile wireless services in all provinces except Saskatchewan.
153. In the case of Saskatchewan, SaskTel, the incumbent WSP, controls the majority of the retail market, and its market share has remained essentially unchanged in the last five years. In

addition to SaskTel's dominant and stable market share, the retail market is characterized by barriers to entry that, if anything, would be higher in Saskatchewan given the low population density and the size of the territory to cover. In addition, SaskTel's increasing profit levels are inconsistent with assertions of a highly competitive market in Saskatchewan and rather indicate, when considered in conjunction with the factors described above, that SaskTel exercises market power on a unilateral basis in the province.

154. In light of the above, the Commission finds, as a question of fact, that SaskTel exercises market power as regards the provision of retail mobile wireless services in Saskatchewan.
155. With respect to the North, Bell Mobility holds the vast majority of market shares in each of the three territories, and competitors in those markets have only modest presences. Also, customers in the North have access to fewer options than customers in the provinces when they consider switching WSPs, since no territory counts more than three wireless carriers. In addition, barriers to entry are prevalent in these markets like elsewhere in Canada. Given the low population density and the size of the territory to cover, these barriers are likely more significant in each of the territories.
156. In light of the above, the Commission finds, as a question of fact, that Bell Mobility exercises market power for the provision of retail mobile wireless services in the territories.
157. Following these findings, the analysis now turns to assessing potential regulatory measures, at both the wholesale level and retail level, to address market power and protect the interests of consumers, having regard to the policy objectives of the Act and the 2006 and 2019 Policy Directions.

Regulatory measures at the wholesale level

Regulatory approach to wholesale services

158. Generally speaking, wholesale regulatory measures are used to address competition concerns in the retail market. If the retail market is sufficiently competitive, there is generally no need to inquire into the appropriateness of wholesale market intervention. However, if an analysis of the retail market demonstrates competitive concerns in that market, such as one or more firms exercising market power, which the Commission has found to be the case in relation to the provision of retail mobile wireless services in all geographic markets, then wholesale market intervention may be appropriate.
159. While there may be other reasons to support wholesale market intervention, as a general matter, it is appropriate to view such regulatory intervention as a means of addressing situations of undue preference or unjust discrimination, such as the differential treatment that may arise as a result of the dynamic between a carrier's retail and wholesale operations. Such intervention is typically done by mandating that firms exercising market power provide competitors with access to their networks, or parts thereof, at regulated rates, terms, and conditions. ²¹
160. In Telecom Regulatory Policy [2015-326](#), the Commission set out its analytical framework for determining whether to mandate the provision of a wholesale service.

161. The first step is to define the relevant product and geographic markets for the wholesale service. These markets are typically characterized as the smallest group of services and geographic area over which a firm could profitably impose a significant and non-transitory (i.e. sustainable) price increase.
162. The next step is to apply the essential services test (referred to hereafter as the Essentiality Test), which has three components (the essentiality criteria) – the input component, the competition component, and the duplicability component. A wholesale service must meet all three components, as described below, to be considered essential.
- Input component: the facility is required as an input by competitors to provide telecommunications services in a relevant downstream market.
 - Competition component: it is controlled by a firm that possesses upstream market power such that withdrawing mandated access, or denying access to the facility, would likely result in a substantial lessening or prevention of competition in the downstream market.
 - Duplicability component: it is not practical or feasible for competitors to duplicate the functionality of the facility.
163. These criteria, which are aimed at determining whether a wholesale service is a bottleneck, and whether access to the service is necessary for successful retail competition, help inform the Commission’s assessment as to whether a wholesale service provider’s conduct results in it unduly preferring itself or disadvantaging a competitor or a group of subscribers, contrary to subsection 27(2) of the Act. As such, these criteria inform a specific method of identifying compliance with subsection 27(2). However, in the Commission’s view, the Essentiality Test applies fairly narrow economic criteria to the assessment and would not, absent further considerations, fully reflect the range of matters that section 47 of the Act requires the Commission to take into account in exercising its powers.
164. In this regard, in Telecom Regulatory Policy 2015-326, the Commission indicated that it would evaluate whether there are policy considerations that would inform, support, or reverse a decision to mandate the provision of a wholesale service. Among the policy considerations it highlighted are those relating to innovation and investment. Where appropriate, the Commission may use a policy consideration to justify a decision to mandate the provision of a wholesale service that does not meet the Essentiality Test. Conversely, the Commission may use a policy consideration to justify a decision not to mandate the provision of a wholesale service that meets the Essentiality Test.
165. The policy considerations discussed in Telecom Regulatory Policy 2015-326 play a critical role in informing the Commission’s findings of fact under subsection 27(3) of the Act as to whether a carrier has complied with the prohibition set out in subsection 27(2) in a manner that is consistent with the requirements of section 47. ²²
166. In light of its findings in the previous section concerning the presence of retail market power, the Commission will consider the appropriateness of mandating wholesale MVNO access.

Wholesale MVNO access

Background

167. In Telecom Regulatory Policy 2015-177, the Commission found that both wholesale roaming service and wholesale MVNO access service met the three components of the Essentiality Test. For both services, the Commission defined the relevant geographic market as national in scope. Although wholesale MVNO access service met the Essentiality Test, the Commission determined that the service would not be mandated at that time owing to policy considerations. In particular, the Commission was concerned about the potential for wholesale MVNO access to undermine network investment, particularly by competitor wireless carriers, and particularly outside of core urban areas.
168. In Telecom Notice of Consultation 2019-57, the Commission took the preliminary view that subsequent developments in the market were such that it would now be appropriate to require the national wireless carriers to provide wholesale MVNO access service, on a time-limited basis, as an outcome of this proceeding.

Reviewing the essentiality of wholesale MVNO access service

Positions of parties

169. In addition to debating the policy reasons for and against mandating wholesale MVNO access service, certain parties called into question the Commission's finding in Telecom Regulatory Policy 2015-177 that wholesale MVNO access service meets the Essentiality Test.
170. Several parties submitted that before the Commission makes a determination with respect to mandating wholesale MVNO access service, it is necessary to reassess the essentiality of the service.
171. In particular, Shaw argued that the Commission's concurrent analysis of both wholesale roaming and wholesale MVNO access services in Telecom Regulatory Policy 2015-177 was flawed because the considerations for MVNOs and roaming are different. Shaw submitted that while wholesale roaming service was required for regional wireless carriers that need broad national coverage to offer competitive services, the same does not necessarily hold for MVNOs. It argued that MVNOs do not face the same barriers and competitive foreclosure risks as those who need to build their own home networks, and therefore argued that the Commission needs to revisit the essentiality of wholesale MVNO access service before it can properly assess the appropriateness of the service.

Commission's analysis and determinations

172. Given the evolution of wireless service markets since 2015, and the new evidence and arguments that were raised in this proceeding, it would not be appropriate for the Commission to make a determination on whether to mandate wholesale MVNO access service by relying on the determinations it reached in 2015. The Commission therefore considers that a new assessment of whether wholesale MVNO access service satisfies the Essentiality Test is required.

Defining wholesale MVNO access service

173. At the outset, the Commission notes that the analysis below focuses on the concept of a full MVNO model, which would grant mandated permanent access to the RAN of a host carrier. The RAN consists of spectrum, towers, and related facilities and equipment located at tower sites. In a full MVNO model, all other facilities and equipment required by an MVNO beyond the RAN would not be mandated, but would be supplied or otherwise obtained by the MVNO itself, including the core network, billing systems, customer care, and devices.
174. Various parties proposed their own variants of a full MVNO model. For example, CNOOC, Distributel, and TekSavvy, among others, supported a broad-based full MVNO model with minimal or no restrictions on eligibility for prospective MVNOs. Cogeco proposed a hybrid MVNO model under which eligibility would be tied to a prospective MVNO owning wireless or wireline facilities in a given area, used to serve retail customers. The ITPA proposed a full MVNO model that included an option for prospective MVNOs to also gain mandated access to a host carrier's core network.
175. In the Commission's view, the essentiality analysis for each of the full MVNO options proposed by parties is the same, since they are all ultimately predicated on a prospective MVNO having mandated permanent, rather than incidental, access to a host carrier's RAN. The conclusions reached with regard to the essentiality of wholesale MVNO access service therefore apply equally to each proposal. ²³
176. The Commission considers that the Commissioner's facilities-based MVNO proposal would also constitute a full MVNO model. However, given the targeted nature of that model, in terms of both geography and eligibility, the Commission has performed a separate evaluation of it.

Relevant product and geographic markets

177. As discussed above, the first step in applying the Essentiality Test is to define the relevant product and geographic markets for the service in question.

Positions of parties

178. Parties in favour of mandated wholesale MVNO access service generally submitted that the previously established relevant product and geographic markets continue to be appropriate.
179. Bell Mobility argued that wholesale roaming service and wholesale MVNO access service do not need to have the same relevant geographic market, since an MVNO can have the ability to resell access to a wireless network in one area (wholesale MVNO access), while its customers in that area are able to use their wireless service anywhere in the country by way of wholesale domestic roaming access. Bell Mobility submitted that the relevant geographic market for the purposes of applying the Essentiality Test to a wholesale MVNO access service is local, and can most appropriately be represented by tier 4 areas, which collectively cover every square kilometre of Canada.
180. Similarly, it was the Commissioner's view that the appropriate geographic market for assessing wholesale MVNO access service is likely the local market. To that end, the Commissioner submitted that tier 4 areas are a reasonable proxy for local markets.
181. Shaw argued that competitors have demonstrated that they are able to enter the mobile wireless service market on a regional basis through self-supply and deploy networks to an

extent sufficient to compete with the national wireless carriers.

Commission's analysis and determinations

182. The Commission considers that there are significant functional differences between wholesale roaming service and wholesale MVNO access service. Each service addresses a different type of customer: wholesale MVNO access service addresses service providers seeking permanent RAN access to enable their retail services to be offered, while wholesale roaming service addresses wireless carriers seeking incidental RAN access to support their customers when they travel outside the footprint of their carrier's network. In the Commission's view, the difference in functionality between the two services places them in two separate product markets, with the relevant product market for wholesale MVNO access service being defined as permanent access to the RAN.
183. With respect to the geographic market, the Commission considers that the geographic market for wholesale MVNO access service is more localized than the national market. When looking more closely at the likelihood of entry into the market and the geographic basis on which that entry might occur, the Commission considers that an entrant would not necessarily require a wholesale MVNO access service on a national level in order to be able to develop a viable business. While national coverage, through roaming, is necessary for any service provider to give its customers connectivity wherever they go, a WSP (be it a carrier or MVNO) does not necessarily have to sell its services nationally in order to provide its customers with national coverage. An entrant could, rather, enter in one city or province and negotiate to use a combination of the host carrier's network and roaming arrangements to offer its customers in that local area a viable service, which would include national coverage. This is similar to how regional wireless carriers have entered the market, that is, by targeting select areas for entry and using wholesale roaming service to supplement their serving territories and enable their customers to have national coverage.
184. In these circumstances, the Commission considers that tier 4 areas represent a significantly more localized geographic area than the national market, and are a reasonable proxy for local markets because they are roughly approximate to a city and its surrounding area, a regional municipality, or a larger rural area with several small towns. Tier 4 areas have established boundaries and are familiar to market participants.
185. In light of the above, the Commission determines that the relevant product market for wholesale MVNO access service is permanent access to the RAN and that the relevant geographic market is the tier 4 area.

Applying the Essentiality Test to mandated MVNO access service

186. Below, the Commission applies the Essentiality Test to wholesale MVNO access service using the market definitions established above, with the relevant product market being permanent access to the RAN for the purpose of operating as an MVNO, and with the relevant geographic market being the tier 4 area.

Positions of parties

187. The CCWS, CNOC, and Ecotel agreed with the Commission's finding in Telecom Regulatory Policy 2015-177 that wholesale MVNO access service is an essential service.
188. Cogeco argued that access to the RAN of a mobile wireless carrier is an essential service, because it is a required input to provide an equivalent mobile service offering, it is controlled by firms that together exercise market power, and it is not practical to duplicate.
189. Bell Mobility argued that wholesale MVNO access service is not essential because there is no evidence to support a conclusion that MVNOs would substantially increase competition. Instead, their presence would likely result in less competition in retail markets. Further, it argued that mandated MVNO access service fails the duplicability component because carriers that have entered into the market since 2008 have demonstrated that every aspect of a facilities-based wireless service offering can be duplicated. It noted, by way of example, that Bell Mobility and TCI previously duplicated RCCI's Global System for Mobile communications (GSM) network in every geographic market.
190. RCCI argued that, for the input component, MVNOs do not require access to the national wireless carriers' RANs to provide retail service. It pointed to the new regional wireless carriers that have built competitive businesses to argue that others could do the same on a relatively cost-effective basis. As for duplicability component, RCCI referred to the new entrants to demonstrate that the RAN is duplicable and that it is easier than ever for new entrants to enter the market and build their own RANs. RCCI further submitted that, to the extent that a new entrant may need to rely on an existing RAN, it does not necessarily need access to the national wireless carriers' RANs. Further, and with specific regard to the competition component, RCCI argued that while MVNOs may bring some additional competition, it would be likely short lived and unlikely to help consumers.
191. Shaw argued that mandating wholesale MVNO access would substantially lessen or prevent competition in the downstream retail market. It submitted that the overwhelming evidence in this proceeding shows that mandating MVNO access will weaken facilities-based competitors by eroding their subscriber bases and inhibiting their ability to compete effectively and sustainably against the national wireless carriers in the mid and long term. Shaw also submitted that the presence of regional facilities-based competitors, like Freedom Mobile, in the mobile wireless service market through self-supplied networks is clear evidence that mobile wireless facilities are duplicable on a regional basis.
192. TCI disagreed with the Commission's 2015 finding of essentiality, arguing that competitors can duplicate RANs and that this has led to regional and national wireless carriers building RANs across the country.

Commission's analysis and determinations

Input component

193. Any WSP – whether it is a facilities-based carrier or a virtual operator – requires access to a RAN to offer mobile wireless services, including retail services. Since MVNOs are virtual operators that, by definition, do not own RAN components such as spectrum, towers, and

sites, they would not be able to operate without wholesale access to a carrier's RAN. This is true in any tier 4 area.

194. As a result, the Commission finds that wholesale MVNO access service meets the input component.

Competition component

195. In Telecom Regulatory Policy 2015-177, the Commission determined that the national wireless carriers collectively possessed market power in the national market for wholesale MVNO access service. In the Commission's view, this determination of collective upstream market power remains true for most tier 4 areas in the country. In these areas, MVNOs seeking RAN access are limited to either the Bell Mobility-TCI shared network, the RCCI network, or the network of a regional wireless carrier that may have only partial coverage. The Commission considers that, even in tier 4 areas where a regional wireless carrier has coverage, the national wireless carriers would, with the exception of tier 4 areas in Saskatchewan and the territories, still exercise upstream market power, having regard to the limited number of networks with extensive coverage, namely the Bell Mobility-TCI shared network and RCCI's network.
196. In Saskatchewan, SaskTel owns the vast majority of the network facilities. Other carriers have only a minimal network presence, and this presence is in a limited number of tier 4 areas in the province. For these reasons, the Commission considers that SaskTel solely exercises upstream market power over the RAN for the purposes of wholesale MVNO access service in the geographic markets in Saskatchewan.
197. In the territories, Bell Mobility owns the vast majority of network facilities, with a number of smaller wireless carriers operating in some tier 4 areas. In these circumstances, the Commission considers that Bell Mobility has sole upstream market power over the RAN for the purposes of wholesale MVNO access in the territories.
198. The Commission considers that while Bell Mobility, RCCI, TCI, and SaskTel exercise upstream market power over the RAN for the purposes of wholesale MVNO access service in the areas described above, the competition component of the Essentiality Test requires it to assess whether an exercise of this upstream market power to foreclose meaningful wholesale RAN access for the purpose of supporting MVNOs would result in a substantial lessening or prevention of competition in the downstream retail market. In this regard, the Commission considers that MVNOs are likely to focus their efforts on tier 4 areas in larger cities where they would be able to use the service to reach the greatest number of potential customers.
199. With respect to customer segments that MVNOs would likely target, the Commission considers that MVNOs are likely to compete for similar customers as those targeted by regional wireless carriers (e.g. price-sensitive customers or younger and more technologically savvy customers that have a greater willingness to switch carriers). In this regard, the national wireless carriers position their flanker brands for a similar purpose: to defend against the competitive threats posed by regional wireless carriers to specific customer segments, namely budget-conscious consumers. As such, the Commission considers that it is likely that, upon entry into retail markets, MVNOs would take a greater share of subscribers from regional

wireless carriers than from the national wireless carriers or SaskTel, particularly with respect to their main brands, and would therefore have a disproportionate impact on regional wireless carriers. In these circumstances, the Commission considers that while there may be some initial downward pressure on overall pricing as MVNOs seek to gain customers, over the longer term the net impact of broad-based MVNO presence on competition, particularly as a means of affecting retail market power, is not likely to be substantial.

200. Furthermore, in the Commission's view, while competition is intensifying and prices are lower in areas where a regional wireless carrier operates in competition with the national wireless carriers, and it is reasonable to expect prices to decline further in the future as the regional wireless carriers grow their market shares, the potential beneficial impacts on retail competition resulting from the mandated provision of a broad MVNO access service are speculative at best. Further, the available evidence is not persuasive enough to support a conclusion that any such impact would outweigh any negative impacts on established regional wireless carriers with regard to their subscriber base and their corresponding ability to invest in expanding and upgrading their network coverage and, thus, on their ability to discipline retail market power.
201. In light of the above, the Commission finds that the absence of a broad-based wholesale MVNO access service is not likely to result in a substantial lessening or prevention of competition, and that the presence of such a service is not likely to result in a substantial increase in downstream competition. Therefore, wholesale MVNO access service does not meet the competition component of the Essentiality Test.

Duplicability component

202. There are 172 tier 4 areas in Canada, and in 114 of these areas, regional wireless carriers, including SaskTel, have already invested in spectrum and RAN facilities, thereby providing approximately 70% of the Canadian population with a competitive alternative to the national wireless carriers. This is clear evidence that RANs have been practically and feasibly duplicated by reasonably efficient competitors that vary in size from larger carriers with significant wireline operations such as Shaw and Videotron, to mid-sized carriers such as Eastlink and TBayTel, to smaller carriers such as Ice Wireless and SSi Micro.
203. Furthermore, in the remaining 58 tier 4 areas, there is at least one regional wireless carrier that has purchased spectrum but has not yet built RAN facilities. In many cases, it has already announced plans to build RAN facilities. The Commission considers that this is a strong indication that RAN facilities are likely to continue to be duplicated in the future.
204. The Commission is not persuaded by arguments that it is infeasible or too costly to construct a wireless network. The evidence shows otherwise, namely that multiple companies have built their wireless networks – in both densely populated tier 4 areas and in more sparsely populated tier 4 areas – and have indicated that they intend to continue doing so.
205. Regarding arguments that spectrum is a finite resource that can only be acquired at specific times set by ISED, the Commission considers that all companies make choices about how and when to invest. Some companies chose to bid on spectrum in past auctions and launch retail wireless operations. Other companies chose not to, or were not successful with their bids.

Simply making a business choice against building a RAN, or losing out in an auction process, does not mean that it is not possible to build one.

206. The Commission acknowledges that building a wireless network is not without significant challenges. Spectrum is typically expensive, is in limited supply, and is only made available at certain times by ISED. Network infrastructure such as towers and backhaul facilities take time to build and often require consultations and permits. As already discussed, these constitute barriers to entering and expanding in the mobile wireless service market that impact the ability of competitors to serve consumers. However, the Commission considers that, as the evidence above demonstrates, these challenges are not insurmountable by reasonably efficient operators. They have, in fact, entered the market and are expanding their operations to more consumers as time goes on.
207. In light of the above, the Commission determines that the functionality of wholesale MVNO access service can be practically and reasonably duplicated by reasonably efficient competitors.

Conclusion

208. In light of the above, since wholesale MVNO access service does not meet two of the three components of the Essentiality Test, the Commission determines that wholesale MVNO access service is not an essential service.

Policy considerations

Background

209. In the essential services framework set out in Telecom Regulatory Policy 2015-326, the Commission indicated that, in addition to applying the specific conditions or components informing the Essentiality Test, it would use policy considerations to inform, support, or reverse a decision to either mandate or not mandate the provision of a wholesale service.
210. The Commission listed three policy considerations that it would take into account: public good, ²⁴ interconnection, and innovation and investment. In the case of wholesale MVNO access service, the Commission considers that it is neither a public good nor interconnection service and, as such, the first two policy considerations are not relevant. However, innovation and investment is of particular relevance, since one of the strategic policy objectives of this proceeding is continued innovation and investment in, and affordable access to, high-quality telecommunications services and facilities in all regions of Canada, including rural and remote areas.
211. In this proceeding, parties made arguments regarding the impact that mandated wholesale MVNO access would have on the market and much of the evidence filed in this regard relates to innovation and investment in a number of different ways. Parties' views on this matter were generally made in the context of a broad-based full wholesale MVNO access service.
212. With this in mind, the Commission has structured its analysis on innovation and investment as follows:
- Impact on innovation – Plans and pricing

- Impact on innovation – Technology and service delivery
- Impact on investment – National wireless carriers and SaskTel
- Impact on investment – Regional wireless carriers
- Impact on investment – Network capacity

Positions of parties

Impact on innovation – Plans and pricing

213. Parties that opposed mandated wholesale MVNO access, including the national and regional wireless carriers, generally argued that MVNO competition would have little to no impact on innovation with respect to new plans and pricing structures. Expert evidence filed by these wireless carriers concluded that broadly mandated wholesale MVNO access would not have a significant impact on prices. For instance, Richard Feasey, on behalf of RCCI, argued that there is no credible evidence that having more MVNOs in a market or mandating access for those MVNOs leads to lower retail prices. Furthermore, Dr. Christian Dippon and Dr. Georg Serentschy, both on behalf of TCI, argued that in other countries where there is a significant MVNO presence in retail markets, MVNOs are generally unable to set or even influence market prices.
214. Parties that opposed mandated wholesale MVNO access also argued that the evidence shows that entities seeking MVNO access would most likely seek to offer their customers services that are comparable to those already available and to make these available at prices similar to those prevailing in the market. Bell Mobility, RCCI, and Videotron argued that wireless carriers already offer a wide range of plans at different price points, including voice, text, and data plans for under \$20 per month. They argued that given the availability of lower-priced plans in most markets, there is very little room for MVNOs to compete on price. Eastlink argued that it would be highly optimistic to assume that any properly costed wholesale pricing model would result in substantial changes to the price of services already occurring and increasingly being offered by the numerous existing WSPs in Canada today.
215. Parties that supported mandated wholesale MVNO access, including CNOC and prospective MVNOs, argued that MVNOs are able to put downward pressure on retail pricing. Evidence provided by these parties pointed to a wide variety of MVNOs operating in different international markets that offer wireless plans that include large data allotments at rates that, in their assessment, were significantly lower than the standard offerings by large carriers in those markets. For instance, Dr. Martyn Roetter, on behalf of CNOC, pointed to an MVNO in the United Kingdom offering plans containing up to 10 GB of data for £10. TekSavvy gave the example of Ting Mobile (an MVNO operated by Tucows) that bills customers for the least expensive plan available each month based on their usage.
216. The Commissioner suggested that it was unlikely that MVNOs would be able to effectively compete on price and submitted that mandated wholesale MVNO access service rates would need to be up to 64% lower than current mandated wholesale roaming service rates for MVNOs to be able to offer plans that are comparable to those of Freedom Mobile, SaskTel, and Videotron.

217. Parties that supported mandated wholesale MVNO access, including CIPPIC/OpenMedia, CNOC, and the Manitoba Coalition submitted that MVNOs would have a positive impact on Canada's mobile wireless service market. CNOC filed a report prepared by Dr. Zhiqi Chen arguing that MVNOs will target niche and underserved areas of the market with affordable and innovative new services, which will, in turn, pressure wireless carriers to respond with their own enhancements to affordability and innovation. Dr. Roetter similarly argued that MVNOs in foreign jurisdictions have developed innovative solutions, including targeting niche population segments, to distinguish themselves from the service offerings of established service providers. CIPPIC/OpenMedia and the Manitoba Coalition argued that this kind of innovation could help improve Canada's mobile wireless service adoption rate. In this regard, CIPPIC/OpenMedia highlighted data indicating that mobile wireless service adoption in Canada, in terms of subscriptions, was below the OECD average.
218. Certain parties that supported mandated wholesale MVNO access also argued that MVNOs distinguish themselves through joint marketing and co-branding with non-telecommunications companies, such as those offering financial services, and, similar to the arguments set out above, by making niche offerings targeting customers that existing WSPs have underserved.
219. Data on Tap submitted that there is room for MVNOs to innovate through a number of product differentiation strategies focusing, for example, on solving problems where wireless usage is moderate, variable, temporary, seasonal, or transient. The company argued that because MVNOs do not manage numerous brands, they would not be concerned about cannibalizing their own customers, and would be free to design products that target a wide range of consumers.
220. Parties that opposed mandated wholesale MVNO access, including the national and regional wireless carriers, generally argued that in markets where there is a strong MVNO presence, the MVNOs pursue niche strategies, with the most common targeted market niche being budget-conscious consumers. They argued that in Canada there is no need or role for MVNOs because the niche segments they are most likely to target are already served by regional wireless carriers and flanker brands.
221. TCI also argued that mandated wholesale MVNO access will provide minimal benefit to consumers. Dr. Dippon concluded in his report that MVNOs do not cause decreases in price or increases in service quality. Specifically, his examination of the impact of MVNOs in OECD countries found that MVNO market shares in those countries remain very small, and that there is no statistical relationship between the presence of MVNOs and an increase in consumer benefits such as faster download speeds, broader LTE deployment, or carrier ARPUs.
222. A report prepared by Dr. Eric Emch and filed by Shaw argued that there is a stark contrast between mobile network operator innovation and MVNO innovation. It noted that 5G networks promise increased speed, decreased latency, and increased connectivity, all of which will support new use cases in the mobile wireless service industry, including IoT and augmented or virtual reality applications. The report suggested that if mandated wholesale MVNO access decreases carrier investment, then these type of innovations cannot be replaced by the kinds

of innovations that MVNOs might bring to market, which, it was argued, are limited to marketing and product differentiation.

Impact on investment – National wireless carriers and SaskTel

223. Parties that supported mandated wholesale MVNO access, including the CCSA, the CCWS, CNOOC, Distributel, the ITPA, and TekSavvy, argued that it is difficult to demonstrate a correlation between MVNO entry and lower investment levels. They argued that it is unlikely that mandated wholesale MVNO access will deter investment and that it is possible that the national wireless carriers would be encouraged to increase network investment in response to increased demand for network capacity driven by MVNOs. They argued that the national wireless carriers have a strong incentive to roll out 5G technology and submitted that those carriers have made every indication that they will be 5G investment leaders regardless of the presence of MVNOs.
224. CNOOC argued that while 5G deployment will require significant investment, the presence of MVNOs will not have a negative impact on that investment. In his report, Dr. Chen argued that MVNO growth is unlikely to reduce investments by wireless carriers, and could possibly stimulate wireless network investment by the national wireless carriers. He argued that the mandated entry of MVNOs into the retail market will likely increase the number of mobile wireless service subscriptions, and therefore increase overall demand for network capacity.
225. Generally, all parties that opposed mandated wholesale MVNO access, including the CWTA, the national wireless carriers, regional wireless carriers, and SaskTel, argued that such access would negatively impact investment by wireless carriers. They argued that mandated wholesale MVNO access would reduce the incentive to invest, particularly in rural areas, and would stifle 5G investment. Margaret Sanderson, in a report for Bell Mobility, and Dr. Dippon, in his report, argued that economic studies of international markets confirm that there are negative investment repercussions from mandated wholesale MVNO access.
226. Bell Mobility argued that if wholesale MVNO access is mandated, carriers' weighted average cost of capital (WACC) would likely rise, driven by lower equity valuation and a higher cost of debt that incorporates higher risk levels. It argued that a higher WACC will increase the hurdle rate for investment, and that lower return on investment capital and higher WACC will make investment projects less likely to be approved by the directors and officers of corporations involved in mobile wireless services.
227. The Commissioner submitted that through his own research, he did not find conclusive evidence of reduced investment incentives resulting from mandated wholesale MVNO access internationally. He noted that in Austria, Japan, and Spain, where, in his view, mandated wholesale MVNO access has contributed to placing downward pricing pressure on mobile wireless service markets, there does not appear to have been any significant decrease in investment.

Impact on investment – Regional wireless carriers

228. CNOOC and TekSavvy argued that mandated wholesale MVNO access would positively impact regional wireless carriers. They argued that these carriers are well positioned to become

MVNOs and that profits generated from a full MVNO business could be used to invest in, and expand the footprint of, their networks.

229. CNOC argued that rural areas will not be disproportionately affected by any cuts to investment as a result of mandated MVNO access and that rural carriers such as Ice Wireless will continue to invest in networks even if wholesale MVNO access is mandated. CNOC also argued that a significant amount of investment in rural network infrastructure is funded by government programs that would not be affected by a mandate to provide wholesale MVNO access.
230. The national and regional wireless carriers argued that mandated wholesale MVNO access would have the greatest negative effect on regional wireless carriers. They argued that MVNOs are most likely to target the core customers of the regional wireless carriers, and that this would be particularly damaging due to the smaller scale of those carriers' operations. They also argued that mandating wholesale MVNO access would increase overall uncertainty in the market including with respect to the assumptions (e.g. that there is no mandated MVNO access service in place) and return on investment calculations on which capital markets' support for regional wireless carriers has been based to date. Finally, they argued that regional wireless carriers' investment decisions would be affected, both with respect to 5G deployment, and to the expansion of 4G networks.
231. Eastlink submitted that since 2008, it has invested hundreds of millions of dollars to expand its business, and argued that it was able to take this kind of risk due to policies that support facilities-based competitors. It argued that mandating wholesale MVNO access would compromise the sustainability of the investments it has made to date and would drastically reduce all its future investments. SaskTel made similar arguments and argued that mandated wholesale MVNO access would hurt regional wireless carriers in favour of tiny, unstable competitors and larger national carriers.
232. The report by Dr. Emch, filed by Shaw and supported by Videotron, indicated that regional wireless carriers have high investment intensity levels and low margins, all of which put them particularly at risk if faced with MVNO competition.

Impact on investment – Network capacity

233. The national wireless carriers generally submitted that they do not, at present, have a large amount of unused capacity in their networks to support new MVNOs, and indicated that there are many urban locations that are already above 90% capacity utilization at peak times. They were of the view that MVNO entry would add additional traffic to their networks and that it would be difficult for them to forecast this capacity, therefore making it difficult to make the necessary investments at the necessary times. They argued that the additional demands on capacity could lead to reduced network quality and/or higher capital costs to continue to provide high-quality services to their subscribers.
234. Wireless carriers generally submitted that they monitor their network utilization based on various technical parameters and quality metrics, including download speed, upload speed, and latency. They submitted that the end goal of network planning is for carriers to never provide a service that falls below a minimum level of service quality. They submitted that this

objective was accomplished by predicting those times and places where network investment is required and adding just enough capacity, on a just-in-time basis.

Commission's analysis and determinations

Impact on innovation – Plans and pricing

235. A fundamental question in this proceeding is whether mandated wholesale MVNO access would result in innovative plans and pricing options for consumers, thus leading to lower prices overall.
236. Generally speaking, it is reasonable to expect at least some downward pressure on pricing if MVNOs were to enter the market on a broad basis. The magnitude of this impact would depend on many factors, including the number of MVNOs that enter; the market segments they choose to target; their relative size, experience, and sophistication; and, perhaps most importantly, the wholesale rates, terms, and conditions that are either negotiated between the parties or set by the Commission.
237. Several parties submitted evidence regarding MVNO activity in other jurisdictions to provide insights about what might occur in Canada. Generally, MVNOs capture between 5% and 30% of the markets that they enter. In many instances, after MVNOs entered those markets, there were price reductions, particularly in relation to niche customer segments, such as the youth market or the prepaid, lower-cost service market. However, the impact of MVNO entry varied depending on the country being studied. Given the differences in market conditions between Canada and the countries under consideration, this evidence cannot be relied upon to conclusively predict the potential impacts MVNOs might have in Canada.
238. With that said, the Commission expects that MVNOs entering a new market would want to compete on price in order to build a customer base, thereby placing downward pressure on market prices, particularly over the short term.
239. However, in a number of international markets referenced by parties, MVNOs successfully negotiated access to carrier networks without access being mandated. In those markets, it is likely that it was market conditions such as, for example, the presence of carriers with a large amount of spare network capacity, that facilitated negotiated wholesale MVNO access at a rate that enabled price competition. In certain countries, including Austria, Germany, and Ireland, wireless carriers were required by regulators to provision wholesale network access to MVNOs as a merger remedy.
240. In any event, if the Commission were to mandate wholesale MVNO access, the rate would either be commercially negotiated or set by the Commission. If left to negotiation, it is unlikely that carriers and MVNOs would successfully negotiate a wholesale rate that allows for an MVNO to compete aggressively on price, due to the significant disparity in size and bargaining power. On the other hand, if the Commission were to determine the wholesale rate, then the MVNOs' profit margins, and their services offerings, will constantly be tied to that rate and restrict differentiation. As a result, the Commission is concerned that a mandated regime allowing for broad MVNO entry would be difficult to sustain over the long term without careful and ongoing regulatory assistance.

241. For these reasons, the Commission considers that mandated wholesale MVNO access may result in a moderate downward impact on price as MVNOs first enter the market, but that these effects would be difficult to sustain over the long term.

Impact on innovation – Technology and service delivery

242. Parties contested whether and to what degree MVNOs would be able to innovate in terms of technology and service delivery if mandated wholesale MVNO access were broadly introduced to the Canadian market.

243. In the Commission's view, technical innovation delivers many important benefits to Canadians by consistently improving network performance and leading to the introduction of new services over time. This type of innovation is largely driven by carriers that spend millions of dollars annually on research and development, and work with educational institutions and technology companies to bring the latest technical innovations to market. Since MVNOs by definition do not own RANs, and generally do not have the same capital as carriers do that can be dedicated to funding research and development, it is unlikely that MVNOs can have any significant impact with respect to technical innovation at the network level.

244. With respect to innovation in service delivery, internationally, a majority of MVNOs target budget-conscious consumers by offering low-cost plans, bundling wireless service with non-telecommunications services, such as financial services, or providing deals on international calling. In Canada, the budget-conscious consumer is largely served by a combination of regional wireless carriers, the national wireless carriers' flanker brands, and a small number of "white label" ²⁵ MVNOs that have entered into resale arrangements with the national wireless carriers. Moreover, various regional wireless carriers are demonstrating more impactful marketing innovation. For example, Shaw introduced unlimited mobile wireless data offerings and developed tailored mobile wireless service plans for customers who bundle their plans with retail Internet service, and Videotron has begun offering data rollover options through its Fizz flanker brand. The Commission considers that an MVNO attempting to enter this space would face significant challenges attempting to create innovative service offerings, or finding significant niche markets that have been neglected by WSPs already in the market.

245. The Commission considers that there is a stronger case for MVNO innovation with respect to differentiated service delivery models. Submissions by potential MVNOs suggest that wireless carriers may lack the incentive or flexibility to introduce certain cutting-edge service delivery technologies. While there was little data filed on the record of this proceeding with respect to MVNO innovation in this particular regard, the idea that full MVNOs could implement high-tech solutions and lean business models to efficiently deliver service has some merit. High-tech solutions, such as cloud services and virtualized core networks, could significantly reduce costs while allowing for the creation of new wireless products. The Commission considers that by employing these solutions it is possible that, rather than targeting a niche market, an MVNO could identify a broad swath of customers that may be seeking a new kind of wireless product to address a need that is currently not being met.

246. For these reasons, the Commission considers that mandated wholesale MVNO access would likely have a low impact on technical innovation and a moderate impact on service delivery

innovation.

Impact on investment – National wireless carriers and SaskTel

247. In this section, the Commission considers the broader impacts that mandated wholesale MVNO access might have on the dominant wireless carriers' network deployment, particularly the deployment of 5G networks.
248. Several parties submitted international examples to support their arguments that mandated MVNO entry in Canada would have negative impacts on overall investment levels, particularly for 5G deployment. In the Commission's view, this evidence was generally not compelling. For example, studies containing international comparisons generally attributed changes in investment levels by carriers directly to MVNO competition. However, there could be other factors at play, including the cyclical nature of capital investment in telecommunications markets, the timing of spectrum availability, and the maturity of specific countries' wireless markets, factors that were generally ignored in the relevant studies.
249. No party filed persuasive evidence that the introduction of MVNO competition in other countries necessarily results in significant underinvestment by well-established or incumbent wireless carriers. There were no examples from international markets where MVNO competition significantly deterred investment in a way that some parties suggested would happen in Canada. The most compelling evidence provided regarding the impact that MVNOs might have on investment was a discussion concerning capital costs, returns on investment, and the incentive to invest. The argument that investment could be reduced because an influx of new competitors would lower a carrier's equity valuation and increase its cost of capital due to a higher risk profile is, in the Commission's view, straightforward and convincing, and consistent with economic and financial principles.
250. However, it is not clear to the Commission that any disincentive to invest resulting from mandated wholesale MVNO access would outweigh broader incentives to invest that might also exist. In that regard, the Commission is not persuaded by arguments that mandated wholesale MVNO access would be a threat to the 5G investments of dominant wireless carriers. As wireless technology transitions towards 5G, any wireless carrier that wants to remain competitive will have very little choice but to invest in networks in order to grow and maintain their user base, and the presence of MVNOs in the market is not likely to affect that to any great degree. Given the new lines of business that 5G service will enable, including large-scale industrial applications in the enterprise market, it is extremely unlikely that a dominant wireless carrier would put itself in a position where it delays or avoids deploying 5G and risks leaving those markets to its competitors.
251. In light of the above, the Commission considers that mandated wholesale MVNO access would have little to no impact on the national wireless carriers' investments.

Impact on investment – Regional wireless carriers

252. Over the years, regional wireless carriers have invested billions of dollars in spectrum and networks in order to compete with the established wireless carriers. At this point in time, although retail prices are generally above competitive levels across Canada, competition is

getting stronger and prices tend to be lower in areas where a regional wireless carrier operates in competition with the dominant wireless carriers. However, it is very challenging for a new entrant to grow its network and simultaneously compete with established WSPs. To be successful, regional wireless carriers need to maintain a high capital intensity to grow their networks, keep prices low enough that they can make their retail service offerings competitive, and maintain sufficient margins to recover costs and reinvest.

253. Regional wireless carriers typically target budget-conscious consumers. As a result, these carriers' EBITDA margins are generally lower than those of the established dominant wireless carriers. The Commission considers that the combination of high levels of investment and typically lower margins leaves these regional wireless carriers in a situation where changes to the market could significantly impact their bottom line.
254. The Commission considers that if wholesale MVNO access were mandated, MVNOs would be able to enter the mobile wireless service market while contributing comparatively little capital and taking on very little risk relative to regional wireless carriers. MVNO competitors would likely target the same budget-conscious consumers targeted by these regional wireless carriers. If these regional wireless carriers, which tend to operate at lower margins than the established wireless carriers, such as the national wireless carriers, suddenly faced competition for their core customers from MVNOs that have fewer financial constraints (e.g. significantly less debt and minimal capital expenditure needs), the impact on the regional wireless carriers would undoubtedly be negative. These negative consequences are highlighted in Dr. Emch's study for Shaw.
255. To illustrate, regional wireless carriers have invested billions of dollars in the acquisition of spectrum and the funding of capital projects to build their networks, and these costs must be recovered. MVNOs, by comparison, would not have to purchase spectrum or build RANs, and could therefore enter and exit the market with comparatively little risk. In the Commission's view, this would put regional wireless carriers at a significant disadvantage at a critical time in their growth, and would have a significant negative impact on future investment, particularly in areas outside the major urban centers, as well as on 5G deployment. Improving network investment outside the major urban centres was a major concern raised by several parties in this proceeding, notably by local governments.
256. Accordingly, the Commission concludes that mandating the provision of a broad-based wholesale MVNO access service would likely have a high negative impact on the sustainability of regional wireless carriers and the competition that they bring to the market.

Impact on investment – Network capacity

257. Parties that argued that capacity increases will be required to support the introduction of MVNOs assumed that there would be a significant amount of new traffic on wireless carriers' networks as a result of mandated wholesale MVNO access. The Commission considers that it is likely that many of the customers that would be captured by new MVNOs would come from existing wireless carriers, which would not result in a significant net increase in network traffic and, by extension, capacity requirements.

258. The Commission recognizes that there may be certain locations in carriers' networks where network capacity is already limited, and that wireless carriers' service quality could be negatively affected in those areas if wholesale MVNO access is mandated. However, it is the Commission's view that carriers would likely already be aware that these areas are close to capacity and would therefore have plans to upgrade their networks in order to ensure high-quality service for their own customers. The Commission considers that these planned network upgrades would be sufficient to address any capacity concerns related to MVNOs.
259. For these reasons, the Commission considers that mandated wholesale MVNO access is likely to have a low impact on wireless carriers' network capacity.

Conclusion

260. In light of all of the above, the Commission determines that mandating the provision of a broad-based wholesale MVNO access service would likely
- have a moderate positive impact on price as MVNOs first enter the market, but that these effects would be difficult to sustain over the long term without careful and ongoing regulatory intervention;
 - have a low overall impact on technological innovation and a moderate impact on service delivery innovation;
 - have little to no impact on the national wireless carriers' or SaskTel's investment, particularly with respect to 5G networks;
 - have a high negative impact on the sustainability of regional wireless carriers and the competition and investment they bring to the market; and
 - have a low impact on the network capacity of carriers.
261. In the Commission's view, while the degree to which certain factors such as investment would be affected varies from neutral with respect to the national wireless carriers, to high with respect to regional wireless carriers, the Commission considers that the overall impact of a broadly mandated full wholesale MVNO access regime would be negative. The Commission considers it likely that competition from an influx of unconstrained MVNOs would increase the investment hurdle rate for capital projects of regional wireless carriers, and would more generally reduce the attractiveness of investing in mobile wireless service markets across the country.
262. Given the above analysis as to the detrimental impact on regional wireless carriers and the adverse consequences this would have on the competitive discipline they have begun to bring to the retail market, the Commission concludes that mandating the provision of a broad-based wholesale MVNO access service would detract from the fulfillment of the telecommunications policy objectives set out in paragraphs 7(c) and (f) of the Act. ²⁶
263. Additionally, given the negative impacts described above, mandating such a service would not be consistent with the 2019 Policy Direction with respect to the consideration that the Commission has been directed to give to reducing barriers to competition, and to fostering affordability and lower prices in areas where there is market power. Arguably, while a broad-based wholesale MVNO access service would encourage broader service-based competition, for the reasons discussed above, this would likely come at the expense of more sustainable

competition brought about by facilities-based competitors. Furthermore, such an approach would not be consistent with the 2006 Policy Direction, which instructs the Commission to rely on market forces to the maximum extent feasible to achieve the policy objectives, and to neither deter economically efficient competitive entry nor promote economically inefficient entry through its regulations.

264. Having regard to the above, the Commission considers that while the failure by wireless carriers with both upstream and downstream market power to provide broad-based wholesale MVNO access results in these carriers providing a preference to their retail operations and subjecting prospective MVNOs to a disadvantage, such advantage or disadvantage is not undue or unreasonable. Accordingly, the Commission determines that the policy considerations do not support a decision to mandate the provision of a broad-based wholesale MVNO access service at this time.

Wholesale measures to support competition

Introduction

265. In the preceding section, the Commission found that wholesale MVNO access service does not satisfy the essentiality criteria and concluded that mandating the provision of a broad-based wholesale MVNO access service would, among other things, negatively impact regional wireless carriers and the sustainable competitive discipline they bring to the market. However, the Commission considers that there is a need for additional inquiry into whether and, if so, what wholesale intervention is warranted with regard to certain concerning findings that it has made, including its finding that certain wireless carriers exercise market power in retail markets across the country, that these same carriers have upstream market power, and that, while a RAN is duplicable from an economic perspective, barriers to the entry and expansion of competitors do exist and are significant.
266. As discussed in the analysis of the retail market, competition is intensifying, prices are lower in areas where a regional wireless carrier operates in competition with the dominant wireless carriers, and it is reasonable to expect prices to decline further as the regional wireless carriers grow their market shares. The competitive rivalry brought about by the introduction of new wireless carriers in the market has developed steadily since the 2008 Advanced Wireless Services spectrum auction and has been assisted by various regulatory measures designed to help facilities-based competition, including the Commission mandating wholesale roaming service and ISED setting aside spectrum for regional wireless carriers. In the following section, the Commission considers whether there are additional regulatory measures that could be applied at the wholesale level to further support and expand the competition that these carriers have already demonstrated they are capable of bringing to the market. In particular, the Commission will examine whether an assessment of policy considerations leads to the conclusion that failure to provide wholesale network access to competitor wireless carriers engages subsection 27(2) of the Act.

Positions of parties

267. The Commissioner argued that a weakness of a broadly mandated wholesale MVNO access service is that new-entrant MVNOs would be reliant on an adversarial supplier that has the incentive to raise costs and take other actions to make service-based MVNOs less effective downstream competitors. The Commissioner suggested that, relative to facilities-based competitors, service-based MVNOs are inferior because, without any networks of their own, they must rely on network operators and the regulator to set the bounds in which they operate. Furthermore, he submitted that the introduction of a range of new WSPs with access to the incumbents' networks through a broadly mandated wholesale MVNO access service would likely have a specific negative impact on investment and the overall sustainability of regional wireless carriers in Canada, given their narrower margins and higher capital intensity. In light of these concerns, the Commissioner proposed that the Commission adopt a narrowly focused, facilities-based MVNO access policy.
268. The Commissioner recommended that wholesale network access be mandated and made available to regional wireless carriers only in areas where they own a sufficient quantity and mix of spectrum but have not yet built their networks. Under the Commissioner's approach, wholesale network access would be limited to a five-year time period, after which regional wireless carriers would be expected to serve all customers with their own facilities. The Commissioner submitted that this approach would ensure that the progress made by regional wireless carriers continues by spurring price competition in the short term, while avoiding the risk of declining network investment in the long term. He suggested that this may also pave the way for organic MVNO entry in the future. This is because as regional wireless carriers expand their networks, they create alternative options for wholesale services and add to the total available network capacity, and thus increase the likelihood that a market will develop.
269. Although they were generally opposed to mandating the provision of a broad-based wholesale MVNO access service, several parties, including Bell Mobility, the CWTA, Eastlink, RCCI, Shaw, and Videotron, indicated that the Commissioner's proposal was the least flawed of the proposed MVNO models. Eastlink submitted that the model could help accelerate facilities-based competition from regional wireless carriers that have spectrum and are building their networks. Videotron submitted that the Commissioner's proposal is a preferable approach, because it would not jeopardize the financial viability of regional wireless carriers. While Shaw remained opposed to mandating the provision of a broad-based wholesale MVNO access service, it agreed that mandating limited MVNO access in areas where there is currently no regional wireless carrier could help ensure that all Canadians reap the benefits of competition.
270. Regional wireless carriers generally agreed that the Commissioner's proposal recognized the contribution they have made to the development of a competitive market and that it was designed not to impede their progress, but instead to accelerate the competitive discipline created by regional competition. Xplornet submitted that the proposal represented an appropriate intervention to stimulate competition because it is designed to give facilities-based regional wireless carriers assistance in expanding their networks and expediting deployment.

271. RCCI submitted that the evidence does not justify even this more measured intervention and argued that regional wireless carriers do not require MVNO access in order to effectively compete, as shown by their ability to acquire a disproportionately high share of net new customers each quarter.
272. Bell Mobility maintained that having to accommodate the need for increased capacity on its network due to broadly mandated wholesale MVNO access in any form would require it to pull funding from other projects and would negatively impact its incentives to invest.
273. TCI argued that the Commissioner's approach introduces an impairment on competitive market forces by imposing service-based competition remedies in markets where facilities-based competition is already working. It also questioned why a company like Videotron, in its most successful year to date in terms of growth, needed regulatory advantages to enter new areas. According to TCI, the Commissioner's proposal is not an MVNO model but rather mandated network sharing, which would be unprecedented in the world.
274. Several parties opposed the Commissioner's proposal on the basis that it would be unlikely to add new WSPs to the market and that the requirement to own spectrum was too great a barrier to eligibility. These parties also argued that, due to its focus on facilities, the proposal would not add enough competition nor would it increase consumer choice, particularly in rural communities. They added that this model also ignores the 2019 Policy Direction by failing to encourage all forms of competition and by asking entities that do not hold spectrum to wait until the next mobile wireless service review before the question of providing them with mandated MVNO access is reassessed.
275. TekSavvy submitted that although the Commissioner mentioned several potential candidates, only Shaw would have the subscriber base and resources to be in a position to fully benefit from the proposal. It argued that regulatory regimes should not be designed to pick winners and losers.
276. Certain parties, including CIPPIC/OpenMedia and Data on Tap, submitted that it is time to move away from a focus on facilities-based competition because it has not achieved sufficient choice, competition, and affordability, despite many years and policies aimed at supporting it.
277. In response to concerns raised by other parties, the Commissioner argued that his model improves the business case for regional wireless carriers in areas where they have not yet deployed network facilities because it enables them to build a subscriber base and revenue base while building their facilities, rather than having to wait to start recouping costs until after network deployment.
278. In addition, the Commissioner argued that his model preserves carrier investment incentives. This is due to the fact that the access is limited and an incumbent would be competitively disadvantaged if it did not invest in its own infrastructure, because at the end of the access period, it would likely face increased competition from newly created or expanded facilities-based competitors.

Commission's analysis and determinations

279. While the Commission considers that mandating the provision of a broad-based wholesale MVNO access service would ultimately be detrimental for the reasons discussed earlier in this

decision, it has determined that there are clear barriers to entering and expanding in the retail market. It has also determined that market power with regard to retail mobile wireless services exists in all geographic markets in Canada. The Commission has further determined that the carriers with retail market power, namely the national wireless carriers collectively, Bell Mobility, or SaskTel, as the case may be, generally also exercise market power in wholesale markets in corresponding geographic areas.

280. The evidence also shows that leaving wholesale network access to market forces alone has generally limited the offering of these services. While some MVNOs do currently exist, the restrictive terms under which they are able to offer service limits the effectiveness of the competition that they can bring to the retail market.
281. All of this points to important policy objectives not being met by the current state of affairs, in which certain wireless carriers with upstream market power in the wholesale market fail to offer or provide effective wholesale access, hindering market entry and expansion of competitive forces, and thereby further entrenching their downstream market power in the retail market. In particular, the objectives set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act are not being satisfactorily addressed.²⁷ This is particularly the case in light of subparagraphs 1(a)(i), (ii), (v), and (vi) of the 2019 Policy Direction.
282. As discussed previously, while the Commission has found that mandating the provision of a broad-based wholesale MVNO access service available to all would not likely impact the incentives to invest faced by the dominant wireless carriers, it has found that such a regime would adversely impact regional wireless carriers' existing incentives to invest. Furthermore, the Commission has determined that such a regime would have a low overall impact on technological innovation and a moderate impact on service delivery innovation. These findings, along with the related finding that broad-based wholesale MVNO access service would negatively impact the ability of regional wireless carriers to expand their customer bases and revenue streams, informed the Commission's determination that failure to provide an effective broad-based wholesale MVNO access service did not violate subsection 27(2) of the Act.
283. As discussed in this decision, regional wireless carriers are uniquely positioned to introduce more effective and sustainable competition in the retail market, to the long-term benefit of consumers. The retail market assessment has demonstrated that, even if there is retail market power, markets are generally becoming more competitive, and the Commission considers that this is largely attributable to the impact of regional wireless carriers.
284. Parties that opposed the facilities-based wholesale MVNO access service proposal made many of the same investment-related arguments that were made in the context of a broadly mandated wholesale MVNO access service. That is, they argued that any form of mandated MVNO access, even a narrowly focused model, would still divert investment toward increasing capacity on existing networks to accommodate MVNOs and, as a result, would reduce investment in new network builds. The Commission considers that these arguments have little merit. The Commission assessed the impacts on investment in the context of a broadly mandated wholesale MVNO access service and concluded that there would be a minimal risk to investment by the national wireless carriers and SaskTel in Saskatchewan, who have

significant financial incentives to invest in capacity upgrades and 5G networks, with or without MVNOs operating in the market. In the Commission's view, when this analysis is applied to a more contained MVNO proposal, there would be even less of an impact on the investment levels of the national wireless carriers and SaskTel in Saskatchewan.

285. Furthermore, a facilities-based wholesale MVNO access service would not entail the investment incentive risk for regional wireless carriers that would result from a broadly mandated wholesale MVNO access service. Under the facilities-based model, regional wireless carriers would not be at risk of losing a significant part of their subscriber bases and revenues to MVNOs that have minimal capital expenditures to recover and that would target a similar customer base as that typically targeted by regional wireless carriers, namely younger and budget-conscious consumers who are not particularly brand loyal. On the contrary, regional wireless carriers could grow their subscriber bases and revenues by expanding into new areas where there is no alternative to the established carriers faster than they would otherwise. In other words, a facilities-based wholesale MVNO access service would serve to expedite competitive expansion by regional wireless carriers and promote their ability to invest in network upgrades and expansion into new areas where, in time, they would transition customers onto their newly built networks, ensuring the sustainability of competition by supporting network investment.
286. When contrasted with a broadly mandated wholesale MVNO access service, the Commission considers that mandating a facilities-based wholesale MVNO access service is a more surgical approach that focuses on bringing the benefits of competition to areas where they will more readily be sustainable.
287. Regarding concerns that a mandated facilities-based wholesale MVNO access service would not result in any new entrants into the market, the Commission considers that the number of competitors is not as important as the strength and sustainability of competition, which such a model supports.
288. A number of competitor wireless carriers entered the market just over ten years ago, and some more recently, such as Xplornet. They have faced many challenges as they have grown their wireless operations. They have had to acquire spectrum, build networks, and market aggressively to win customers in a relatively short period of time, while competing against dominant wireless carriers, which collectively exercise both retail and wholesale market power across much of the country. The Commission considers that while the growth of these competitors is a positive sign, they must be given time, as well as positive regulatory conditions, to grow and build capacity to counter existing retail market power.
289. Some parties argued that facilities-based competition has not achieved sufficient choice and competition in the retail market, and that it is time to prioritize other forms of competition. They argued that a policy that focuses on facilities-based competition would not be in line with the 2019 Policy Direction, which requires the Commission to encourage all forms of competition, or the 2006 Policy Direction, which calls on network access regulations to be technologically and competitively neutral, to the greatest extent possible, and to not artificially favour either carriers or resellers. The Commission does not consider these arguments to be persuasive. In the Commission's view, the best way to achieve a sustainable competitive retail market that

responds to consumers' interests over the long term, with a healthy mix of all forms of competition, is to continue to foster the deployment of competing networks.

290. Wireless carriers that add capacity in order to expand their coverage enhance their networks and compete for customers by increasing and innovating in the plans and features they offer. When enough capacity accrues, wireless carriers have an incentive to sell excess or unused capacity to an MVNO and earn revenue for it, rather than have it sit idle. As this occurs, the Commission anticipates that market forces will result in resale competition emerging without further regulatory intervention, as has been the case in countries such as Australia and the United States. In short, in the Commission's view, the optimal way to encourage all forms of competition is by adopting targeted regulatory measures to ensure that there is a sustainable foundation of facilities-based competitors and then relying generally on market forces to deliver the benefits of competition to consumers.
291. The Commission considers that the facilities-based model would serve to further the policy objectives that are not being met by the current state of affairs and would be consistent with the policy considerations relating to the essentiality framework. In particular, it would encourage innovation and network investment by regional wireless carriers while not discouraging such investment by wireless carriers with market power. Finally, it would be consistent with the 2006 Policy Direction. In this regard, by adopting a targeted, facilities-based wholesale MVNO access regime that would maintain incentives to invest, the Commission would be minimally interfering with the operation of market forces and adopting measures that are proportionate to the policy objectives pursued, principally those set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act.
292. Accordingly, the Commission considers that mandating the provision of a facilities-based wholesale MVNO access service would reduce barriers to entry, particularly for regional wireless carriers, while maintaining proper incentives for carriers to continue making the significant investments required to build networks and upgrade existing networks and, ultimately, would promote sustainable competition and the availability of affordable retail prices for consumers.
293. In light of the above, in particular its finding with regard to investment incentives, competition, the policy objectives, and the Policy Directions, the Commission finds, as a question of fact, that where a wireless carrier with both upstream and downstream market power fails to provide meaningful access to a wholesale MVNO service, it is – with respect to facilities-based regional wireless carriers – conferring upon itself an undue or unreasonable preference and subjecting those regional carriers to an unreasonable disadvantage.
294. For similar reasons, the Commission also considers that the failure to provide such an MVNO service results in subjecting retail customers to an undue disadvantage. Competitive forces in the retail market are being precluded from developing to their full extent, and retail customers are being precluded from reaping the benefits of a more vibrantly competitive market.
295. Accordingly, the Commission determines that it will mandate the provision of a facilities-based wholesale MVNO access service, as more fully described below.

Composition of the mandated facilities-based wholesale MVNO access service

296. In the sections that follow, the Commission considers how the mandated facilities-based wholesale MVNO access service is to be composed and implemented, in the following respects:

- Scope of the mandate
- Eligible wireless carriers
- Eligible geographic areas
- Wholesale rates, terms, and conditions
- Duration of the mandate
- Investment requirements

297. Parties' comments on the various issues noted above were predominantly made in the context of a broadly mandated wholesale MVNO access service and not necessarily in the specific context of a mandated facilities-based one. However, parties generally indicated that their views remained the same regardless of the form or model of mandated wholesale MVNO access service that was being discussed.

Scope of the mandate

Background

298. In Telecom Regulatory Policy 2015-177, the Commission determined that the obligation to provide wholesale roaming service was limited to the national wireless carriers, since they were the only carriers with the national network coverage needed to provide roaming. The Commission's preliminary view in this proceeding was that a mandate to provision wholesale MVNO access service would, as with wholesale roaming service, apply only to the national wireless carriers. In this section, the Commission considers which wireless carriers should be subject to the obligation to make available the mandated facilities-based wholesale MVNO access service.

Positions of parties

299. Most parties who supported some form of mandated wholesale MVNO access service were generally of the view that the national wireless carriers should all be required to provide the service.

300. The national wireless carriers did not support any regulatory measure that would impose an obligation on them to provide a wholesale MVNO access service in any form.

301. The CCSA suggested that mandated RAN access should apply to SaskTel in addition to the national wireless carriers because its coverage in Saskatchewan is more extensive than that of any other wireless carrier.

302. SaskTel disagreed that it should be subject to an obligation to provide a wholesale MVNO access service, and indicated that RCCI, through its network presence in the urban areas of Saskatchewan in combination with its roaming arrangement with SaskTel, should instead be subject to the mandate in that province.

Commission's analysis and determinations

303. Wholesale regulatory remedies are generally applied to address a lack of competition in the retail market. As such, the question of which carriers should be subject to a wholesale mandate should be informed by the retail market analysis. In this decision, the Commission has concluded that the national wireless carriers generally exercise retail market power throughout Canada. However, there were two exceptions. First, the Commission concluded that in Saskatchewan, SaskTel exercises unilateral retail market power. Second, the Commission concluded that in the territories, Bell Mobility exercises unilateral retail market power.
304. At the wholesale level, the same conclusions generally hold true. The national wireless carriers have joint upstream market power over the RAN in the markets where they operate, with two exceptions. First, in the 11 tier 4 areas in Saskatchewan, SaskTel has sole upstream market power over the provision of RAN access, and its prominent position in that province is subject to only some limited competition in some of those tier 4 areas. Second, Bell Mobility is the only national wireless carrier with a network presence in the three tier 4 areas in the territories and has upstream market power over RAN access in those tier 4 areas.
305. As a result of this, the Commission is of the view that the obligation to provide the mandated facilities-based wholesale MVNO access service should apply to the national wireless carriers in all tier 4 areas in Canada where they have both upstream and downstream market power. However, the Commission considers that both Saskatchewan and the territories should be considered separately. For the reasons set out above, in Saskatchewan, the obligation should apply solely to SaskTel, and in the territories, the obligation should apply solely to Bell Mobility.
306. Accordingly, the Commission determines that the obligation applies to the national wireless carriers in all tier 4 areas across Canada with two exceptions: (i) the obligation applies exclusively to SaskTel in the tier 4 areas covering Saskatchewan, and (ii) the obligation applies exclusively to Bell Mobility in the tier 4 areas covering the three territories.

Eligible wireless carriers

Background

307. The purpose of the mandated facilities-based wholesale MVNO access service is to accelerate the sustainable competitive discipline that regional wireless carriers have brought to the market by assisting them in overcoming the barriers they face to expanding their networks to new areas where they have spectrum but have not yet built infrastructure. In this section, the Commission considers which wireless carriers should be eligible for the service.

Positions of parties

308. The Commissioner proposed that eligible wireless carriers would be those with operational, managerial, and financial capabilities demonstrating that they could build a business and compete effectively in the market. The Commissioner submitted that this would typically require the Commission to review a potential MVNO's business plan and financial standing, and assess whether it held a sufficient mix of spectrum.

309. RCCI proposed that the Commission further restrict eligibility to existing regional wireless carriers that have mobile spectrum licences and have deployed their own networks, including RANs. RCCI submitted that this would ensure that only those who have proven expertise and a desire to deploy and invest in a market over the long term are eligible.
310. Likewise, Shaw proposed that access should be limited to companies that have secured access to spectrum in applicable tier 4 areas and have demonstrated an increasing trajectory of investment beyond spectrum alone. Shaw argued that this commitment to mobile wireless service investment is necessary to incentivize long-term sustainable competition.
311. SaskTel submitted that the national wireless carriers should not be eligible to access the service.

Commission's analysis and determinations

312. The Commission considers that adopting eligibility criteria such as those proposed by the Commissioner would require significant Commission oversight in terms of screening and would likely require parties to participate in additional regulatory processes to determine the parameters of the eligibility model and how it could be implemented. For these reasons, the Commission does not favour such an approach.
313. Instead, the Commission considers that a simpler, more objective, and ultimately more reasonable approach is to provide mandated access to the service to regional wireless carriers in areas where they have secured a spectrum licence at the tier 4 level or higher. ²⁸ Given what is involved in the acquisition of spectrum, the Commission considers that investment in spectrum is sufficiently demonstrative of a wireless carrier's commitment to maintaining and expanding its operations to make it eligible for access.
314. In this regard, such an approach would be consistent with paragraph 1(a) of the 2006 Policy Direction in that the absence of a need for follow-up proceedings specifically to establish assessment criteria and then to vet whether an entity has met any adopted criteria would, in the Commission's view, constitute the adoption of a measure that is proportionate to its purpose.
315. The Commission considers that the national wireless carriers and their affiliates should be excluded from eligibility to access the service. In the Commission's view, because the national wireless carriers generally exercise market power and broad network coverage, they do not require additional regulatory assistance to expand their networks.
316. The Commission therefore determines that in order to be eligible to access the mandated facilities-based wholesale MVNO access service, wireless carriers must possess a mobile spectrum licence at the tier 4 level or higher in a given tier 4 area. The Commission also determines that the national wireless carriers and their affiliates are not eligible.

Eligible geographic areas

Background

317. Above, the Commission considered that the relevant geographic market for the purpose of the mandated facilities-based wholesale MVNO access service would be regional, with the tier 4

spectrum area acting as a proxy for local markets. In this section, the Commission considers which geographic areas are eligible for the service.

Positions of parties

318. The Commissioner suggested that the Commission use tier 4 areas as a starting point for setting out the geographic area where the service would be available. He argued that tier 4 areas could be aggregated into different categories based on the penetration rate of regional wireless carriers and then apply the mandate to one or more of those categories. The Commissioner did not provide a view on which category would be most appropriate for regulatory intervention but submitted that the Commission can weigh the costs and benefits of applying the mandate in each.
319. In addition, the Commissioner supported partial eligibility in some tier 4 areas in certain circumstances where the Commission deems it appropriate to do so. For example, the Commissioner suggested that it may be appropriate to allow a wireless carrier to offer MVNO service in a city where it has no coverage, even if the carrier has coverage in another city within the same tier 4 area that might otherwise disqualify it from eligibility within that entire area.
320. Shaw argued that access should only be made available in tier 4 or smaller areas where there is no mobile wireless network infrastructure operated by an entity that competes with the national wireless carriers. Shaw submitted that this would ensure that the model would broaden the impact of competitors to a greater number of Canadians and bring competition to rural and remote areas. The company further submitted that this approach would mitigate the potential danger to competitors' competitive positions and ability to gain scale while maintaining investment incentives necessary to sustain competition, and could also simplify the administrative burden since the alignment with ISED licence areas makes it immediately clear whether a facilities-based competitor is present or not.
321. Similarly, RCCI argued that if the Commission were to mandate the provision of a facilities-based wholesale MVNO access service, access should be limited to the specific tier 4 areas covered by a regional wireless carrier's spectrum licences where the carrier has not already deployed a network. RCCI submitted that this would maintain incentives to invest and assist regional wireless carriers in deploying into new markets within their spectrum-licensed service areas.
322. Bell Mobility argued that access on a broader basis than the local market would be especially inappropriate, since it would needlessly impose costly regulation in geographic markets that are competitive, leading to a reduction in investments and deterioration in the quality of Canadian wireless networks without providing any corresponding benefits.

Commission's analysis and determinations

323. In the Commission's view, there are effectively three options for defining the geographic scope of the mandated facilities-based MVNO access service. All three options use the tier 4 spectrum area as a baseline.

324. The first option, proposed by the Commissioner, is to categorize tier 4 areas according to regional wireless carrier penetration rates, weigh the costs and benefits of mandating the service at each of these different penetration levels, and then mandate the service where the benefits outweigh the costs. As the Commission understands it, the Commissioner's proposal could result in the service being mandated for an entire tier 4 area if there is no regional wireless carrier network presence at all in that area, or mandated in a portion of a tier 4 area if a regional wireless carrier has partial network coverage.
325. The Commission is concerned about the administrative complexity that would be involved in such a proposal, because there would likely be a need for processes to identify regional wireless carrier presence, the extent of that presence, network boundaries, and other factors. This may involve acquiring the market share data and coverage areas of multiple regional wireless carriers across 172 tier 4 areas, and this information would have to be updated and maintained as network footprints and penetration levels change. In the Commission's view, this would entail significant administrative burden. There is also the question of how the Commission would practically go about identifying and weighing the benefits against the costs of mandating the service in different tier 4 areas, even if they were to be categorized and aggregated according to market penetration rates, including identifying the specific qualitative and quantitative factors to consider.
326. The second option, which is consistent with Shaw's proposal, is to limit the obligation to provide the service to tier 4 areas where there is no regional wireless carrier presence at all. Tier 4 areas with partial coverage by a regional wireless carrier would be excluded entirely. Compared to the first option, this approach would involve significantly less administrative burden than the Commissioner's approach since it would make each tier 4 area either wholly eligible or wholly ineligible based on fairly objective criteria. As such, it would be relatively simple to assess whether a regional wireless carrier is present in a tier 4 area.
327. However, eliminating partially covered tier 4 areas would also result in a much smaller addressable market for regional wireless carriers in terms of the number of new customers they would be able to serve. Some tier 4 areas are roughly equivalent to the size of a city and its surrounding area, while others in more rural areas encompass a larger area with a number of smaller communities. A regional wireless carrier could be present in a small part of a tier 4 area, thereby excluding all other communities in that tier 4 area from eligibility and denying those consumers the potential for more choice.
328. Restricting the availability of the service to tier 4 areas where there is no regional wireless carrier presence would significantly limit the ability of those carriers to avail themselves of the service in order to expand their subscriber bases and accelerate their network construction. As a result, it would also run counter to the objective of accelerating the increased competitive discipline that those carriers bring to the market.
329. A third option is to make the service available to regional wireless carriers in any tier 4 areas where they have spectrum at the tier 4 level or above, regardless of the extent of their network presence in those areas. This includes areas where regional wireless carriers currently operate and have deployed network facilities, and areas where no regional wireless carrier has yet entered. The Commission considers that this approach has the advantages of

administrative simplicity and objectivity, because it is a relatively straightforward matter for carriers to verify the possession of spectrum, which is publicly available information. There would also be no need for further processes to identify the presence and network boundaries of regional wireless carriers within tier 4 areas. Another key benefit of this approach is that the addressable market would be significantly greater than if the Commission were to exclude partially served tier 4 areas from the mandate.

330. The Commission considers that this last option would best satisfy the 2019 Policy Direction's call to ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural and remote areas, and to reduce barriers to entry into the market and to competition for TSPs that are new, regional, or smaller than the incumbent national service providers. Furthermore, by being administratively simpler to implement for all parties concerned, while still providing incentives to expedite the build-out of competitive networks in markets where none are present, this approach would be consistent with paragraph 1(a) of the 2006 Policy Direction in that it would result in the adoption of regulatory intervention that is more proportionate to the goals of mandated facilities-based MVNO access. Finally, the Commission considers that this approach better addresses the concerns associated with section 27(2) of the Act addressed above by increasing the addressable market made available through the service and thus better assisting in disciplining the retail market power found to exist in all geographic markets across the country.
331. The Commission therefore determines that the mandated facilities-based wholesale MVNO access service is to be made available to regional wireless carriers in any tier 4 areas where they have spectrum at the tier 4 level or higher. This includes tier 4 areas where they have partial coverage and tier 4 areas they have yet to enter.

Wholesale rates, terms, and conditions

Background

332. In Telecom Notice of Consultation [2019-57](#), the Commission expressed the view that properly structured wholesale rates, terms, and conditions would mitigate the potential negative impacts of mandated wholesale MVNO access on future investments. In this section, the Commission considers the appropriate way to structure the rates, terms, and conditions associated with the mandated facilities-based MVNO access service.
333. The Commission notes that it has retained its powers under section 24 of the Act in relation to the offering and provision of mobile wireless services. That provision empowers the Commission to establish conditions of service in relation to the mandated facilities-based wholesale MVNO access service. Accordingly, the Commission already has the ability to establish terms and conditions for the service.
334. With regard to the matter of rates, there are three principal methods of setting wholesale rates: cost-based plus a markup, which is the Commission's standard approach; retail minus, which takes the retail rate and applies a markdown; or commercial negotiations, which could include arbitration as a backstop.

335. In order to set these rates, the Commission would first need to reassert its powers under subsections 27(1) and (5) of the Act. Such reassertion would be required regardless of whether the Commission decided to impose a specific rate, adopt a rate ceiling, or provide itself with the ability to establish a rate as the outcome of a dispute resolution process, such as arbitration. To impose specific rates, terms, and conditions in a tariff, the Commission would also need to reassert its powers under section 25 of the Act.

Positions of parties

336. A number of parties argued that wholesale MVNO access should be subject to tariffed rates that are cost-based on the basis that dominant wireless carriers have no incentive to negotiate in good faith.
337. Several wireless carriers proposed that the Commission leave wholesale MVNO access to commercial negotiation. These parties argued that the entities involved are sophisticated enough to be able to negotiate rates and terms that meet their particular needs and reflect the market.
338. Bell Mobility submitted that no party proposed practical ways to structure rates, terms, and conditions to protect investment. It further argued that even if there were a practical proposal, those rates, terms, and conditions could not realistically be maintained year over year.
339. With regard to rates, RCCI submitted that commercially negotiated arrangements could mitigate the risks of mandated wholesale MVNO access because the parties can negotiate rates that enable MVNOs to compete, while reducing the impact on investment, because the negotiated rates would account for the underlying costs of the network provider. In this regard, most of the major wireless carriers submitted that in no other country in the world has a regulator set wholesale MVNO access rates.
340. The Commissioner recommended adopting a negotiated approach to rate setting with final offer arbitration (FOA) as a regulatory backstop in order to avoid the difficulties associated with cost-based rate setting, which can be a long and challenging process that could distort the market significantly if the rate is not properly established.
341. Shaw supported commercial negotiations between parties and opposed specific rates or terms being set by the Commission. It argued that it would be impossible for the Commission to determine the right single backstop rate, given that MVNO arrangements can vary widely, and that a suboptimal rate could have serious ramifications on network investment and expansion.
342. A number of parties argued that some form of regulatory backstop would be necessary if the Commission were to leave the rates, terms, and conditions to commercial negotiation, since wireless carriers required to provide wholesale MVNO access have more bargaining power, more information, and an incentive to prolong negotiations.
343. Several parties, including SaskTel, proposed that the Commission adopt FOA as its regulatory backstop to create incentives for entities to put forward reasonable proposals, because the arbitrator can pick only one proposal or the other. Similarly, Xplornet proposed allowing for commercial negotiations backstopped by mechanisms other than tariffs, such as a rate ceiling or an arbitration process to allow for more rapid introduction of MVNO services to the market.

344. Several parties favoured using a third-party arbitrator rather than the Commission. RCCI submitted that FOA performed by a third party would not contravene the prohibition on delegation of the Commission's authority to set just and reasonable rates. RCCI argued that pursuant to section 27 of the Act, the Commission has broad authority to determine the methodology used to set rates and that, by directing the arbitrator to set those rates based on FOA, the Commission is ensuring that the rates are just and reasonable, in accordance with the Act.
345. RCCI and Videotron proposed an arbitration process like the one defined in *Industry Canada's Arbitration Rules and Procedures*²⁹ because it is well defined and already familiar to parties.
346. Bell Mobility, SaskTel, TCI, and Tucows argued that parties must do more than merely claim negotiations have failed, but must adduce evidence of negotiation in bad faith, or meet conditions set by the Commission before relying on arbitration.
347. A number of parties indicated that since the wireless carriers mandated to provide wholesale MVNO access have no incentive or desire to offer reasonable rates, terms, and conditions, arbitration could become necessary with every attempt at negotiation.

Commission's analysis and determinations

348. When the Commission mandates the provision of a wholesale service, its general approach is to use its powers under sections 24 and 25 and subsections 27(1) and (5) of the Act to create a tariff containing the applicable rates, terms, and conditions.³⁰ Rates are generally cost-based with an applicable markup. This provides a measure of certainty that all parties have access to rates, terms, and conditions that the Commission has found to be just and reasonable.
349. However, the process for establishing wholesale rates can be long and complex and depends on the specific terms and conditions that are associated with the service. The purpose of the mandated facilities-based wholesale MVNO access service is to expedite competitive expansion by regional wireless carriers by granting them wholesale network access while they expand and upgrade their networks. With this in mind, the Commission is concerned that engaging in a process to set cost-based rates for the service risks unduly delaying its implementation and thus working against its very purpose, which is to accelerate the development of competition.
350. While the Commission could set an interim rate to mitigate delays, it does not consider that the evidence on the record as to what an appropriate interim rate should be is persuasive, and is concerned that setting an interim rate that is too high or too low would risk distorting the market. The Commission also notes that the regional wireless carriers themselves, who would be the principal users of the service, are sophisticated companies and generally favoured commercial negotiations over a tariffed rate.
351. With respect to FOA, the Commission considers such a mechanism to be appropriate where there is a single issue under dispute, such as a rate, with all other potentially controversial issues such as the terms and conditions of access having been previously resolved. This approach is appropriate because, in the Commission's view, parties are incented to propose a

just and reasonable rate because should they propose a rate that is either too high or too low, the Commission can adopt the rate proposed by the other party.

352. Further, the Commission has an existing process in place for FOA as part of its suite of dispute resolution procedures. ³¹ The Commission considers that this FOA process is generally appropriate when there is a single issue subject to a bilateral dispute. The setting of a rate for the mandated facilities-based wholesale MVNO access service would fit this description. Accordingly, given that a generally appropriate Commission-specific process already exists, there is no need to seek a third party to act as arbitrator in the circumstances.
353. While FOA may be appropriate for setting rates, the Commission has concerns with its use in the context of setting terms and conditions. In a situation where FOA is used to determine more than just a rate (e.g. terms and conditions as well), parties may come to the table effectively proposing rates, terms, and conditions for what amount to different services with different attributes. In this scenario, the Commission considers that FOA would lack the necessary safeguards to ensure that parties' rate proposals are reasonable or even comparable and, as a result, would impair the Commission's ability to establish a just and reasonable rate. While it may be possible to mitigate this concern by running two FOA processes – the first to determine terms and conditions and the second to establish rates – this would effectively double the administrative burden associated with what is intended to be an expedient process.
354. Accordingly, the Commission considers that it would be more appropriate to establish *ex ante* terms and conditions for the service while leaving the rates to be commercially negotiated between parties. If negotiations fail, a party may bring the matter to the Commission for resolution by way of FOA. This approach has the benefit of establishing a common set of terms and conditions, which would make any arbitration process more effective in ensuring just and reasonable rates than if terms and conditions were also subject to FOA. Furthermore, such an approach would avoid a lengthy cost-based rate-setting process, which parties generally opposed in this context, and would also be consistent with the purpose of this service, which is to expedite network deployment. In addition, the Commission's established FOA process allows, in exceptional cases, for the rejection of both offers where neither would be in the public interest. The Commission considers that such a safeguard also helps to ensure that the process ultimately arrives at a just and reasonable rate for the service.
355. The Commission considers that the existing wholesale roaming service tariffs already contemplate many of the terms and conditions associated with wholesale RAN access, such as those related to the resale of services by a wholesale customer. In this regard, these tariffs contain an MVNO subscriber roaming condition, whereby subscribers of MVNOs operating on regional wireless carriers' networks can access the national wireless carriers' networks on the same terms as the subscribers of those regional wireless carriers. The Commission considers that an analogous resale term is appropriate in the MVNO context as well, since it gives regional wireless carriers additional flexibility to enter into arrangements with other WSPs if they so choose, which is consistent with the objectives of this proceeding, including fostering competition. Accordingly, they would serve as an appropriate basis for establishing the terms and conditions of the mandated facilities-based wholesale MVNO access service.

356. The Commission notes that in order to implement the facilities-based wholesale MVNO access regime, it is necessary to first reassert certain powers under the Act that are currently forborne, namely those set out in sections 25 and 31 ³² and subsections 27(1) and (5). For the reasons that follow, the Commission considers that it is appropriate to reassert these powers only insofar as is necessary to implement the above-noted regime.
357. The Commission has found that the national wireless carriers exercise market power in the wholesale MVNO access service markets in all provinces, except for Saskatchewan, where SaskTel has upstream market power. The Commission has also found that Bell Mobility has upstream market power in the wholesale MVNO access service markets of all three territories.
358. The Commission has also found that the effective denial, by these carriers, of access to a wholesale facilities-based MVNO access service is resulting in a situation of undue preference and unjust discrimination, ultimately to the detriment of a vibrantly competitive retail market.
359. Accordingly, and with regard to subsection 34(2) of the Act, the Commission determines, as a question of fact, that market conditions with regard to the offering and provision of a mandated wholesale MVNO access service by the above-noted carriers, and to eligible regional wireless carriers, are not – and will not in the near term – be sufficient to protect the interests of users.
360. The Commission considers that a failure to reassert its powers under sections 25 and 31 and subsections 27(1) and (5) of the Act with respect to the provision of the service would preclude it from bringing about the targeted regulatory mandate set out in this decision. This mandate is designed to (i) introduce greater competition in the retail market, (ii) accelerate the investment in and expansion of competitive networks and innovative services in diverse areas across the country, and (iii) further the implementation of a number of key policy objectives, including those set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act. Therefore, pursuant to subsection 34(1) of the Act, the Commission determines, as a question of fact, that to continue to refrain from exercising its powers and performing its duties under sections 25 and 31 and subsections 27(1) and (5) of the Act would not be consistent with the policy objectives.
361. In order to ensure that the mandated facilities-based wholesale MVNO access service these carriers are to provide is made available according to reasonable rates, terms, and conditions, the Commission declares that the offering and provision of that service by the national wireless carriers and by SaskTel, in the markets where they are obligated to provide the service, shall be subject to the Commission's powers and duties under sections 25 and 31 and subsections 27(1) and (5) of the Act as necessary to implement the regime. ³³
362. The Commission **directs** each of the national wireless carriers and SaskTel to file tariff pages for approval containing proposed terms and conditions for a facilities-based wholesale MVNO access service within **90 days** of the date of this decision, having regard to all of the above and using the national wireless carriers' wholesale roaming tariffs as their basis, with any necessary modifications to enable permanent RAN access for eligible regional wireless carriers.
363. Finally, consistent with the Commission's general approach with respect to mandated wholesale services subject to a tariff, entities will be permitted to enter, with no need for Commission approval, into agreements whose terms and conditions depart from those that will be adopted by the Commission. However, where there is recourse to FOA, it will be done on

the basis of the tariffed terms and conditions established by the Commission as a result of the process initiated by the directions set out in paragraph 362 above. Furthermore, any off-tariff agreements are to be submitted to the Commission upon execution for monitoring purposes.

Duration of the mandate

Background

364. In Telecom Notice of Consultation 2019-57, the Commission set out a preliminary view that any mandate to provide a wholesale MVNO access service would be in place for a limited amount of time and subject to a phase-out as market forces take hold. This section discusses the appropriateness of a phase-out period and, if one is appropriate, what the phase-out time frame should be.

Positions of parties

365. The Commissioner submitted that mandated facilities-based wholesale MVNO access should be a temporary measure in place only as long as required for regional wireless carriers to establish themselves using their own RANs, in order to encourage continued investment and dissuade them from operating as MVNOs indefinitely. The Commissioner proposed a five-year access period but, in light of the COVID-19 pandemic and the uncertainty it brings, suggested that this period could be extended.
366. Similarly, Shaw argued that five years would strike the right balance between accelerating market entry and avoiding entrenched dependence on mandated facilities-based wholesale MVNO access. To illustrate the amount of expansion possible in such a time frame, Shaw noted that it only purchased Freedom Mobile in 2016 and has since purchased spectrum and expanded into a number of new areas.
367. RCCI argued that it is critical that mandated access last no longer than five years in order to reduce the negative impacts on wireless carriers' future investments. According to RCCI, this period is sufficient for them to expand coverage into new markets while leveraging existing networks.
368. Many wireless carriers expressed skepticism that mandated access would be phased out, even if the Commission determines that it should be. Bell Mobility and SaskTel argued that it is possible that whatever conditions the Commission establishes to trigger a phase-out may never occur. Many parties considered it unlikely that the Commission would allow customers to be stranded at the end of the five-year period if regional wireless carriers failed to sufficiently expand their networks and facilities-based wholesale MVNO access was no longer mandated. RCCI submitted that it was inevitable that the Commission would receive requests to extend the duration of the mandate. Bell Mobility, Eastlink, and TCI also pointed to previous instances where a temporary mandate to provide a wholesale service was extended beyond the original time frame, namely with respect to unbundled local loops.
369. Some parties proposed alternatives to a strict five-year deadline. Xplornet recommended that at the end of five years, MVNOs be allowed to keep the customers they gained but not acquire any additional customers using the facilities-based wholesale MVNO access service. It

submitted that this would enable carriers to aggressively leverage the service without fear that customers will be stranded.

370. Several parties suggested that the Commission conduct a review after five years to assess market conditions and the effectiveness of the service. These parties argued that five years was an arbitrary number that did not accurately reflect investment cycles or the challenges associated with the deployment of high-quality networks.
371. Parties were also divided as to when the mandate should begin, if implemented. RCCI and Shaw suggested that the clock start on the date of the decision. However, RCCI submitted that if carriers acquire new spectrum after the date of the decision, the start date for that spectrum could be tied to the date of its acquisition.

Commission's analysis and determinations

372. The purpose of applying a time limit to the obligation to provide a mandated facilities-based MVNO access service is twofold. First, the temporary nature of the access would incent regional wireless carriers to expedite and implement their deployment plans while they temporarily use the network of another carrier to extend service and expand their customer bases. Second, it provides a measure of certainty to the market, which is important to carriers as they formulate business plans and make investment decisions.
373. However, there are also risks associated with setting a fixed phase-out period. As discussed above, one issue of particular concern is that a phase-out period could extend far beyond what was originally intended. A second risk is selecting an appropriate time period – if it is set too short, regional wireless carriers will not have enough time to deploy before the mandate ends; if it is set too long, it may undermine investment incentives. While five years is a common time frame for certain types of planning, it is not necessarily reflective of planning and investment cycles in a capital-intensive industry where deployment often requires access to the infrastructure of other entities, such as towers and support structures, and depends on the availability of spectrum.
374. There is also the question of when a fixed phase-out period should start. One option would have it begin on the date this decision is issued, which would be simple and easy to track. However, delays such as those resulting from associated regulatory proceedings or prolonged implementation of the service could reduce the period that the service is available to regional wireless carriers. A second option would be to begin the phase-out period on a carrier-specific basis once an agreement is reached between a host carrier and a regional wireless carrier. However, this could lead to agreements having different end dates, depending on when they are finalized, which could become administratively burdensome, particularly if carriers acquire spectrum in the future at different points in time.
375. The Commission considers that the facilities-based wholesale MVNO access service mandated as a result of this decision is intended to be a temporary measure to assist regional competition and expedite network deployment until market forces can take hold. The Commission is of the view that this would be best achieved by setting a fixed phase-out period. In the circumstances, the Commission considers that a period of seven years from the date the tariffed terms and conditions are finalized would strike an appropriate balance to give

regional wireless carriers sufficient time to deploy their networks while also maintaining investment incentives and respecting investment cycles. While the risk would remain that regional wireless carriers could face a situation where they have not been able to deploy sufficient network facilities to serve their customers in a given area by the end of the phase-out period, the Commission considers that this risk is acceptable and is mitigated by the length of the phase-out period.

376. Accordingly, the Commission determines that the obligation to provide the mandated facilities-based wholesale MVNO access service will be phased out seven years from the date the tariffed terms and conditions are finalized. However, if delays occur as a result of prolonged regulatory processes or other impediments to the timely implementation of the service, additional time may be added to the phase-out period.
377. Regarding proposals to conduct a review of the mandate after a period of time, the Commission considers that doing so could assist it in determining whether its regulatory measures have had the desired effects on the market, based on evidence at that time. However, the Commission also recognizes that regulatory certainty is important for the industry. As a result, and absent any significant developments in the marketplace or otherwise, the Commission does not intend to conduct a future review of the mandated facilities-based wholesale MVNO access service, or of its mobile wireless service regulatory framework more broadly, prior to five years from the date of this decision.

Investment requirements

Background

378. As a part of his proposal, the Commissioner recommended that access to a mandated facilities-based wholesale MVNO access service be tied to build-out commitments. The Commissioner submitted that this was necessary to ensure that those using the service transition to being effective, facilities-based competitors in the areas where they initially benefit from MVNO access. Accordingly, in this section, the Commission examines whether it would be appropriate to establish investment or build-out requirements on eligible carriers as a condition of access.

Positions of parties

379. The Commissioner submitted that the Commission will need to preserve the incentive for regional wireless carriers to continue to invest, and to avoid creating an incentive to divert funds that otherwise would have been used in building facilities in rural areas to urban areas instead. The Commissioner argued that strong build-out requirements would be critical to achieving this goal. The Commissioner did not consider that he had enough information to propose a threshold for a credible commitment, but argued that the initial level should be set so as to make it undesirable for a carrier to walk away from its investment.
380. Some parties argued that the build-out requirements associated with spectrum conditions of licence would be sufficient to ensure continued investment in networks. According to Shaw,

the benefit of using these conditions is that the Commission would not have to create or monitor discrete obligations.

381. Ice Wireless indicated that the spectrum conditions of licence relating to build-out requirements are not uniform but rather vary on the basis of spectrum tier. Therefore, there would need to be some uniformity brought to the conditions before they could be used in this manner.
382. Distributel submitted that since the existing spectrum conditions of licence do not contain requirements related to investment tracking or reporting, annual reports to the Commission could be an administratively efficient method to track investment activity.

Commission's analysis and determinations

383. Conceptually, the Commission considers that there would be some merit in setting investment or deployment targets and monitoring whether those targets are being met as a means of ensuring that the regulatory measure that is being applied, in this case mandated facilities-based wholesale MVNO access, is achieving its desired purpose.
384. However, the Commission is concerned that, in practice, it would not be feasible to set an investment target at the correct level to encourage sufficient build-out without placing the smaller carriers most likely to be eligible for the service in a precarious financial situation. This difficulty is reflected on the record, because no party, including the Commissioner, was able to provide a satisfactory means of setting a simple, practical, and concrete investment target.
385. The Commission notes that wireless carriers are already subject to build-out requirements imposed by ISED as a spectrum condition of licence and, as such, considers that there is no need to duplicate and enforce similar requirements as part of its own regulatory measures. The Commission also notes that ISED's build-out requirements vary depending on the spectrum tier, with time frames of up to 20 years in some cases, which go far beyond the short-term nature of the mandated facilities-based wholesale MVNO access service.
386. In the Commission's view, the application of a phase-out period would itself motivate eligible wireless carriers to build facilities in the concerned markets in order to serve their customer bases after the end of the phase-out period. Furthermore, a failure to adequately build facilities would expose a regional wireless carrier to potentially significant reputational harm should it no longer be in a position to serve its customers due to an expired mandate. This should serve as sufficient incentive for eligible wireless carriers to build their networks without having to meet specific, pre-determined targets.
387. However, the Commission considers that a degree of monitoring would assist in tracking investment progress over the duration of the mandate, and that it would be appropriate to require annual updates from wireless carriers that make use of the service as to the progress of their network deployment.
388. In light of the above, the Commission will not impose investment targets. Instead, the Commission **directs** wireless carriers making use of the mandated facilities-based wholesale MVNO access service to submit, pursuant to paragraph 37(1)(b) of the Act, annual updates that include the following information with respect to the areas in which they make use of the service:

- o information on tower and site deployments over the course of the year,
- o which new communities they are serving,
- o how many customers they have acquired, and
- o a description of their deployment or expansion plans in the upcoming year.

389. This reporting requirement will commence for an eligible carrier **one year** after it subscribes to the service (i.e. one year after it finalizes an agreement with a carrier mandated to provide wholesale MVNO access service or after the rate for the service has been determined by means of an FOA process and the eligible carrier is able to begin offering service on that basis) and will continue until the end of the phase-out period.

Conclusion

390. To summarize, the Commission's determinations with respect to the mandated facilities-based wholesale MVNO access service are as follows:

- o In order to be eligible to use the service, a wireless carrier must possess a spectrum licence at the tier 4 level or higher in a given tier 4 area. The national wireless carriers and their affiliates are not eligible to use the service.
- o The service is available to an eligible wireless carrier in any tier 4 area where it has mobile wireless spectrum at the tier 4 level or higher. This includes tier 4 areas where a regional wireless carrier already has partial coverage and tier 4 areas it has yet to enter.
- o The obligation to provide the service applies to the national wireless carriers in all tier 4 areas across Canada, with two exceptions: it applies exclusively to SaskTel in the tier 4 areas of Saskatchewan and to Bell Mobility in the tier 4 areas in the territories.
- o Terms and conditions for the service are to be set on an *ex ante* basis and set out in a tariff. Each of the national wireless carriers and SaskTel are to file proposed terms and conditions for a facilities-based wholesale MVNO access service within **90 days** of the date of this decision, with the national wireless carriers using their existing wholesale roaming service tariffs as the baseline and making any necessary modifications. As with wholesale roaming, these should include a condition whereby subscribers of MVNOs operating on a regional wireless carrier's network can access the host carrier's network on the same terms as those of the regional wireless carrier.
- o Rates are to be commercially negotiated between parties, with FOA by the Commission as a recourse if negotiations fail.
- o Parties may enter into off-tariff arrangements if they so choose. Any such agreement must be filed with the Commission upon completion for information purposes.
- o The service will be mandated for a period of seven years from the date the tariffed terms and conditions are finalized, and will be phased out upon the end of that time period. Any delays incurred due to prolonged regulatory processes or implementation of the service may result in additional time being added to the phase-out period.
- o The Commission does not intend to conduct a review of the service, or of its mobile wireless service regulatory framework, prior to five years from the date of this decision, absent any significant developments in the market or otherwise.

- o Regional wireless carriers are not required to meet any specific investment targets. However, regional wireless carriers making use of the service are to file annual progress updates with the Commission. This reporting requirement will commence **one year** after such a carrier subscribes to the service and will continue until the end of the phase-out period.

Changes to wholesale roaming policy

391. In Telecom Notice of Consultation 2019-57, the Commission noted that both wireless technology and the wireless service market are constantly evolving, and considered that there may be aspects of the Commission's existing wholesale roaming policy that need to be modified. ³⁴ Parties were invited to provide comments on whether any such modifications are required at this time. In their submissions, parties identified two major areas where clarifications and modifications could be made to wholesale roaming policy: (i) seamless roaming, and (ii) the applicability of mandated wholesale roaming service to 5G networks.

Seamless roaming

Background

392. Seamless roaming involves networks handing off and receiving calls and data sessions to and from other networks without any interruption in service. In the absence of such a capability, when a regional wireless carrier's subscriber moves outside that carrier's network footprint to an area served by a carrier from whom the regional wireless carrier has purchased a wholesale roaming service, the subscriber's call and data sessions are dropped.

Positions of parties

393. The regional wireless carriers generally submitted that seamless roaming is important for them because it enables them to offer a higher quality of service to Canadians and, therefore, be more competitive. Eastlink submitted that the issue is especially important for users travelling along highways. Shaw and Videotron submitted that the absence of seamless roaming is the biggest barrier to their growth, particularly outside urban centres. They submitted that dropped calls at the periphery of their networks are a key reason why their customers switch from their services to the national wireless carriers' services. Shaw attributed thousands of dropped calls per day to this issue.
394. Shaw estimated that a reasonable range of implementation costs for a national wireless carrier to implement seamless roaming would be \$500,000 to \$850,000 nationally. This estimate included costs for billing changes, testing, proof of concept, making necessary changes to the network, and activating interfaces between the networks.
395. Shaw submitted that the national wireless carriers would not have to upgrade every cell in their networks to implement seamless roaming, but instead would need to upgrade and maintain only the cells that are at the perimeter of a regional wireless carrier's network. As an example, it submitted that this corresponds to 257 of RCCI's cells, which is about 1.1% of the total number of RCCI cells nationwide. Shaw added that updates to network configuration are

required only where there is a change in the network coverage area of neighbouring networks (e.g. where a regional wireless carrier proceeds to geographically extend its network), which it argued is not often. It further submitted that the maintenance of seamless roaming can be done on a monthly or quarterly basis with ease using standard industry tools. For example, it already exchanges data with the national wireless carriers on a quarterly basis to maintain existing roaming arrangements and, therefore, the maintenance of seamless roaming would not require the creation of any new process.

396. The Commissioner submitted that mandated seamless roaming is one of the main issues that requires the Commission's consideration to enhance competition. He argued that seamless roaming increases the value proposition that newer facilities-based entrants can bring to their customers along with the competitive pressure they can put on the national wireless carriers. He also submitted that ensuring that smaller carriers have access to seamless roaming as part of their roaming arrangements would work to level the competitive playing field and meet the intended policy goals of the mandated wholesale roaming service regime.
397. The national wireless carriers argued that they do not need to provide mandated wholesale roaming service on a seamless basis. The national wireless carriers and SaskTel submitted that the design and implementation of seamless roaming poses significant technical and engineering obstacles. They argued that seamless roaming would also involve significant costs to acquire new hardware, additional transport capacity facilities, additional backhaul capacity, information technology (IT) / billing modifications, and radio optimization and interoperability testing. RCCI added that there are no standard industry procedures to enable seamless roaming for second-generation (2G) and 3G circuit-switched calls, and that it could take up to five years to develop, test, and roll out a solution.
398. The national wireless carriers and SaskTel provided cost estimates to implement and maintain seamless roaming. A range of estimates was provided, each with different assumptions and implementation scopes. The estimated initial setup costs ranged from \$3 million for a single border between networks to \$25 million for national coverage. The estimated annual maintenance costs ranged from \$300,000 at a single border to \$14 million for national coverage.
399. Bell Mobility and RCCI submitted that seamless roaming would be a disincentive for the regional wireless carriers to expand their networks because they would not invest in their network builds when their subscribers could simply roam onto one or more of their competitors' networks. They argued that the increased costs to provide seamless roaming would also discourage their own investments in infrastructure. They submitted that the regional wireless carriers can avoid having their subscribers' calls drop by extending their networks further out into rural communities.
400. The national wireless carriers and SaskTel argued that if seamless roaming is mandated, the rate for wholesale roaming service would be affected, because the costs of implementation would need to be incorporated into the rates. Eastlink, Ice Wireless, Shaw, and Xplornet argued that seamless roaming is a key functionality that should be incorporated as part of the mandated wholesale roaming service, and that current wholesale roaming rates should not change. They argued that seamless roaming should apply to all existing and future wireless

technologies. Eastlink submitted that it would prefer to not have seamless roaming mandated if doing so meant that the wholesale roaming service rate would increase.

Commission's analysis and determinations

401. The Commission considers that mandated seamless roaming would benefit (i) consumers, since they would no longer experience the frustration of dropped calls when moving from one network to another; and (ii) competition, since regional wireless carriers would be able to market and offer their customers a higher quality of service.
402. Evidence suggests that dropped calls occur thousands of times per day near the borders of the regional wireless carriers' networks, and that dropped calls happen at a much higher rate near the edges of networks than elsewhere. While a portion of these calls may be dropped for reasons other than a lack of seamless roaming, in the Commission's view, this represents a significant concern that could largely be addressed by seamless roaming.
403. The Commission considers that seamless roaming would provide an additional layer of support for competition as regional wireless carriers build their networks. By addressing the dropped call problem, mandated seamless roaming would help regional wireless carriers offer a more enticing service to consumers, even at the edges of their networks.
404. The Commission considers that technical standards and solutions exist today that can be used to implement seamless hand-offs between carriers and, if prioritized, seamless roaming could be implemented within a significantly shorter time frame than proposed by the national wireless carriers. The Commission considers that modification and maintenance activities to implement seamless roaming would be mainly limited to cell sites at network border locations, and that the technical information required to maintain seamless roaming can be exchanged using existing processes and with minimal effort and changes by the national wireless carriers. This would significantly reduce the costs associated with implementation. The national wireless carriers have acknowledged that standards for implementing seamless roaming generally already exist, and although they argued that technical difficulties make implementation impractical, they agreed that it is possible. At the same time, Shaw indicated that other global carriers have also implemented seamless roaming using these standards. Accordingly, the Commission considers that workable seamless roaming standards exist today for the implementation of the service.
405. While cost estimates vary widely, in the Commission's view, none of these cost estimates would outweigh the overall benefits to competition and consumers of having seamless roaming in place. Further, if a wholesale roaming service provider considers that their tariffed rate no longer reflects the incremental costs it incurs to provide the service, mechanisms exist by which its concerns can be addressed.
406. Regarding arguments that mandated seamless roaming would be a disincentive for network expansion, the Commission considers that the regional wireless carriers' need to reach more customers will drive the expansion of their networks even if seamless roaming is mandated. Regional wireless carriers also have an incentive to expand their own networks to minimize their wholesale roaming costs. Essentially, the more coverage a carrier has, the more potential customers it can serve and the less roaming its customers will require.

407. In light of these considerations, the Commission considers that mandating the provision of seamless roaming would be consistent with the 2019 Policy Direction's call to reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional, or smaller than the incumbent national service providers. Consistent with paragraph 7(b) of the Act, it would also help to ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas. Furthermore, given the adverse impact that the absence of seamless roaming has on the regional wireless carriers' retail customers, the absence of this capability serves to undermine the quality of service that is provided to them and further undermines the development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions, which is inconsistent with paragraph 7(a) of the Act. By adversely affecting the regional wireless carriers' ability to compete with the national wireless carriers and other carriers that have seamless roaming or network-sharing arrangements with a national wireless carrier, the non-ubiquitous availability of this functionality undermines the efficiency and competitiveness of Canadian telecommunications, which is further inconsistent with paragraph 7(c) of the Act.
408. Given the above, including the absence of widespread seamless roaming arrangements involving the newer regional wireless carriers, market forces cannot be relied upon to ensure that this functionality is available to all carriers and their retail customers. A decision to mandate the provision of seamless roaming and make it subject to cost-based rates would be an efficient and proportionate means of further implementing the policy objectives identified above, all of which would be consistent with paragraph 1(a) of the 2006 Policy Direction.
409. The Commission considers that seamless roaming is not a new service but can be properly characterized as an additional condition under which the existing mandated wholesale roaming service must be offered.
410. In light of the above, the Commission **directs** the national wireless carriers to (i) file for approval, within **90 days** of the date of this decision, tariffs for wholesale roaming service (wholesale roaming tariffs) with updated terms and conditions to support seamless roaming; and (ii) begin offering seamless roaming within **one year** of the date of this decision.
411. The Commission acknowledges the potential of additional operational costs associated with seamless roaming. Further, the Commission notes that the existing wholesale roaming tariffs were subject to a five-year cost study when they were finalized in Telecom Orders 2017-433 and 2018-99. Accordingly, an assessment of the underlying costs associated with the implementation of seamless roaming and the proper reflection of these in the tariffed rates may be appropriate upon implementation of seamless roaming.

Applicability of mandated wholesale roaming to 5G networks

Background

412. Parties were asked whether there have been any developments, technological or otherwise, that would require the current wholesale roaming policy to be modified. Much of the discussion

in this regard focused on whether or not mandated wholesale roaming applies to 5G networks, which are currently in the early stages of deployment.

Positions of parties

413. Shaw and Videotron were of the view that the current wholesale roaming tariffs apply to 5G. However, they argued that the Commission should clarify that this is the case. Shaw argued that it is necessary to include an obligation for the national wireless carriers to support voice over LTE (VoLTE) roaming, and to revisit terms and conditions to address restrictive terms, such as those that provide the national wireless carriers with the discretion to refuse to make additions or modifications to their networks to accommodate new technologies.
414. Generally, the national wireless carriers argued that the current roaming policy applies to one-way domestic wireless roaming for wireless voice, text, and data roaming based on GSM network standards, ³⁵ but does not include access to 5G technologies. They argued that because 5G is in its infancy, most carriers are starting off on an equal footing when it comes to introducing 5G services; therefore, it is not appropriate to give other carriers access to 5G roaming when the network technology and associated services are just being rolled out.
415. RCCI submitted that if the wholesale roaming tariffs were to apply to 5G, there would need to be an explicit exclusion for IoT and M2M services.
416. Many parties, including the national wireless carriers and Xplornet, argued that if the Commission determines that the current wholesale roaming policy applies to 5G, the wholesale roaming tariffs will need to be amended to reflect 5G applications. Generally, these parties argued that it is too early in the development of 5G networks and applications to determine what the rates, terms, and conditions of a 5G wholesale roaming service would be.

Commission's analysis and determinations

417. In the coming years, wireless carriers will continue to deploy 5G technology in their networks across the country. These technology upgrades will mean that wireless networks will become exponentially faster, more pervasive, and more versatile. With a predicted maximum throughput of 10 Gbps, this technology will support innovative and bandwidth-intensive new services, and enable new technologies.
418. While 5G network deployment is in the early stages, it is important for the Commission to provide, to the extent it can, a degree of certainty and clarity to the industry on regulatory matters related to 5G. In Telecom Regulatory Policy 2015-177, the Commission determined that wholesale roaming offered on GSM-based networks and code division multiple access (CDMA)-based networks are not substitutes, since retail customers would typically not have the kinds of devices that would support use on both types of networks. Therefore, the Commission found that GSM-based wholesale roaming service is a distinct product market from CDMA-based wholesale roaming service, and ultimately only mandated wholesale roaming service for GSM-based networks.
419. In this regard, a key factor is whether 5G mobile wireless services are GSM-based. While there was no specific evidence filed to support an assertion that 5G is, or is not, a GSM-based

service, the Commission considers that it is appropriate to view 5G technology as an evolutionary advancement in GSM technology.³⁶

420. Further, the Commission is not persuaded by arguments that smaller carriers should not have mandated wholesale roaming access to the national wireless carriers' 5G networks because 5G is in its infancy and all carriers are on equal footing. While the national wireless carriers and regional wireless carriers will all have the same 5G starting point – that is, they initially would have no 5G technology deployed – in addition to their national network coverage and retail market power, the national wireless carriers have a significant advantage in terms of the sites, towers, spectrum ownership, permits, and access agreements with various entities for infrastructure access. In the Commission's view, these advantages will continue as 5G technology is deployed, and the need for wholesale roaming on 5G networks will be necessary to support competition as the mobile wireless service market evolves.
421. For all of these reasons, the Commission confirms that the wholesale roaming policy applies to 5G networks. The Commission **directs** the national wireless carriers to make any amendments to the terms and conditions of their tariffs that are necessary to reflect this determination and to file, for approval, the amended tariffs within **90 days** of the date of this decision.
422. 5G networks will employ various new technologies, including network virtualization and software-defined networks, which will have different cost structures than previous generations of wireless service. 5G deployment was not factored into the cost studies filed in support of and reflected in the wholesale roaming service rates approved in Telecom Order 2018-99, since 5G was not yet deployed and was not expected to be widely deployed over the five-year duration of the cost study period. Accordingly, and consistent with the above discussion on seamless roaming, it may be appropriate to conduct an assessment of the underlying forward-looking incremental costs associated with wholesale roaming service and the proper reflection of these costs in the tariffed rates upon implementation of seamless roaming.

Access to infrastructure

423. In Telecom Notice of Consultation 2019-57, the Commission indicated that one of the areas it would examine in this proceeding is reducing barriers to infrastructure deployment. In this regard, parties provided comments on the issues associated with obtaining access to various types of infrastructure in order to deploy mobile wireless networks and whether changes could or should be made to the Commission's existing rules to facilitate such access.
424. Parties' comments regarding access to infrastructure generally fell into one or more of the following categories:
- Delays or denials associated with access to ILEC support structures
 - Small cell attachments and existing ILEC support structure tariffs
 - Access to towers and sites
 - Access to municipal infrastructure

Delays or denials associated with access to ILEC support structures

Background

425. ILEC-owned or controlled support structures include poles, which support aerial facilities such as strands, which are steel wires between two poles that support transmission facilities and related equipment, and conduits, which are reinforced passages or openings capable of containing communications facilities and are often located beneath ground level.
426. The Commission mandates that ILECs provide wholesale access to their support structures as a public good service.³⁷ The provision of these services is subject to the rates, terms, and conditions established by the Commission and set out in the various ILEC support structure tariffs. Under existing regulations, ILECs must provide access to these structures, on request, when spare capacity is available.
427. Nevertheless, many wireless carriers reported experiencing difficulties accessing ILEC support structures and suggested that changes may be required in order to improve the process for gaining access and to ensure that 5G networks can be deployed efficiently.

Positions of parties

428. The concerns of non-ILEC parties generally focused on denials of access based on (i) a lack of spare capacity or future use needs, and (ii) make-ready costs. These parties proposed various ways to mitigate their concerns over what they described as unreasonable denials, and most agreed that a follow-up proceeding to revise the ILEC support structure tariffs is needed.
429. Several parties, including Eastlink, RCCI, Shaw, and Videotron, provided examples of instances where they were denied access and outlined what they described as ILECs engaging in tactics that display a pattern of excessive denials and delays. However, they were not generally able to track denials in great detail.
430. Conversely, ILECs asserted that they approved the majority of access requests, and generally tried to work with parties to find alternatives where possible. For example, Bell Mobility claimed that it denied only approximately 1% of access requests on the basis of future use in Ontario and Quebec. TCI also submitted that it accepts a very high percentage of permit applications for access to its support structures.
431. Parties proposed various ways to mitigate their concerns, such as the establishment of clearer limits on reservations for future use and implementation of mechanisms to document and track future use claims, the introduction of time limits for the consideration of access requests, and expedited and simplified dispute resolution mechanisms.
432. Bell Mobility and TCI opposed these proposals, arguing that they would essentially void spare capacity and future use allowances in the ILEC support structure tariffs. They further argued that it would be inappropriate to impose an obligation to document and track reserved capacity because this information is commercially sensitive, and because a documentation obligation would add additional cost and regulatory burden without any corresponding additional benefits.
433. RCCI submitted that access to ILEC support structures will become more and more important as small cell deployment increases, and proposed that the Commission initiate a follow-up proceeding to review and amend the ILEC support structure tariffs in order to address concerns surrounding access.

434. The Commission notes that most of the evidence provided by parties regarding the denial of access to support structures was anecdotal. While some of the examples provided are concerning, the Commission cannot discern at this time whether these examples are outliers or are reflective of more prevalent problems, because parties filed very little evidence to quantify the problem with respect to the number of denials, particularly as a percentage of total requests.
435. As such, the Commission considers that the record before it is insufficient to determine whether, or what, modifications to the ILEC support structure tariffs or additional regulatory requirements would be appropriate to address concerns regarding delays and denials of access to ILEC support structures. With limited data on the number of denials and without a better understanding of the reasons for those denials, the Commission determines that it would be inappropriate to adopt specific regulatory measures at this time. Furthermore, the Commission notes that, after the initiation of the present proceeding, it issued Telecom Notice of Consultation 2020-366, to examine the issue of timely and efficient access to certain support structures, namely poles.
436. With respect to the proposal for a follow-up proceeding, the Commission notes that in Telecom Notice of Consultation 2020-366, it invited comments on many of the issues raised in this proceeding, including spare capacity, joint-use agreements, and dispute resolution. In light of that proceeding, the Commission determines that it is unnecessary to initiate an additional follow-up proceeding in the specific context of ILEC support structure access for mobile wireless service deployment at this time.

Small cell attachments and existing ILEC support structure tariffs

Background

437. In Telecom Decision 2014-77, the Commission determined that the Support Structure Service item of TCI's General Tariff should be modified to read that a licensee is not required to apply for a permit to place strand equipment ³⁸ on its own cable located on strand leased from TCI. That decision resulted from a dispute between TCI and Shaw regarding the attachment of Wi-Fi strand equipment on Shaw's own cabling, which was supported by TCI strand. Subsequently, and by way of Telecom Decision 2014-389, the other ILECs were required to modify their tariffs in a similar way. As a result, licensees do not require permits for the addition, rearrangement, transfer, replacement, or removal of their own strand equipment when they already lease space on ILEC strand.
438. In this proceeding, TCI argued that the ILEC support structure tariffs currently in place were designed to facilitate wireline competition and did not contemplate attachments for mobile wireless service, such as small cells; therefore, amendments to the existing tariffs would be required to fully account for such attachments. TCI argued that such attachments give rise to spectral interference issues and to load and safety issues that are different from those associated with wireline facilities. Furthermore, TCI argued that in contrast to the determinations made in Telecom Decision 2014-77, which concerned Wi-Fi equipment, small

cells are used purely for mobile wireless network connectivity and, as such, are properly viewed as comprising a new attachment to enable a technology that is unrelated to existing mounted facilities. In light of this, TCI argued that the tariffs must provide ILECs with an ability to review and approve small cell attachments and proposed that such attachments be made subject to a permit requirement.

Positions of parties

439. Most of the regional wireless carriers, including Eastlink, Shaw, Videotron, and Xplornet, opposed TCI's proposal. Several of these parties asked the Commission to confirm the applicability of the existing ILEC support structure tariff provisions in the context of 5G small cell equipment. They argued that to accept TCI's proposal would result in a significant administrative burden and impair 5G deployment by increasing opportunities for ILECs to engage in unjust discrimination.
440. Eastlink argued that the ILEC support structure tariffs already address the processes for carriers attaching their equipment, both wireline and wireless, to support structures, and that the tariffs allow for the placement of power supply attachments comparable in size to small cells.
441. Similarly, Videotron asserted that Commission decisions on access to ILEC support structures have always been technology neutral and that TCI's proposal is anti-competitive.
442. TCI responded that, in addition to the concerns outlined above, rates need to be updated to take into account costs associated with small cell attachments. TCI submitted that this will provide certainty to WSPs as they invest in and deploy their 5G facilities.
443. Bell Mobility argued that a new process to modify the ILEC support structure tariffs is not appropriate because small cells fall under ISED's jurisdiction. ³⁹

Commission's analysis and determinations

444. The Commission considers that parties did not provide adequate evidence to demonstrate whether or not small cells are sufficiently different from Wi-Fi deployments such that amendments to the existing ILEC support structure tariffs are warranted. Adequate evidence would relate to the technical requirements of the various types of 5G equipment and related deployment concerns, including capacity, construction standards, and radiofrequency interference, all of which were considered when the Commission made its determinations with respect to Wi-Fi equipment in Telecom Decision 2014-77.
445. As a result, the Commission is unable to render a decision as to what, if any, modifications to the existing ILEC support structure tariffs, including permitting requirements, are warranted with regard to small cell attachments.

Access to towers and sites

Background

446. Pursuant to the *Radiocommunication Act*, the Minister of Industry is responsible for issuing licences in relation to spectrum use and fixing the terms and conditions of any such licence.

The *Radiocommunication Act* also provides the Minister with the ability to approve the siting of radio apparatus, including antenna systems, and the erection of towers and other antenna-supporting structures. Pursuant to its authorities under that Act, ISED requires wireless carriers to share space on cellular towers as a condition of spectrum licence, ⁴⁰ and has established a mandatory dispute resolution process in *Industry Canada's Arbitration Rules and Procedures*. In Telecom Regulatory Policy 2015-177, the Commission indicated that it may also employ its own powers under the *Telecommunications Act* to prevent unjust discrimination and undue preference in the provision of telecommunications services to resolve disputes between carriers with respect to tower and site sharing. To date, the Commission has not received any such formal dispute resolution requests.

Positions of parties

447. Eastlink submitted that it faces ongoing challenges with respect to tower siting and tower sharing, including for small cells. It submitted that these challenges are due to the municipal consultation process required by ISED and the difficulties associated with attempting to gain access to the incumbent's infrastructure. Eastlink indicated that Commission oversight to handle such disputes and to establish precedents for reasonable approaches to such issues, would be of significant value.
448. CNOC argued that mandated tower and site sharing at rates set by the Commission would stimulate competition and would particularly assist regional wireless carriers in rural and remote areas, where costs of deployment are high.
449. RCCI submitted that the existing regime functions well and that additional regulation is not warranted. Bell Mobility suggested that the fact that no party has brought a tower-related dispute to the Commission was a strong indication that no further regulatory intervention is necessary or appropriate.
450. From a consumer perspective, EMF-OFF! expressed concern over risks to human and environmental health and safety from 5G due to the anticipated ubiquity of 5G and its related infrastructure. It submitted that the Commission should not encourage deployment of 5G technology until the health and safety effects associated with spectrum to be used for purposes of 5G networks have been properly studied.

Commission's analysis and determinations

451. Regarding Eastlink's submission, the Commission notes that it does not have general jurisdiction over tower siting, and that ISED already has well-established rules in this regard, including a municipal consultation process.
452. While CNOC argued for mandated access to towers and sites with tariffed rates, terms, and conditions, this view was not generally shared by other parties, and CNOC itself provided little justification or evidence that there is a problem that requires such intervention.
453. In addition, to date the Commission has not been approached to resolve any dispute alleging undue preference or unjust discrimination with regard to access to towers or sites. This suggests that for the most part, carriers have been able to secure tower-sharing agreements without the need for Commission intervention.

454. Therefore, it is not necessary for the Commission to take additional action in relation to tower and site sharing at this time. However, the Commission continues to be prepared to consider disputes between carriers.
455. With respect to health and safety considerations raised by EMF-OFF!, while the Commission is empowered to adopt technical standards with regard to telecommunications facilities operated by or connected to those of a Canadian carrier, as a general matter, health-related concerns fall within a field that is well occupied by existing government agencies with the requisite expertise.⁴¹ Furthermore, EMF-OFF!'s submissions mostly addressed matters relating to the allocation of spectrum, the imposition of spectrum licence conditions, and antenna siting. These matters are beyond the Commission's jurisdiction.

Access to municipal infrastructure

Background

456. Many parties raised issues with respect to access to municipal rights-of-way (ROWs). Both carriers and municipalities have an interest in this infrastructure, though these interests may conflict. Municipalities have an interest in managing and protecting their ROWs for the benefit of all who seek access, and they also have an interest in minimizing costs associated with use of these ROWs and resulting construction disruptions in the community. Conversely, carriers seek timely and cost-effective access to these ROWs to deploy, maintain, and upgrade networks in order to remain competitive and better serve consumers of telecommunications services, including mobile wireless services.
457. Issues raised in relation to access to municipal infrastructure touched on whether the Commission's jurisdiction in this area extended to access for the purposes of constructing, operating, and maintaining mobile wireless infrastructure, namely small cell attachments, and whether the Commission could regulate access to publicly owned passive infrastructure.
458. The Commission's jurisdiction with respect to access to municipal infrastructure is set out in sections 42 through 46 of the Act. These provisions provide carriers with a qualified right of access to highways or other public places. Under this regime, access is obtained by way of consent from the relevant public authority. Where such access cannot be obtained under terms deemed appropriate for the carrier or where the public authority is unable to reach an agreement with a carrier, the Commission is empowered to resolve access disputes upon receiving an application.
459. The Commission has resolved various disputes by way of reference to the principles first established in Decision 2001-23 (the Ledcor decision). The principles set out in that decision touch on such matters as cost allocation, coordination, and documentation. The Commission anticipated that these principles would assist carriers and municipalities in negotiating terms and conditions under which carriers construct, maintain, and operate transmission lines within municipal ROWs.
460. In Telecom Decision 2013-618, the Commission approved a model municipal access agreement (MAA), which was drafted by a CRTC Interconnection Steering Committee (CISC)

working group. This model MAA reflects the principles enunciated in the Ledcor decision and is meant to assist parties in reaching mutually acceptable MAAs.

Positions of parties

Access regime

461. Several wireless carriers expressed the view that having timely access to municipal ROWs and passive infrastructure will be critical to the success of 5G deployment. Some suggested that the Commission should not require municipal consent for 5G small cell site deployments, or should at least push for legislative amendments to this effect. To illustrate the need for this change, Bell Mobility claimed that access delays of up to two years are common, which creates significant uncertainty for deployment and deters investment.
462. Conversely, municipal entities, or groups representing the interests of municipalities, such as the Federation of Canadian Municipalities (FCM), Municipalité régionale de comté de Témiscouata, and Ville de Montréal (Montréal), commented on what they believe to be the important and unique role municipalities will play in coordinating the deployment of 5G. The FCM submitted that municipalities are the only entities capable of ensuring that ROWs function efficiently and effectively for all users over the long term, and argued that municipal ROW management has not caused systemic operational delays in network deployment.

The Commission's jurisdiction

463. Many parties submitted that there is a lack of clarity with respect to the Commission's jurisdiction over 5G equipment and municipal ROWs. Several carriers suggested that the Commission should clarify its jurisdiction or seek to expand it if necessary by pursuing legislative amendments in order to facilitate the deployment of 5G small cell sites on existing municipal infrastructure and ROWs.
464. Parties raised the question of whether sections 43 and 44 of the Act are available to resolve disputes with regard to the construction, operation, and maintenance of wireless transmission equipment. These sections make reference to "transmission lines," a term that is not defined in the Act.
465. Several wireless carriers argued that these legislative provisions grant the Commission jurisdiction to resolve issues involving access to municipal ROWs for the purpose of constructing, operating, and maintaining small cells. They submitted that a distinction between "wireline" and "wireless" in this context is untenable, and that an interpretation of "transmission line" that excludes wireless antennas would be outdated, contrary to the principle of technological neutrality, and inconsistent with the rules of statutory interpretation. For instance, TCI argued that the Act should be interpreted to give effect to Parliament's intent to create a comprehensive regime supporting network deployment. RCCI argued that the Act is intended to regulate all means of telecommunications, regardless of transport technology.
466. Conversely, the FCM argued that when looking at the meaning of "transmission line," the Supreme Court concluded that this term did not include electrical "distribution lines" and that, therefore, it would likewise not be appropriate to interpret it to include wireless "transmission

paths.”⁴² It further argued that when Parliament chooses different words within a statute – for instance, “transmission line,” which appears in section 43, and “transmission facility,” which appears elsewhere in the Act – it is expressing different intentions or different ideas.

467. In addition, several wireless carriers argued that the Commission should adopt a broad interpretation of “highways and other public places,” as found in section 43 of the Act, to grant wireless carriers similar terms of access as they would have with respect to wireline facilities, in line with the determinations set out in Telecom Decision 2005-36 with respect to the City of Edmonton’s (Edmonton) light rail transit (LRT) tunnels.⁴³ In that decision, the Commission identified factors such as ownership, public purpose, and degree of access in order to determine whether a given place was a “public place” for the purposes of the relevant statutory provisions.
468. The FCM countered that on a plain reading, the term “a highway or other public place” in section 43 of the Act refers to access to “places” rather than “structures,” and that the Federal Court of Appeal decision⁴⁴ disposing of an appeal of Telecom Decision 2005-36 further supported this view. Moreover, it argued that “highway” has consistently been treated as meaning the municipally owned ROW or road allowance, and that infrastructure located within the ROW has never been included. Finally, the FCM noted that the Commission has consistently stated that the conditions of access for “other public places” had to be determined on a case-by-case basis.

Dispute resolution

469. Several parties argued that there is a need for a streamlined and expedited dispute resolution mechanism to settle disputes over rates, terms, and conditions between carriers and municipalities.
470. Some parties, including RCCI, SaskTel, and TCI, suggested that the Commission follow the example of the FCC, which set out guidelines with respect to state and local fees and set out “shot clocks” for local approvals.⁴⁵
471. Shaw and Videotron supported the view that the Commission should adopt principles to assist carriers and municipalities in negotiating the terms and conditions for access involving wireless transmission equipment, and argued that the Commission should establish an expedited dispute resolution process and impose approval timelines.
472. Xplornet argued that section 58 of the Act empowers the Commission to make non-binding statements with respect to any matters within its jurisdiction. Xplornet submitted that the Commission could therefore make non-binding statements that would assist parties in understanding what the Commission considers reasonable terms of access should it be required to adjudicate a dispute.
473. Montréal submitted that a mechanism of accelerated dispute resolution could help to settle disputes, but must allow the municipalities to put forward their points of view and assert their rights.
474. Some parties argued that following the FCC example would not be feasible. SSi Micro submitted that the shot-clock policy has been controversial in the United States, with legislation introduced to invalidate the order. Similarly, the FCM noted that the FCC’s approach

led to extended litigation, creating lengthy and costly delays. It argued that the Canadian approach of a regulator arbitrating individual disputes was preferable.

Commission's analysis and determinations

Access regime

475. Parties did not provide persuasive evidence that municipalities systematically act as barriers to deployment. While certain wireless carriers described examples of delays they have encountered with respect to municipal approvals, this evidence does not demonstrate that there is a pattern of denial by municipalities that would require Commission intervention to address.
476. The concept of municipal consent is built into the qualified statutory right of access provided to Canadian carriers in the Act. Furthermore, while the Commission has, in the past, approved terms of access that do not require the concerned carrier to obtain permits for certain activities, such terms were determined in the context of active access disputes brought to the Commission after the parties involved were unable to reach agreement on mutually acceptable terms, as envisioned by the Act. Eliminating the requirement for municipal consent on an *ex ante* basis would require legislative amendment.

The Commission's jurisdiction

477. The crucial question, as it relates to the Commission's jurisdiction, has to do with whether the provisions of the Act dealing with access to public places apply to mobile wireless transmission facilities, namely small cell apparatus such as those that would be deployed in 5G networks. Sections 43 and 44 of the Act set out a consent-based regime governing access by Canadian carriers to highways and other public places controlled by municipalities and other public authorities for the purposes of constructing, operating, and maintaining transmission lines. These provisions, which evolved from provisions found in the *Railway Act*, provide the Commission with certain powers to regulate such access.
478. If this question is answered in the negative, then neither the qualified access right, nor the ability for the Commission to resolve disputes between Canadian carriers and public authorities set out under those provisions, would apply with respect to mobile wireless transmission facilities such as 5G small cells, which transmit intelligence wirelessly, rather than through a physical line.
479. Ultimately, in light of the arguments made on the record and the applicable principles of statutory interpretation, the Commission considers that these statutory provisions do not provide the Commission with jurisdiction to adjudicate disputes involving mobile wireless transmission facilities. The Commission's conclusion largely turns on the use of the term "transmission line" in the relevant statutory provisions.
480. Where a tribunal or court is asked to interpret statutory provisions, it is attempting to discern the intent of the legislative body that has enacted the relevant provisions.⁴⁶ In accomplishing this, the tribunal or court looks not only to the ordinary and natural meaning of the words under consideration but also to the surrounding context and the purpose of the provision.⁴⁷

Furthermore, the tribunal or court must also consider the well-established canon of statutory interpretation that a legislature is presumed to speak with meaning and, where it uses different terms, these terms are presumed to have different meanings. ⁴⁸

481. The term “transmission facility” is defined in section 2 of the Act as “any wire, cable, radio, optical or other electromagnetic system, or any similar technical system, for the transmission of intelligence between network termination points, but does not include any exempt transmission apparatus.” The presence of this definition demonstrates that Parliament was aware that there were technologies that transmit telecommunications wirelessly – a “transmission facility” would clearly include a radio apparatus used for the wireless transmission of intelligence, such as a small cell.
482. However, in sections 43 and 44 of the Act, Parliament notably used the distinct term “transmission line.” While this term is not defined in the Act, it must mean something other than “transmission facility” – otherwise, Parliament would have simply used that term, which was available to it. Further, given the all-encompassing scope of the term “transmission facility,” it is very likely that “transmission line” is meant to have a narrower meaning.
483. Dictionary definitions of the term “line” are varied but for the most part contemplate a physical and tangible pathway. For example, the *Canadian Oxford Dictionary* defines “line,” in the context of telecommunications facilities, to mean “a wire or cable for a telephone.” ⁴⁹ The Act uses the term “ligne de transmission” in French. *Le Petit Robert* offers numerous definitions for the term “ligne,” a number of which contemplate intangible entities or constructs. However, the only references provided to telecommunications facilities and the transmission of information are found in a grouping of definitions under the heading “fil tendu dans une direction déterminée,” with the heading indicating the existence of a tangible pathway. ⁵⁰
484. In light of the above, the Commission considers that, in using the term “transmission line,” Parliament meant to capture “transmission cables” and “transmission wires,” both of which are identified in the Act’s definition of “transmission facility” as types of such facilities.
485. Far from frustrating Parliament’s intent, an interpretation limiting transmission lines to transmission cables and wires appropriately recognizes the broader statutory scheme enacted by Parliament, including the scheme of the closely related *Radiocommunication Act*, which provides the Minister of Industry with the power to approve sites for the placement of radio apparatus, as set out in subsection 5(1) of that Act.
486. Further, given the above, the Commission considers that it does not need to make a determination on the precise meaning of the term “other public place” as it is used in section 43 of the Act.

Dispute resolution

487. The Commission considers that parties have not demonstrated that an approach similar to what the FCC has adopted in the United States would be appropriate or even feasible in the Canadian context. The Commission’s jurisdiction is different than that of the FCC. Further, the Commission already has several policies in place that address similar issues with respect to timelines and costs. For example, with respect to municipal access for wireline facility deployment, the Leducor decision principles outline causal costs, and, more generally, the

Commission has policies and procedures in place that facilitate dispute resolution on a case-by-case basis. Where a matter falls under section 43 or 44 of the Act, disputes are to be resolved by the Commission. Additionally, these statutory provisions do not establish timelines limiting when such applications may be brought to the Commission.

488. Given the above, including consideration of its jurisdiction and its existing policies and procedures, the Commission considers that there would be little utility in establishing additional guidelines, as proposed by Xplornet, under section 58 of the Act at this time.

Conclusion

489. In light of all the above, the Commission determines that no further action is necessary or appropriate with respect to municipal access issues at this time. Insofar as these issues are within the Commission's jurisdiction, existing policies and procedures are sufficient to address them.

Regulatory measures at the retail level

490. In adopting the wholesale measures described above, the Commission is taking concrete action to facilitate and accelerate the development of sound and lasting competition across Canada. These measures are designed to encourage competitors to expand to areas where there is less competition and to drive investment and add competitive pressure on the national wireless carriers and SaskTel, which were found to exercise retail market power in every province and territory, whether together in the case of the three national wireless carriers in most provinces, or by SaskTel in Saskatchewan and Bell Mobility in the territories.
491. Notwithstanding the wholesale measures adopted in this decision, the Commission considers that it is necessary to assess whether regulatory measures at the retail level are also warranted in order to ensure that the mobile wireless service market is adequately responding to the needs of consumers.
492. In this regard, many parties urged regulatory intervention to address potential gaps in the market. Specifically, they requested that the Commission mandate the offering and provision of specific mobile wireless service plans. Notably, concerns were raised that there is a lack of affordable plans for lower-income Canadians, to the detriment of those consumers.
493. Some of the proposed plans were characterized as "low-cost plans." Though there was some divergence in terms of the specific proposals, these plans would generally include a certain minimum number of minutes for Canada-wide calls, messaging (text, or SMS [short message service], and MMS [multimedia message service]) and a minimum data allowance, and would be offered at a set price considered to be affordable. Other proposed plans were characterized as "occasional-use plans," and were intended to provide ongoing access to mobile wireless networks for users who do not require service on a regular basis, but want to have it available for sporadic uses, including plans with minimal attributes to use in cases of emergency.
494. A number of other matters related to regulation at the retail level were also raised during this proceeding, including issues relating to winback activities and data overage charges.

Moreover, the matter of the continuing appropriateness of reporting requirements associated with the national wireless carriers' lower-cost data-only plans was also raised. ⁵¹

495. Finally, the Commission assesses the continued appropriateness of its current forbearance regime with regard to the offering and provision of retail mobile wireless services in light of the conclusions in this decision. These assessments of retail measures and forbearance have been performed on the basis of the record before the Commission. As with any Commission determinations, developments over the course of time may require that these assessments be revisited.

Positions of parties

Low-cost plans

496. The CCWS submitted that consumers should be able to find at least one comprehensive mobile wireless service plan that includes sufficient voice minutes, text messages, and data to meet the needs of an average user and that is provided at a price that would be affordable for all Canadians, including those with lower incomes. They also submitted that such a plan would ensure that vulnerable Canadians have a trustworthy option that would reduce the risks of being misled or upsold by sales representatives.
497. A number of consumer groups, such as Ageing + Communication + Technologies (ACT), the CCWS, CIPPIC/OpenMedia, and the Manitoba Coalition, submitted that low-cost plans with specific attributes should be mandated. These attributes included being offered on 4G or LTE networks, unlimited voice minutes and text messages, and between 2 GB and 4 GB of data per month. The CCWS and CIPPIC/OpenMedia submitted that their requested low-cost plans should be priced in the range of \$20 to \$30 monthly, a proposal supported by ACT; the Manitoba Coalition suggested a monthly price of \$35 maximum, including the device, or \$25 without the device. ACT, the CCWS, CIPPIC/OpenMedia, and the Manitoba Coalition also generally agreed that there should be no data overage charges, but that throttled data speeds on usage past a certain threshold were acceptable. Of those parties that commented on whether the device should be included, the Manitoba Coalition submitted that it could, while the CCWS submitted that the plans should be offered on a bring-your-own-device (BYOD) basis.
498. The Manitoba Coalition submitted that regulatory action with regard to retail service offerings is needed to meet the policy objectives set out in section 7 of the Act, and because the 2019 Policy Direction emphasizes affordable access to telecommunications services for all Canadians. A similar view was taken by the CCWS and CIPPIC/OpenMedia. In the CCWS's view, the Commission would be justified in requiring all WSPs to offer a low-cost plan with specific attributes. CIPPIC/OpenMedia indicated that low-cost plans should be offered by the WSPs' premium brands in order to ensure broader availability and adoption. In addition, the Manitoba Coalition argued that its proposed low-cost plan should be offered by all WSPs, not limited to flanker brands, and marketed along with other mobile wireless services in print, online, and in-person advertising.

499. The CCWS and the Manitoba Coalition proposed that the low-cost plans be offered on a postpaid basis. The CCWS submitted that postpaid plans are secure and easy for customers, while prepaid plans raise concerns, such as the expiration of calling minutes. The Province of British Columbia (Province of BC) submitted that it has heard many complaints about unused credits expiring at the end of the service coverage period and that prepaid plans provide less billing transparency. The CCWS acknowledged that some customers might prefer prepaid plans because they do not require a credit check; however, it was of the view that mandated plans should be offered on a postpaid basis, but that BYOD plans should not require a credit check, which can be a social barrier to access for some consumers. The CCWS further submitted that its proposed low-cost plan should be available on a postpaid basis in order for consumers to benefit from full protection under the Wireless Code. TCI was of the view that the line between a prepaid and a postpaid plan is now blurring since the difference between a BYOD monthly plan and a pay-as-you-go recurring monthly plan is minimal.
500. Certain WSPs submitted that existing lower-cost data-only plans respond to the needs of budget-conscious consumers and, therefore, mandating low-cost plans is not necessary. The CCWS submitted that the lower-cost data-only plans are not fully responding to the needs of budget-conscious consumers because, in its view, consumers generally prefer direct, cellular network-based voice calls and text messaging as opposed to application (app)-based replacements for such services that use mobile data from their data allotments. The CCWS added that seniors are also less likely to understand the app-based approach to data-only access and that both seniors and low-income users are less likely to have or to use home (wireline) Internet to offload their use to Wi-Fi.
501. Shaw and Videotron were of the view that mandating the provision of low-cost plans would provide nothing that does not already exist in the market today, and that it would be harmful for the regional wireless carriers by limiting their ability to compete and differentiate themselves from other WSPs or, in some cases, by requiring them to offer plans below cost. Shaw added that providing a 4 GB plan at \$25 to \$30 per month would cause a significant recalibration of its existing plans because similar plans are typically provided at a much higher retail price; Eastlink and TBayTel submitted that they would be hard-pressed to profitably offer such a plan because of the associated costs. TBayTel indicated that it would be hard to offer a 2 GB plan at \$25 per month with a device because of the increasing costs of mobile devices; Eastlink submitted that it would likely not recover its costs if it were to offer a 4 GB plan at \$25 per month.
502. The national wireless carriers, the CWTA, and SaskTel were of the view that there is no need for regulatory intervention since the market offers a wide range of wireless plans to suit Canadians' needs and budgets. TCI further argued that there will always be a segment of the population that cannot afford certain important goods or services, such as wireless services, but that this is reflective of a broader problem for which a regulatory solution, such as prescribing the rates for a single commodity, may not be appropriate. SaskTel indicated that low-cost plans are already available, and that consumers can choose from multiple WSPs and their flanker brands.

503. With regard to the submissions made to the effect that WSPs should be mandated to provide low-cost plans on their premium brands, the national wireless carriers submitted that they differentiate their brands and were of the view that flanker brands respond to the needs of customers looking for low-cost plans. Bell Mobility indicated that its premium brand is aimed at consumers for whom network quality was of primary importance, while its flanker brands are aimed at those looking for more affordable options. RCCI indicated that its premium brand targets users looking for “high-touch” service, i.e. service from a customer service representative (CSR), and that its flanker brands are tuned to a market segment that values lower price over high-touch customer support. TCI submitted that its premium brand is aimed at users who want premium devices and use a lot of data, while its flanker brands are aimed at consumers looking for more affordable rates. However, the Manitoba Coalition raised doubts as to the extent the national wireless carriers were upfront in referring consumers looking for lower-cost plans to their flanker brands.
504. SaskTel argued that if a portion of the retail market is found to be insufficiently competitive to protect the interests of users, then directed and targeted retail action should be taken; however, it also submitted that no such action is required at this time in the broader retail market. Bell Mobility submitted that retail price regulation directly conflicts with key elements of the Policy Directions because it does not rely on market forces at all.
505. TCI argued that the issue is not one of availability of low-cost plans or of affordability, but rather may be one of awareness in terms of the offers that are already in the market for more budget-conscious Canadians. It suggested that the Commission could assist by requiring WSPs to report periodically on their low-cost plans and by aggregating this information in a centralized website for consumers to reference. RCCI was of the view that the industry has failed to adequately communicate that Canada has an intensely competitive mobile wireless service market that continues to deliver affordability and value for Canadians. Consumer groups and the Commissioner both argued that low-cost plans are not being adequately promoted on the WSPs’ websites.

Occasional-use plans

506. The CCWS, the Manitoba Coalition, the Province of BC, and l’Union des consommateurs (l’Union) were in favour of the Commission mandating occasional-use plans.
507. ACT indicated that cell phones provide older adults with a sense of security and safety, and that the consumers whose needs are not being met in the current marketplace may include those who use their cell phones infrequently yet face what they perceive to be high costs to keep them connected. WSPs indicated that the national wireless carriers (on both their premium and flanker brands), SaskTel, regional wireless carriers, and resellers offer a variety of occasional-use plans. Shaw submitted that every major Canadian WSP actively competes in this segment of the market. RCCI indicated that plans in the market include text-only plans; data-only plans; talk and text plans; and talk, text, and data plans that respond to the requirements of persons with only an occasional need for service.
508. Various consumer groups and many individuals expressed concerns about whether existing occasional-use plans are meeting consumers’ needs, particularly in regard to what is included

in the plans, the cost of the plans, applicable data overage charges (which they described as being high), and service speeds. Certain consumer groups and the Province of BC submitted that when customers, particularly low-income and older Canadians, advise sales representatives that they need a plan for occasional use, they are being pressured or misled into purchasing a more expensive plan that exceeds their needs.

509. The CCWS was of the view that such plans should be offered at a very low price, such as \$5 a month or less than \$100 a year, with no extra charges, and allow the subscriber to have control over the total cost, such as when and how much to pay.
510. ACT, the CCWS, the Manitoba Coalition, the Province of BC, and l'Union indicated that such plans should be voice-focused, though the CCWS, the Province of BC, and l'Union were also of the view that such plans should nonetheless include some text messages. ACT, Data on Tap, the Province of BC, and l'Union were of the view that such plans should also include some data.
511. The CCWS and the Manitoba Coalition believed that a prepaid option would be appropriate and noted that prepaid plans, unlike postpaid plans, do not require credit checks or other identification requirements that some consumers may not meet. The CCWS acknowledged that postpaid plans get the full protection of the Wireless Code, but are typically too expensive. The CCWS, Data on Tap, Distributel, the Manitoba Coalition, the Province of BC, and l'Union took issue with certain prepaid plans as a result of the expiry of account balances.
512. Certain consumer groups, Data on Tap, and the Province of BC cited concerns regarding high pay-per-use and overage rates, as well as costs for customers to keep their cell phones connected. ACT added that socially marginalized people live in fear of excessive overage fees and that seniors frequently turn off their cell phones to conserve minutes to be used only in cases of emergencies.
513. Notwithstanding their expressed views on attributes, the CCWS and l'Union suggested that it may be appropriate for the Commission to conduct a survey to ascertain what constitutes appropriate minimum attributes with regard to voice minutes, text messages, and data in occasional-use plans.
514. All wireless carriers that commented argued that there was no need for regulatory intervention given that, in their view, there is no demonstrated market failure because a variety of such plans is already being offered by the national and regional wireless carriers, as well as by resellers. However, RCCI, Videotron, and Xplornet submitted that should the Commission consider mandating occasional-use plans, a follow-up proceeding would be required. Some wireless carriers and the ITPA added that some of the proposed plans may not fully recover the associated costs at the proposed price points; therefore, the rates would not be just and reasonable.
515. Bell Mobility, SaskTel, TBayTel, and TCI submitted that prepaid plans offer low barriers to entry for budget-conscious and low-income consumers, because the plans require no deposit, credit check, or commitment term.
516. Consumer groups, the Commissioner, Data on Tap, and Tucows were generally of the view that occasional-use plans in the market are not being sufficiently or adequately promoted, particularly on WSPs' websites. For example, they largely agreed that the way WSPs'

websites present their plans generally lacks clarity and transparency, thereby making it difficult for consumers to do comparative shopping and make informed decisions. CIPPIC/OpenMedia and l'Union argued that such plans are often absent from the home page and the main package presentation pages on the WSPs' websites. As noted above, TCI suggested that the Commission require WSPs to report periodically on their low-cost plans, including occasional-use plans, and suggested that the Commission aggregate this information in a centralized website for consumers to reference.

517. Certain consumer groups and TCI were of the view that consumer awareness of available plans in the market may be low. ACT submitted that seniors are not necessarily aware of the most affordable options for their current needs and situation. It also submitted that seniors are not generally aware that flanker brands are associated with the national wireless carriers, and that these individuals are concerned about network quality.
518. Bell Mobility and TCI were of the view that the Commission does not need to mandate the way that WSPs brand and promote their plans. Bell Mobility argued that any regulation in regard to how WSPs brand and promote their plans would be highly intrusive and beyond the Commission's jurisdiction. Furthermore, Bell Mobility argued that such regulation is not necessary, because the company has every incentive to keep ensuring consumers are aware of the full range of its available plans.

Winback activities

519. Shaw submitted that the national wireless carriers engage in anti-competitive tactics to win back customers who have switched to Freedom Mobile by, notably, providing better offers only after customers have switched to Freedom Mobile, and by targeting its recently acquired customers directly with instructions on how to cancel a contract during the trial period mandated under the Wireless Code. Shaw proposed that a 90-day prohibition of targeted anti-competitive winback activities be applied to those carriers. Shaw described a targeted anti-competitive winback offer as one that is made only to customers that have moved to a regional wireless carrier. CNOC and the ITPA supported Shaw's proposal; Ice Wireless opposed it, but submitted that winback activities should be limited to advertised plans only.
520. Bell Mobility submitted that it does not call customers who make requests to port numbers. TCI submitted that it reaches out to all customers who leave TCI, regardless of the carrier to which they switched and does this at two different points in the customer lifecycle: first, within several days of their leaving TCI, in an effort to determine if there is anything TCI can do to retain the customer; second, prior to their contract expiration with the new WSP, approximately 22 months from the time they leave TCI. RCCI indicated that it tries to call ported-out customers within 24 hours to try to retain their business, and added that this is an opportunity to provide more choices to the customer. RCCI was of the view that a time-limited prohibition on winback activities would be anti-consumer and that customers who are willing to engage with the market will get better deals. The national wireless carriers were generally of the view that winback activities are a sign of healthy competition that benefits consumers, and that the Commission should not prohibit this practice.

521. The CCWS and the Manitoba Coalition submitted that winback activities are a sign of market power by the national wireless carriers, are anti-competitive, and benefit only a select number of consumers. These groups suggested that the Commission impose a cooling-off period during which ported-out customers could not be contacted by their previous WSP with winback offers, and adopt measures to make winback offers publicly available to all consumers to increase transparency. The Commissioner submitted that, while winback activities can, in some cases, have negative effects on competition (such as if undertaken to discipline, exclude, or otherwise substantially prevent or lessen competition), these activities can benefit some customers.

Data overage charges

522. ACT, the CCWS, the FRPC, the Manitoba Coalition, and the Province of BC submitted that Canadians are concerned about data overage charges being too high and that regulatory measures concerning this issue are needed. The FRPC added that users' interests are only protected when they know that they are exceeding their data allotment and that an unexpected overage charge of \$49 (i.e. just beneath the \$50 threshold in the Wireless Code) is substantial to those with insecure, unstable, low, or fixed incomes. The Manitoba Coalition was of the view that it would be appropriate to regulate data overage charges through the establishment of either a price ceiling or tariffed rate. Some WSPs, notably the national wireless carriers and SaskTel, indicated that the retail price per GB of data has decreased over the last few years, and that data management tools and the recent introduction of unlimited data plans enable customers to use their full data allowance without fear of overage charges.

523. With regard to data plans advertised as being unlimited, CIPPIC/OpenMedia submitted that while these can prevent bill shock, consumers will still restrict their data consumption in order not to have their service's speed throttled. The CCWS submitted that those plans also treat lower-income Canadians inequitably because these plans are expensive and beyond their financial means in most cases.

524. Most WSPs, including the national wireless carriers, Eastlink, SaskTel, Shaw, SSI Micro, Videotron, and Xplornet, as well as the CWTA, were of the view that the Commission should continue to forbear from regulating data overage charges and rely on market forces.

Commission's analysis and determinations

Low-cost plans

525. During the course of this proceeding, a number of individual Canadians and consumer groups expressed concerns that mobile wireless services are expensive in Canada. The results of the Phoenix telephone survey provided a more nuanced view that only one in six Canadians are somewhat (10%) or very (6%) dissatisfied with their WSP. Of those customers who indicated being dissatisfied, however, 65% mentioned the cost/price of service as the main reason for their dissatisfaction and 38% mentioned the cost/price of data.

526. This decision details certain reasons that might explain such dissatisfaction. In its assessment of market power, the Commission concluded that, notwithstanding the difficulties associated

with comparing prices across countries, retail prices are higher in Canada than in other comparable jurisdictions and that this cannot be explained adequately by factors such as network costs or network quality. The Commission further concluded that prices in Canada have not fallen as much as international benchmarks in the last decade.

527. The Commission acknowledges that higher prices can also disproportionately impact lower-income individuals, who are more likely to face affordability issues. Accordingly, an important issue raised in this proceeding is whether lower-income households and other Canadians, seniors notably, are being priced out of the market.
528. As a potential remedy, many consumer groups made proposals for a Commission-mandated low-cost plan. Before assessing the appropriateness of such a plan, however, the Commission must first determine the attributes of a potential low-cost plan.
529. In the Commission's view, to be meaningful, an affordable low-cost plan should include a minimum amount of data that is enough to enable Canadians to participate in the digital economy. According to the Commission's 2019 *Communications Monitoring Report*, the average data usage in Canada was 2.7 GB in 2018, and usage has been increasing every year. The Commission considers that an appropriate data allocation for a mandated low-cost plan would be 3 GB minimum.
530. To the extent that cell phones are increasingly used as substitutes for landline telephones, which provide unlimited minutes for local calls, and that mobile wireless service plans often include unlimited minutes and text messages, the Commission considers that an affordable mandated low-cost plan should include unlimited nationwide voice minutes and text messages.
531. While access to LTE has advantages, 3G speed does not prevent the user from navigating the web and using most applications. As such, plans limited to 3G speeds would generally well serve the segment of the population looking for lower-cost options. Therefore, 3G plans can be considered responsive to a consumer's most significant needs.
532. The consumer groups generally supported the idea that the plan could be offered on a BYOD basis, although the Manitoba Coalition submitted that, as an alternative, the device could be included for an additional \$10 on the plan's retail monthly price. Adding the cost of providing a mobile device as part of a low-cost plan offering could increase significantly the monthly retail price associated with the plan. Given that one of the main purposes of such a plan is that it be offered at an affordable monthly rate, consumers should be given the option to bring their own device.
533. A number of WSPs commented that some of the consumer groups' proposed prices would not allow them to cover their costs. Based on the record of the proceeding, the Commission is unable to conclusively determine what price level would be commensurate with carriers' costs. Nonetheless, given the attributes deemed as acceptable for a low-cost plan, the fact that the purpose of such plans would be to ensure that consumers (particularly lower-income Canadians) can afford plans that enable them to participate effectively in the digital economy, and the fact that retail wireless prices are generally falling, the Commission considers that a \$35 maximum monthly rate for a plan that would include these attributes would be appropriate in the circumstances.

534. According to the 2019 *Communications Monitoring Report*, in 2018 over 88% of mobile wireless service subscribers were on a postpaid plan, in comparison to about 12% on a prepaid plan, a proportion that has increased from about 83% in 2013. There are certain advantages with postpaid plans that are not offered with prepaid options. For instance, the Wireless Code requires WSPs to provide postpaid plan customers a copy of a Critical Information Summary. In the Commission's view, although prepaid plans might be a good option for certain consumers, given that most people are looking for postpaid options to meet their needs, it would be more appropriate to put the emphasis on postpaid low-cost plans.
535. Regarding the offering of postpaid plans, a subset of advertised BYOD postpaid plans with different data allocations, including 1 GB, 2 GB, and 4 GB (and 3 GB in the case of TBayTel), were compiled in two exhibits and made available to parties during the public hearing.⁵² In general, these exhibits demonstrated that plans were available with data allocations in the range identified by consumer groups as desirable for low-cost plans. However, the advertised monthly prices of those plans at the time of the public hearing, which ranged between \$35 for a 2 GB plan in Quebec (a plan offered at \$50 in the other provinces) and \$55 for a 4 GB plan, were generally above what was proposed by the consumer groups. In addition to those advertised plans posted on the WSPs' websites, the record shows that certain carriers were also offering, in 2019, BYOD non-advertised plans that included, in addition to 3 GB of data, between 500 and unlimited voice minutes and unlimited text messages per month. These plans, mostly offered by flanker brands, tended to be somewhat cheaper than the advertised offers, that is, in the \$30 to \$45 per month price range.
536. Comparable plans were generally more expensive when looking at the national wireless carriers' premium brands and SaskTel. Low-cost plan options offered on the national wireless carriers' premium brands were all priced at \$40 per month and above for plans with 3 GB of data and unlimited voice minutes and text messages. In the case of SaskTel, the cheapest BYOD postpaid plans it was advertising at the time of the hearing were its 1 GB plan for \$40 per month and a 5 GB plan for \$55 per month.
537. Having established the parameters of potential low-cost plans, the Commission must now consider whether to mandate the provision of such plans. The Commission acknowledges that the plans that were available during the course of this proceeding that included a data allocation similar to what was sought by the consumer groups, in addition to unlimited voice minutes and text messages, were generally offered at prices that were somewhat misaligned with what the consumer groups perceived as affordable.
538. There were, nonetheless, a number of plans in the market that were not too different from what the consumer groups sought. In addition, with the mobile wireless service market evolving quickly, wireless service prices are generally declining. Accordingly, the Commission considers that the market has been moving in the right direction in terms of offering more affordable options and considers that mandating the provision of defined plans with specific attributes would be an unnecessarily prescriptive measure in the circumstances detailed on the record.
539. Notwithstanding the above, the Commission considers that there are persistent issues regarding the availability and discoverability of postpaid low-cost plans with respect to the

national wireless carriers' premium brands and SaskTel.

540. In this regard, the Commission is concerned with the claims that CSRs are not appropriately responding to consumers' needs, particularly those of low-income Canadians, when consumers are shopping for low-cost plans, and that low-cost plans are not being sufficiently or adequately promoted, particularly on WSPs' websites. The Commission considers that there may be a consumer awareness problem and issues regarding pricing transparency such that Canadians are not fully informed about their options.
541. With respect to plans that would have the desired attributes of a low-cost plan, flanker brands tend to offer and promote more affordable options, which appears to coincide with the national wireless carriers' general marketing approach. In fact, they submitted that their premium and flanker brands offer different value propositions, with their flanker brands focused on affordability and low-cost options.
542. However, the Phoenix telephone survey indicates that many Canadians, and those with lower incomes in particular, are reluctant to sign up for flanker brand service. About 50% of respondents reporting an annual household income under \$40,000 indicated that they would not switch to a flanker brand, in comparison to between 35% and 40% for people in the \$40,000 to \$80,000 income bracket. The fact that low-cost plans appear to be offered and promoted only on the national wireless carriers' flanker brands likely makes it harder for consumers to find a low-cost plan that meets their needs on the service brand of their choice.
543. In the Commission's view, this creates an unnecessary barrier to consumers who are looking for low-cost plans to find an option that meets their needs, and likely leads to some consumers being upsold, that is, subscribing to a plan the attributes and cost of which exceed their actual needs and budget. The Commission is of the view that it is crucial to ensure that consumers, and in particular lower-income individuals, looking for a low-cost plan find an affordable plan that meets their needs on the service brand of their choice.
544. In light of the above, the Commission considers that it would be appropriate, at this time, to adopt clear expectations and let the market respond to these expectations. Should the market not develop in a manner that adequately responds to these expectations, the Commission could then revisit the issue. Accordingly, the Commission expects that at least one postpaid, low-cost plan will be offered and promoted by SaskTel and each of the national wireless carriers, on their premium brands, in the geographic areas where they were found to exercise retail market power.
545. While the Commission considers that the national wireless carriers and SaskTel should have some flexibility in designing the postpaid low-cost plans they will offer and promote, it also needs to ensure that consumers' needs are met. Consequently, the Commission sets out the minimum service attributes and maximum monthly price of the plans in question. Specifically, these plans are expected to
- be offered at a monthly rate not exceeding \$35;
 - allow customers to bring their own device; and
 - include
 - unlimited Canada-wide incoming and outgoing calls and SMS messages,
 - the ability to send and receive MMS messages, and

- a minimum of 3 GB of data per month.

Occasional-use plans

546. Despite a general trend of Canadians increasingly relying on their mobile devices, certain segments of the Canadian population want a mobile wireless service plan only for occasional use. The Commission considers that a properly developed and functioning mobile wireless service market should respond to the economic and social requirements of all users, including those looking for limited-use options.
547. Parties advocating for regulatory intervention on this issue generally called for a requirement for WSPs to provide plans that would include voice calling and text messaging, and, in some instances a modest data allocation, at a low price.
548. WSPs provided descriptions of a number of plans that were offered at a monthly price of \$15 or less that they considered suitable for consumers having only an occasional need for mobile wireless services. While the plans generally offered the ability to place and receive calls as well as to send and receive text messages, only a small number included some data. Furthermore, the plans were generally offered on a prepaid basis.
549. Freedom Mobile filed evidence that, at the time of this proceeding, it offered a plan for \$15 monthly including 100 outgoing Canada-wide voice minutes and unlimited incoming calls, unlimited incoming and outgoing SMS and MMS messages, 250 megabytes (MB) of data, and no data overage charges (speeds are throttled after 250 MB of usage), on a postpaid basis. The Commission is of the view that the price point and attributes of this plan would likely address a number of concerns raised by consumer groups, since the plan allows subscribers to bring their own device and provides assurances that they will not incur fees on incoming calls, sending and receiving text messages, or using data. However, a plan offered by a regional wireless carrier would not be available to Canadians in all geographic markets.
550. While the evidence demonstrates that some occasional-use plans are available on national wireless carriers' premium brands and from SaskTel, the Commission considers that there is insufficient availability of plans offered on a postpaid basis. This state of affairs limits the ability of certain consumers to find a plan that meets their needs. Based on the above, the Commission concludes that consumers wishing to subscribe to a postpaid occasional-use plan on the brand of their choice are not all well served by the market.
551. The Commission is of the view that SaskTel and the national wireless carriers (with respect to their premium brands) should each offer and promote a postpaid occasional-use plan in order to better ensure that consumers have access to and can easily find a plan that meets their needs. In this regard, the Commission considers it important that appropriate postpaid occasional-use plans be made available by SaskTel and the national wireless carriers on their premium brands in areas where they have been found to have retail market power. As discussed above in the context of low-cost plans, there is a sizable section of the population that is reluctant to sign up for flanker brand service and this reluctance, coupled with the general lack of such postpaid plans offered on the main brands of the dominant wireless carriers, results in a certain gap in the market.

552. As also indicated in the low-cost plan section above, service offerings evolve and prices are expected to continue to decline in the future. Accordingly, the Commission considers that it is more appropriate, at this time, to adopt clear expectations on the offering of occasional-use plans and let the market respond to these expectations, rather than mandating such plans, which would be an unnecessarily prescriptive measure in these circumstances. Nevertheless, the Commission could revisit the issue should the market not develop in a manner that adequately responds to these expectations. The Commission therefore expects that at least one postpaid occasional-use plan that meets the attributes and price point set out in paragraph 553 below, exclusive of plans geared to emergency use which are discussed below, will be offered and promoted by each of SaskTel and the national wireless carriers, on their premium brands, in the geographic areas where they were found to exercise retail market power.
553. While the Commission considers that the national wireless carriers and SaskTel should have some flexibility in designing the postpaid occasional-use plans they will offer and promote, it also needs to ensure that consumers' needs are met. Consequently, the Commission sets out the minimum service attributes and maximum monthly price of the plans in question. Specifically, these plans are expected to
- be offered at a monthly rate not exceeding \$15;
 - allow customers to bring their own device; and
 - include
 - a minimum of 100 outgoing Canada-wide voice minutes,
 - unlimited incoming calls,
 - unlimited incoming and outgoing SMS messages,
 - 250 MB of data, and
 - no data overage charges.
554. In the Commission's view, however, the \$15-per-month postpaid occasional-use plan described above would not respond to the needs of those seeking a low-cost plan for emergency purposes only.
555. The record shows that Bell Mobility, RCCI, and SaskTel each offered at least one prepaid occasional-use plan in the \$5 to \$10 monthly price range in early 2020. Since then, however, they have ceased promoting these options on their websites, and are now promoting more expensive plans, each at a minimum monthly price of \$15. The Commission is concerned that, without those basic options, the most vulnerable segments of the population might not have access to mobile wireless services for emergency purposes.
556. The Commission notes that TCI currently offers, on its premium brand, a plan branded as "Talk + Text 100." This prepaid plan is offered for \$100 and is valid for a full year. The plan includes up to 400 minutes for local calls and 400 text messages per year. The Commission is of the view that this plan would address the needs of someone looking for the ability to access mobile wireless services in order to respond to emergencies at a monthly rate equivalent below \$10. In the Commission's view, by including reasonable minimum allocations for two key functionalities, namely text messaging and voice calling, without the need to regularly reload one's account, a plan designed to resemble TCI's Talk + Text 100 plan would be more likely to be readily available for emergency uses than many other options currently offered in the

market over which consumer groups have raised concerns, such as monthly reloadable prepaid plans. In this regard, the Commission considers that emergency use of mobile wireless services would be sporadic and that a person's consumption of such services would vary from month to month. A service providing yearly allotments rather than monthly allotments would better reflect this reality and better ensure that, in times of emergency, the consumer is able to make use of the service in an effective manner.

557. In order to better ensure that all Canadians, regardless of socio-economic factors, can access mobile wireless services for, at a minimum, emergency use, the Commission expects SaskTel and the national wireless carriers (with respect to their premium brands) to each offer and promote, in the markets where they were found to exercise retail market power, prepaid occasional-use plans that meet the following minimum attributes and maximum price:

- available on a prepaid basis for a yearly maximum of \$100;
- allow customers to bring their own device;
- not expire prior to 365 days (rate plan and any add-ons);
- 400 anytime local minutes per year, plus 400 incoming/outgoing SMS messages per year;
- \$0.15 per minute for local calls after the allotted minutes are used;
- \$0.50 per SMS message after allotted messages are used; and
- \$0.50 per minute for long distance calls originating in Canada and terminating in either Canada or the continental United States, in addition to local airtime.

Terms and conditions applicable to the Commission's expected low-cost and occasional-use plans

558. The Commission expects these plans to be offered within **90 days** of the date of this decision. To ensure that the expected low-cost plans, postpaid occasional-use plans, and prepaid occasional-use plans are all made widely available, the Commission further expects each qualifying plan

- to be offered broadly and made available to all Canadians, regardless of income and age, for instance;
- to be offered year-round (i.e. not only during periods when there are a lot of promotions, such as back to school or holidays);
- if offered as part of a bundle, to also be offered on a stand-alone basis, with no additional conditions limiting its access, and not linked or tied in any way to other services offered by the WSP; and
- to clearly articulate and communicate to the customer whether any extra charges apply. Such charges could include taxes, device subsidy installment payments, connection fees, long distance, additional airtime, and pay-per-use charges.

559. Finally, while the Commission acknowledges that additional or ancillary fees may be charged for services not included as part of the expected plans (for instance, connection fees, pay-per-use charges), it intends to monitor such fees, in part through the reporting requirements set out in greater detail below. The Commission expects that fees charged to subscribers of the expected plans will not be disproportionate as compared to other subscribers so as to

represent an unjust form of discrimination against them. Should intervention be required in that regard, the Commission has tools at its disposal to take appropriate action.

Promotional efforts for the Commission's expected low-cost and occasional-use plans

560. As indicated above, the Commission is concerned that some consumers, particularly vulnerable Canadians, cannot easily find a plan that meets their needs, even where such plans are available, and that they may not, in some cases, be adequately served by CSRs when shopping for a plan. The Commission considers that setting promotional-related expectations on the national wireless carriers and on SaskTel with respect to the Commission's expected low-cost and occasional-use plans would help ensure that consumers can easily find and subscribe to such plans when they wish to do so.

561. Accordingly, the Commission sets the following expectations on the national wireless carriers and on SaskTel with regard to promotional efforts for the low-cost plans described in paragraph 545 above:

A. Digital promotion:

- i. Each WSP is expected to post on its website's first landing page that features its specific mobile wireless service offerings, i.e. the first page on which the WSP introduces its mobile wireless service plans, in a manner similar to that which it uses to promote the offers that appear on the landing page,
 - key details of the low-cost plan that it offers, i.e. the price and service attributes described in paragraph 545 above; and
 - a prominent and descriptive link to the low-cost plan offering (e.g. an anchor link) at the top of the landing page referred to above.
- ii. For WSPs that offer, or will eventually offer, a customer self-service application that allows customers to change plans, the low-cost plan should be presented as an option for customers and be displayed and promoted in a similar manner as other plans appearing as options.

B. CSRs:

- i. Each WSP is expected to ensure that all CSRs who interact with the public (in person, online, over the telephone, or otherwise) are trained on the low-cost plan that it offers. As a result of this training, CSRs should mention this plan to customers who indicate that they are looking for a low-cost option. Accordingly, each WSP should, at a minimum, ensure that
 - all the relevant information is included in the training materials provided to CSRs (e.g. training manuals, bulletins, and emails) to make new and existing CSRs aware of the low-cost plan offered by the WSP; and
 - relevant questions are included in the questionnaire/decision tree that CSRs use when assessing a customer's needs in person, on the telephone, or online. The Commission expects that questions to determine whether a low-cost plan would be appropriate for that customer would be featured early in the questionnaire/decision tree.

C. In stores and kiosks:

- i. Each WSP is expected to publicly display in an easily visible way information about the low-cost plan that it offers in a visual format (via, for instance, an exhibit, flyers, or posters) in each of their stores and kiosks.

562. While the Commission considers it important to ensure that occasional-use plans are properly promoted, it is mindful that there is a need to balance consumers' interests and WSPs' marketing choices, especially when it comes to marketing plans that will target niche market segments and are expected to garner a limited number of subscribers. Accordingly, the Commission sets the following expectations on the national wireless carriers and on SaskTel in regard to promotional efforts for these plans described in paragraphs 553 and 557 above:

A. Digital promotion:

- i. Each WSP is expected to post on its website's first landing page that features its specific mobile wireless service offerings, i.e. the first page on which the WSP introduces its mobile wireless service plans, in a manner similar to that which it uses to promote the offers that appear on the landing page,
 - key details of the occasional-use plans it offers, i.e. the price and service attributes described in paragraphs 553 and 557 above; and
 - a prominent and descriptive link to each occasional-use plan offering (e.g. an anchor link) at the top of the landing page referred to above.

B. CSRs:

- i. Each WSP is expected to ensure that all CSRs who interact with the public (in person, online, over the telephone, or otherwise) are trained on the occasional-use plans that it offers. As a result of this training, CSRs should mention these plans to customers who indicate that they are looking for an occasional-use option.

Accordingly, each WSP should, at a minimum, ensure that

- all the relevant information is included in the training materials provided to CSRs (e.g. training manuals, bulletins, and emails) to make new and existing CSRs aware of the occasional-use plans offered by the WSP; and
- relevant questions are included in the questionnaire/decision tree that CSRs use when assessing a customer's needs in person, on the telephone, or online; the Commission expects that questions to determine whether an occasional-use plan would be appropriate for that customer would be featured early in the questionnaire/decision tree.

Monitoring and reporting

563. To further ensure that the Commission's expected low-cost and occasional-use plans are offered and promoted as per the Commission's expectations and to assess whether further regulatory action might be appropriate, the Commission considers it necessary to impose certain reporting requirements on the relevant WSPs. Furthermore, the Commission considers that the objectives pursued through its expectations will be assisted through the provision of objective information to Canadians to help them make informed decisions when seeking low-cost or occasional-use plans.

564. Accordingly, the Commission considers it appropriate to require the national wireless carriers and SaskTel to each report back to the Commission with respect to their low-cost and occasional-use plan offerings so that the Commission may (i) ascertain whether the established expectations are being met, (ii) assess the market response to these expectations and adoption of these plans, and (iii) have a basis for any follow-up proceedings that might be required if there is any failure to fulfill the Commission's expectations.
565. Wireless carriers might choose to offer more than the expected low-cost plan defined in paragraph 545. For example, these carriers may also choose to offer low-cost plans under a flanker brand and might also decide to offer similar plans but on a prepaid basis. Given this, and in order to permit the Commission to better monitor the market, the reports to be filed by the national wireless carriers and SaskTel shall include information not only on any low-cost plan option that meets or exceeds the minimum service attributes and that is offered at or below the expected maximum monthly rate but also on any plans that would otherwise meet the expected attributes save for the fact that they are offered on a prepaid basis. Furthermore, these carriers shall also include in their reports information on such plans that are offered by their flanker brands.
566. In order to provide the public with as much information as possible regarding these plans and how they satisfy the Commission's expectations with respect to maximum price and minimum service attributes, and to gauge the promotional activities undertaken, the Commission expects that the relevant WSPs will strive to limit the confidentiality claims made with regard to information provided in response to the reporting requirement set out below.
567. In light of the above, the Commission **directs** the national wireless carriers and SaskTel to each provide a semi-annual report (including an abridged version for publication on the Commission's website should certain information be provided in confidence), pursuant to paragraph 37(1)(b) of the Act, that will include the information below relating to their offering and promotion of low-cost and occasional-use plans in areas where they have been found to exercise retail market power:
- I. For each of the low-cost and occasional-use plans offered that meets or exceeds the minimum service attributes and is offered at or below the maximum price set out in paragraphs 545, 553, and 557 above, as well as any low-cost plan captured by the requirement to report set out in paragraph 565, provide information on each of the following elements. With regard to occasional-use plans, the list of plans should also include any appropriate plan offered by flanker brands.
 - name of the plan;
 - the brand it is offered on;
 - whether the plan is offered on a prepaid or postpaid basis, or both;
 - price (excluding 9-1-1 fee);
 - number of voice minutes (broken down by incoming and outgoing minutes if the plan makes this distinction; identifying any time of day or day of week limitations and calling areas, i.e. local, nationwide, United States, or international);
 - number of SMS and MMS messages (broken down by incoming and outgoing messages if the plan makes this distinction);

- any geographic limitations, e.g. messages to Canadian, American, or international telephone numbers;
- data allocation;
- whether data overage charges are applied past a certain usage threshold and, if so, the corresponding details;
- whether data speeds are throttled past a certain usage threshold, and, if so, the corresponding details;
- the network/network speed on which it is offered (3G, 4G, or 5G);
- whether a device is included;
- included features (e.g. voicemail or call display)
- any add-ons available with the plan;
- a list of all applicable additional or ancillary fees, including the circumstances in which these are incurred and the specific charge (e.g. fees for connection, to change the telephone number or plan, for device setup, or for support from a CSR);
- any limitations on availability (e.g. whether the plan is offered only by customer retention department, or whether the customer must be enrolled in autopayment);
- coverage and provinces/territories where the plan is available; and
- the number of subscribers per plan, by province/territory.

II. For each of the low-cost and occasional-use plans offered that meets or exceeds the minimum service attributes and is offered at or below the maximum price set out in paragraphs 545, 553, and 557 above, as well as any low-cost plan captured by the requirement to report set out in paragraph 565, provide information on each of the following promotional efforts. With regard to occasional-use plans, the report should also include any appropriate plan offered by flanker brands:

- screenshots of web pages displaying the plan;
- a description of the path to be used by the consumer from the home page to the web page where the plan appears;
- copies of any other means to promote the plan (e.g. letters, billing inserts, emails, or screenshots of text messages);
- a description of the training received by CSRs about the plan (e.g. a description of how the reference to low-cost and occasional-use plans was added to the training manuals and the CSRs' scripts, highlighting passages in the manuals where the text has been modified); and
- for low cost plans specifically, information on how each plan is promoted in stores and kiosks, including copies of any flyers, posters, or advertisements for the plan.

568. The first semi-annual report is to be filed by **30 September 2021**, and subsequent semi-annual reports are to be filed by **31 March** and **30 September** of each year.

569. In Telecom Decision 2018-475, the Commission indicated that it expected the national WSPs to implement proposed lower-cost data-only plans, and that these plans should remain available at least until the issuance of a decision with respect to the review of mobile wireless services. The national wireless carriers were also directed to submit information concerning these plans every six months.

570. The Commission considers that in light of the record and the determinations made in this decision, the reporting requirement imposed on WSPs in Telecom Decision 2018-475 is no longer justified.
571. Accordingly, the Commission eliminates the requirement established in Telecom Decision 2018-475 for the national wireless carriers to each submit a report every six months concerning their lower-cost data-only plans. Notwithstanding the elimination of this requirement, the Commission encourages WSPs to continue offering their existing lower-cost data-only plans because they bring value to consumers who are seeking such options.

Winback activities

572. The evidence on the record, including evidence of port-in and port-out requests between carriers, does not support the claim that winback activities taking place in the market target customers moving to a regional wireless carrier. It does not demonstrate the existence of winback activities constituting anti-competitive acts undertaken to discipline or exclude a competitor, or to substantially prevent or lessen competition such that it would be appropriate to introduce new rules governing these activities.
573. The Commission acknowledges that winback activities sometimes take the form of non-advertised offers, which some have argued can be unfair because these offers are not always made available to all consumers. However, generally speaking, prohibiting or limiting winback activities would impede customers' ability to negotiate with their WSPs to get better deals or plans that are more tailored to their needs. Evidence from the Phoenix telephone survey indicates that customers who threaten to leave their current WSPs are often able to negotiate lower rates for their services.
574. For these reasons, the Commission is of the view that winback activities do not unduly harm regional wireless carriers or competition generally. Further, the Commission considers that winback promotions or special offers can be legitimate business practices and that consumers benefit from them in the form of lower prices or offers that better meet their needs.
575. In light of the above, the Commission concludes that the overall benefits to consumers outweigh the costs of imposing limits on or prohibiting winback activities at this time. Refraining from limiting or prohibiting winback activities aligns with the policy objectives in that such activities, as a general matter, assist in rendering reliable and affordable telecommunications services of high quality accessible to Canadians and enhance the efficiency and competitiveness of telecommunications in Canada. Furthermore, the determination to refrain from imposing regulatory measures aligns with the objective of fostering reliance on market forces. In addition, it furthers the 2019 Policy Direction's call to encourage all forms of competition and enable innovation in telecommunications services, including differentiated service offerings.
576. Notwithstanding the above, although it does not appear that winback activities are targeting particular carriers, a demonstration that such practices are taking place would be worrisome. Accordingly, the Commission emphasizes that winback activities are not to be used to give an undue advantage to a given WSP or customer or unjustly discriminate against a competitor.

Data overage charges

577. Concerns about data overage charges were raised throughout the proceeding. Over the course of the last several years, a number of options that would appear to address these concerns in various ways have become increasingly available across the country, including plans with more generous data allowances, unlimited data plans, and options such as data rollover and data top-up. The Commission acknowledges that consumers with smaller data allotments are more likely to incur overage charges if they subscribe to a postpaid service. It also acknowledges that unlimited data plan options (i.e. plans that offer throttled speeds past a given data cap) currently mostly apply to larger full-speed data allotments and more expensive plans, so they might not be an appropriate answer for all consumers looking for a solution to avoid data overage charges.
578. Nonetheless, the Commission considers that a number of tools and options are being offered to help consumers prevent the bill shock that may be caused by data overage charges. These include the measures in the Wireless Code (such as the overage fee cap), carriers' practices with respect to data usage notification, and prepaid plans for which overages charges cannot be applied.
579. As a result, no further regulatory measures with respect to data overage charges are required at this time. The Commission expects that the national wireless carriers and SaskTel will continue to offer plans without such charges, and encourages all WSPs to offer additional consumer-friendly mobile wireless service plans and functionalities that would enable customers to minimize data overage charges, regardless of their plans' data allowances.
580. Having regard to the industry practices highlighted above, the Commission considers that, with respect to data overage charges, the market has largely developed so as to respond to the economic and social requirements of consumers. The Commission considers that these developments reflect innovation in telecommunications services, including the provision of differentiated service offerings, and, as such, considers that it would be appropriate, at this time, to continue to rely on market forces in this area.

Forbearance from the regulation of retail mobile wireless services

581. In general, the Act contemplates a regime of *ex ante* regulation of the offering and provision of telecommunications services by Canadian carriers. However, pursuant to section 34 of the Act, the Commission may and, in some circumstances must, forbear from the exercise of certain powers in relation to a telecommunications service or class of services provided by a Canadian carrier; such forbearance may be in whole or in part and conditional or unconditional.
582. In particular, the Commission may forbear, under subsection 34(1) of the Act, where it finds, as a question of fact, that doing so would be consistent with the policy objectives; the Commission must forbear, under subsection 34(2), where it finds, as a question of fact, that a telecommunications service or class of services is or will be subject to competition sufficient to protect the interests of users. However, pursuant to subsection 34(3), the Commission must not forbear where it finds, again as a question of fact, that doing so would likely impair unduly

the establishment or continuance of a competitive market for the relevant service or class of services.

583. Since the mid-1990s, the Commission has largely forborne from regulating mobile wireless services, except with respect to its powers under section 24 and subsections 27(2), (3), and (4) of the Act. As a result of forbearance, wireless carriers are, among other things, not generally required to obtain prior Commission approval of the rates, terms, and conditions for their mobile wireless services.
584. In the current proceeding, the Commission has analyzed the state of competition in the retail market based on the record and using the market power assessment first articulated in Telecom Decision 94-19, which looks at market share as well as relevant demand and supply conditions.
585. This assessment reveals that there are certain positive signs in the retail market: retail prices for mobile wireless service in Canada have generally been decreasing in the last several years. Furthermore, there are indications of rivalrous behaviour between dominant and competitive firms and, when looking at price comparisons across provinces and territories, prices are generally lower in areas where there is competition from a regional wireless carrier.
586. However, the retail market assessment qualifies these data points by placing them in a broader context in which they may be seen as positive developments but ones that have not yet produced the results that would transpire in a fully competitive market. Barriers to both entry and expansion, while not insurmountable, do exist. Retail market power is currently exercised in all geographic markets in the country and retail prices across provinces and territories are higher than they otherwise would be in a workably competitive market.
587. Based on this assessment, the Commission finds that it is unable to conclude that the conditions prevailing in the retail market are such that they require continued forbearance under subsection 34(2) of the Act. The Commission considers that the record of this proceeding does not allow it to find, as a question of fact, that competition alone in the retail market is, or will be in the short term, sufficient to protect the interests of users.
588. However, notwithstanding the above, the full-scale reassertion of regulation over retail mobile wireless services would be a disproportionate response. The positive market developments outlined above should be accelerated by the adoption of the wholesale measures mandated by the Commission in this decision, and the identified gaps in the retail market should be addressed by the provision of the low-cost and occasional-use plans that the Commission expects certain carriers to offer and promote. Conversely, the Commission considers that there would be significant harm caused by the broad reassertion of forborne powers to regulate the offering and provision of retail mobile wireless services, based on the record.
589. For instance, this could serve to depress the ability of regional wireless carriers competing with dominant wireless carriers to invest in their networks and grow their customer bases. Such an adverse effect would impede their ability to exert greater price discipline and enhance service offering innovation and competition. Simultaneously, reintroducing retail regulation would introduce significant regulatory costs and limit the ability of established carriers to quickly respond to market changes.

590. Furthermore, the Commission highlights that it has maintained its powers under section 24 of the Act with regard to the offering and provision of mobile wireless services and has used these powers to impose the Wireless Code, which provides significant protections for retail users of mobile wireless services.
591. Ultimately, it is preferable that the interests of users be met through the operation of competitive forces, accompanied by targeted wholesale and retail regulatory measures, rather than through broad-based retail regulation. These targeted measures constitute a more efficient and effective means of achieving the implementation of the policy objectives, taken as a whole. As rates are generally decreasing, regional wireless carriers have been competing against dominant wireless carriers, growing in size, and increasing their competitive impact; therefore, there is a need to avoid regulatory measures that would slow regional wireless carriers' growth.
592. More specifically, based on the record, the Commission finds that continued reliance on market forces with respect to the provision of retail mobile wireless services is the best way to ensure the long-term efficiency and competitiveness of Canadian telecommunications and to ensure that the market is responsive to the economic and social requirements of users of telecommunications services. Furthermore, and relatedly, this approach will serve to maintain the incentive to innovate in the provision of telecommunications services.
593. In light of all the above, the Commission finds, as a question of fact, that maintaining retail forbearance would be consistent with the policy objectives, under subsection 34(1) of the Act.
594. Further, the record shows that competitors have been making significant investments in order to increase the quality and coverage of their networks, increasingly strengthening their market positions, and exerting an increasing amount of market discipline. The targeted wholesale measures mandated in this decision will serve to further accelerate the development of those entities best suited to compete with the dominant wireless carriers and the market discipline that they are currently in the process of providing.
595. Accordingly, pursuant to subsection 34(3) of the Act, the Commission finds, as a question of fact, that continued forbearance would not be likely to impair unduly the establishment or continuance of a competitive market for retail mobile wireless services.
596. In addition, the Commission considers that the approach it has described above is consistent with the Policy Directions. This approach seeks to rely on market forces to the maximum extent feasible as the means of achieving the policy objectives and adopts targeted regulatory measures as a complement to those forces, including time-limited measures. The ultimate goal of the Commission's approach is to accelerate the expansion of retail competition, especially from regional wireless carriers competing with dominant wireless carriers. As a corollary, the approach is aimed at the acceleration of the erosion of retail market power, which is mainly exercised by the national wireless carriers. Finally, this approach permits greater service innovation and differentiation than the alternative of broadly regulating retail offerings.
597. As such, the approach adopted by the Commission, which helps ensure that network investment incentives are protected, will better ensure that sustainable market forces develop such that Canadians throughout the country have access to reliable and affordable telecommunications services of high quality and that the market properly responds to the

economic and social requirements of users of telecommunications services. For the same reasons, this approach will promote the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions.

598. However, the Commission reminds the national wireless carriers and SaskTel that it intends to closely monitor the implementation of its expectations with respect to the offering and promotion of low-cost and occasional-use plans. If these expectations do not result in market forces addressing the concerns identified for consumers seeking these types of retail options, the Commission's determinations under subsection 34(1) of the Act may need to be revisited.
599. More generally, as with any Commission determination, the determinations made under section 34 of the Act on the basis of the record of the proceeding can be revisited in the event of significant changes in circumstances.
600. Finally, the Commission notes that nothing in the present decision is to be interpreted as disposing of any of the issues raised in Telecom Notice of Consultation 2020-178 with respect to the accessibility of mobile wireless service plans for persons with various disabilities. The Commission may, if it is appropriate to do so on the basis of the record of that proceeding, make additional determinations with respect to forbearance from the regulation of retail mobile wireless services in that forum.

Other issues

Establishing a 5G working group

Background

601. Certain parties proposed that the Commission create a working group to enable stakeholders to address various issues related to wireless network deployment. Overall, these suggestions were aimed at streamlining 5G deployment through developing common standards and processes.

Positions of parties

602. A number of parties supported the general concept of a working group that would aid in ensuring that 5G deployment is timely, efficient, and cost effective.
603. For the most part, parties that favoured the establishment of such a working group suggested that it consist of representatives from the Commission, industry, consumer groups, and the various levels of government implicated in 5G deployment. With respect to the organization of the group, SSi Micro and TBayTel supported a structure similar to CISC.
604. There was, however, disagreement on the required level of participation in such a group. TBayTel submitted that it is necessary to have full participation by all stakeholders, while SSi Micro submitted that members should be permitted to decide whether to participate. Bell Mobility and TCI argued that though stakeholders often do in fact work together to resolve deployment issues, mandating participation in a 5G working group would be inefficient and

could result in greater delays. Eastlink added that mandated participation would create difficulties for smaller companies that may have more limited resources.

605. Furthermore, parties' views on the scope and mandate of such a group were inconsistent. Parties suggested that the working group deal with a variety of issues, with some wanting it to deal with policy issues, and others submitting that it would only be appropriate for technical issues to be discussed. Specific topics proposed included implementation and deployment issues, setting equipment technical standards, matters relating to municipal approvals and infrastructure access, and establishing best practices.
606. The FCM cautioned that the Commission should endeavour to avoid the types of issues experienced during the CISC Model MAA process, which, in their view, was time consuming, did not result in concrete progress on contentious issues, and ended up straining relationships. Bell Mobility, RCCI, and TCI held similar views.

Commission's analysis and determinations

607. Based on its own experience with various past working group initiatives, the Commission considers that while working groups can be useful, they work best when they arise out of an agreed need to resolve discrete issues between specific stakeholders.
608. A 5G working group would be a significant undertaking involving numerous stakeholder groups with competing interests. Further, in this proceeding, parties' views on the scope and mandate of such a group were inconsistent and wide-ranging. As a result, it is difficult to reconcile parties' arguments that a working group must have clear and achievable goals to be effective with the disparate views that were submitted with respect to the governance, membership, and scope of such a group.
609. As a result, the Commission questions the potential efficacy of such an initiative. It appears unlikely that a successful working group would result from the numerous suggestions as to what the focus of the group should be, what it should be empowered to do, and who should participate. Once 5G deployment is widely underway, certain issues may arise. At that time the Commission may then consider establishing a working group or working groups that are narrower in scope and are designed to address discrete issues affecting specific stakeholders.
610. In light of the above, the Commission determines that it is not appropriate to establish a 5G working group at this time. However, the Commission encourages parties to collaborate as they deploy 5G networks.

Changes to the IMSI Guidelines

Background

611. The Canadian Electricity Association (CEA) and the Railway Association of Canada (RAC), which represent electrical utilities and railway operators respectively, requested that the Commission direct the CISC Canadian Steering Committee on Numbering (CSCN) ⁵³ to revise the International Mobile Subscription Identity [IMSI] Assignment Guideline (IMSI Guideline) to allow critical infrastructure operators (CIOs) to acquire mobile network codes (MNCs).

Positions of parties

612. The CEA and the RAC submitted that negotiating access to individual existing mobile wireless networks is no longer meeting their members' needs, and that it is critical that they get access that will meet their evolving connectivity requirements. For example, they submitted that their membership will require increased broadband connectivity to accommodate millions of IOT and M2M devices to be used in their members' operations in the coming years, as well as in applications like smart electricity grids.
613. They further explained that having MNCs would mean that their members would not need to depend on a single wireless carrier for RAN access. Instead, they could rely on many networks, including those of wireless carriers, the Public Safety Broadband Network (PSBN), ⁵⁴ or others, possibly in conjunction with CIO-deployed networks. With their own core networks, CIOs would be able to operate an integrated network using their own MNCs, which would be distinct from, and, in their view, more reliable than, the individual networks on which they currently depend for RAN access. In addition, CIOs would be able to route their own communications through their own core networks, which they considered to be more secure than commercially available options.
614. Wireless carriers were generally of the view that the current proceeding is the wrong forum for this request and that the needs expressed by CIOs could largely be addressed by the carriers' existing commercial offerings in the market.
615. Shaw also expressed concern about granting MNCs to CIOs, given the limited number of MNCs available. It submitted that granting the request could lead to other industries seeking MNCs, which could quickly exhaust the remaining MNC supply.
616. In reply, the CEA and the RAC reiterated that their members' needs have not been met in the market, and that there is a strong case justifying this narrow extension of access to MNCs. Nevertheless, in recognition of the scarcity of this resource, the CEA proposed several possible limitations, such as MNC sharing among members of a CIO group. They argued, however, that these limitations could affect how their members put their services into operation.

Commission's analysis and determinations

617. The Commission considers that granting the CEA and the RAC's request would have clear benefits to the public interest, because it would lead to more reliable, innovative, and integrated networks for CIOs. However, MNCs are a finite resource that must be allocated carefully and used responsibly.
618. As a result, the Commission considers that the CSCN should explore ways to allocate MNCs to CIOs, with a view toward striking the appropriate balance between network complexity and efficiency, while mitigating the potential risk to MNC supply, and make a recommendation to the Commission in this regard.
619. Accordingly, the Commission requests that the CSCN (i) explore the best way to allocate MNCs efficiently to CIOs, (ii) amend the IMSI Guideline to allow CIOs to acquire MNCs, and (iii) submit the amended IMSI Guideline for Commission approval within **120 days** of the date of this decision.

Public safety MVNOs

Background

620. Halton Regional Police Service (HRPS) proposed that the Commission mandate wholesale MVNO access to any available network for non-profit public safety MVNOs (PSMVNOs). HRPS projected that this new class of PSMVNO would enhance reliability and resiliency for public safety entities, such as police services, by allowing them to access a “network of networks” rather than having them rely on the access services of any one mobile wireless carrier. HRPS also requested that these PSMVNOs have wholesale access at specialized rates that would potentially be below the rates charged to commercial MVNOs.
621. HRPS’s submission also raised several proposals that the Commission considers to be out of scope, such as legislative amendments, issues under ISED’s jurisdiction, such as spectrum policy, and the PSBN process currently underway at Public Safety Canada.

Positions of parties

622. Several parties, including Bell Mobility, RCCI, SaskTel, Shaw, and Videotron, argued that the current proceeding is not the appropriate forum for HRPS’s request. Many of these parties argued that the request is premature because Public Safety Canada has not yet finalized the PSBN or the eligibility criteria for access to the service.
623. In addition, some parties argued that HRPS’s request could be served by existing service offerings. Shaw argued that there is no need to mandate PSMVNO access because provisions already exist for public safety associations to obtain MNCs. Similarly, Bell Mobility and TCI argued that a PSMVNO solution should be implemented on a negotiated basis through services they already offer, including those specifically marketed to first responders.
624. HRPS responded that it was appropriate to seek mandated PSMVNO access from the Commission at this time in order to implement the capabilities of both a PSMVNO and PSBN at the same time as two prongs of the same overall solution that combines the capabilities of both services. Further, HRPS reiterated that existing service offerings do not meet all its needs.

Commission’s analysis and determinations

625. HRPS’s PSMVNO proposal is laudable as an example of long-term thinking about how to leverage technology to improve public safety. Over the coming years, in order to ensure that the Commission fulfils its role in supporting the development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions, it will be important for the Commission to consider how it can support public safety organizations like HRPS as they modernize their services.
626. However, in practice, the Commission is concerned that this significant and far-reaching request would require extensive work by wireless carriers to accommodate not just HRPS, but potentially hundreds of other first responder organizations across the country that would likely want to use a mandated PSMVNO service. This would also involve establishing a specific

RAN access service that is custom-made for the particular requirements of first responders with guaranteed quality of service, traffic prioritization and digital ROWs, intersystem seamless roaming, network sharing with wireless carriers, and access to VoLTE, 4G, and 5G network technologies, and that would be available to first responder organizations at reduced rates set by the Commission.

627. Furthermore, the PSBN is being designed for the very purpose HRPS has described – to provide public safety entities with a secure, robust, and dedicated network at specialized rates. Despite this, HRPS proposed that the Commission mandate a PSMVNO service that would work in tandem with the PSBN, once it is operational, to maximize effectiveness and network redundancy. The Commission is not persuaded at this time that the benefits of such redundancy would outweigh the costs, because there is insufficient evidence on the record to make such an assessment.
628. In addition, the Commission is concerned that jurisdictional considerations were not adequately addressed and notes, in this regard, that HRPS's submission did not address how the Commission could impose or put into operation such regulatory measures.
629. Finally, several carriers submitted that they are currently offering specialized services for public safety organizations.
630. In light of all the above, the Commission determines that it would not be appropriate to mandate the provision of a PSMVNO access service at this time.

Policy Directions

631. Throughout this decision, the Commission has taken care to demonstrate how its determinations advance the policy objectives in a manner consistent with the 2006 and 2019 Policy Directions.
632. The Commission is imposing targeted measures to constrain the market power of dominant wireless carriers, expand competitive options, and promote the broad availability of a variety of retail options at affordable rates. In this way, the Commission's determinations in this proceeding advance the policy objectives set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act. These determinations are aimed at facilitating the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions; rendering reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas; enhancing the efficiency and competitiveness of Canadian telecommunications; fostering increased reliance on market forces for the provision of telecommunications services while ensuring that regulation, where required, is efficient and effective; and responding to the economic and social requirements of users.
633. The 2006 Policy Direction requires, among other things, that the Commission rely on market forces to the maximum extent feasible as the means of achieving the policy objectives. The 2006 Policy Direction also requires the Commission to regulate, where there is still a need to do so, in a manner that interferes with market forces to the minimum extent necessary to meet the policy objectives.

634. The determinations made in this proceeding comply with the 2006 Policy Direction.

Specifically,

- consistent with subparagraph 1(a)(i) of the 2006 Policy Direction, the Commission considers that market forces alone cannot be relied upon to ensure that the policy objectives are achieved, especially in light of its findings of market power in markets across the country, and considers that wholesale obligations and retail expectations are necessary;
- consistent with subparagraph 1(a)(ii) of the 2006 Policy Direction, the regulatory requirements established are efficient and proportionate to their purpose, and minimally interfere with competitive market forces, since the wholesale measures adopted, including the narrow and time-limited mandate to provide an MVNO service, will support those firms that are best positioned to disrupt the market power of the dominant firms;
- consistent with subparagraph 1(b)(ii) of the 2006 Policy Direction, relying on commercial negotiation to establish MVNO rates, with an FOA backstop, will neither deter economically efficient competitive entry into the market nor promote economically inefficient entry, because it will ensure that the rates for the mandated wholesale MVNO access service will be just and reasonable and established with the close involvement of the wholesale service providers and customers;
- consistent with subparagraph 1(b)(iii) of the 2006 Policy Direction, the Commission has determined that the mandate to provide a facilities-based wholesale MVNO access service will be imposed on all wireless carriers exercising market power and that this mandate will be limited to the areas in which it is exercised. By imposing the mandate on the basis of such objective criteria, the Commission has ensured that the mandate is imposed in a symmetrical and competitively neutral manner; and
- consistent with subparagraph 1(b)(iv) of the 2006 Policy Direction, the determinations in this decision will enable competition from new technologies insofar as they promote expansion of and access to 5G networks; to the extent that these determinations may favour carriers over resellers, the Commission does not consider this to be artificial, given the findings in this decision concerning the relative likely impacts of broad-based and facilities-based wholesale MVNO access mandates.

635. The 2019 Policy Direction provides that when the Commission is exercising its powers and performing its duties under the Act, it should consider how its decisions can promote competition, affordability, consumer interests, and innovation. The determinations in this decision comply with the 2019 Policy Direction as follows:

- consistent with subparagraph 1(a)(i), the determinations encourage all forms of competition and investment. By providing regulatory support to regional wireless carriers, network capacity should be increased, which would make the organic emergence of a broader MVNO market more likely;
- consistent with subparagraphs 1(a)(ii) and (iii), the determinations foster the availability of affordable and lower-priced services of high quality across the country. By creating the conditions for an expansion of sustainable retail competition and creating clear

expectations for specific types of service offerings, lower prices should be more broadly available;

- consistent with subparagraph 1(a)(v), the determinations reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional, or smaller than the incumbent national service providers. By mandating access to the networks of dominant firms, regional wireless carriers will be able to expand their own coverage, expedite the expansion of their own networks, and serve more customers; and
- consistent with subparagraph 1(a)(vi), the determinations enable innovation in telecommunications services, including new technologies and differentiated service offerings. Targeted wholesale measures will permit regional wireless carriers to expand their networks, including next-generation networks, without impeding the ability of the dominant firms to continue to invest. Continued forbearance at the retail level ensures that the ability of WSPs to innovate in their service offerings is not adversely affected.

Secretary General

Related documents

- *Bell Mobility Inc. – Request to strike the Commissioner of Competition’s expert report from the record of the proceeding initiated by Telecom Notice of Consultation [2019-57](#), and related procedural matters*, Telecom Decision CRTC [2021-129](#), 15 April 2021
- *Call for comments – Accessibility – Mobile wireless service plans that meet the needs of Canadians with various disabilities*, Telecom Notice of Consultation CRTC [2020-178](#), 1 June 2020; as amended by Telecom Notices of Consultation CRTC [2020-178-1](#), 26 August 2020; [2020-178-2](#), 29 September 2020; and [2020-178-3](#), 23 March 2021
- *Practices and procedures for dispute resolution*, Broadcasting and Telecom Information Bulletin CRTC [2019-184](#), 29 May 2019
- *Review of mobile wireless services*, Telecom Notice of Consultation CRTC [2019-57](#), 28 February 2019; as amended by Telecom Notices of Consultation CRTC [2019-57-1](#), 28 October 2019; [2019-57-2](#), 20 March 2020; and [2019-57-3](#), 23 June 2020
- *Lower-cost data-only plans for mobile wireless services*, Telecom Decision CRTC [2018-475](#), 17 December 2018
- *Wholesale mobile wireless roaming service tariffs – Final rates*, Telecom Order CRTC [2018-99](#), 22 March 2018
- *Follow-up to Telecom Decision [2017-56](#): Wholesale mobile wireless roaming service tariffs – Final terms and conditions*, Telecom Order CRTC [2017-433](#), 6 December 2017
- *Wholesale mobile wireless roaming service tariffs – Final terms and conditions*, Telecom Decision CRTC [2017-56](#), 1 March 2017
- *Review of wholesale wireline services and associated policies*, Telecom Regulatory Policy CRTC [2015-326](#), 22 July 2015; as amended by Telecom Regulatory Policy CRTC [2015-326-1](#), 9 October 2015

- *Regulatory framework for wholesale mobile wireless services*, Telecom Regulatory Policy CRTC [2015-177](#), 5 May 2015
- *Follow-up to Telecom Decision [2014-77](#) – Show cause regarding permit requirements for strand equipment*, Telecom Decision CRTC [2014-389](#), 24 July 2014
- *Shaw Communications Inc. – Application concerning the administration of TELUS Communications Company’s tariff for support structure service*, Telecom Decision CRTC [2014-77](#), 20 February 2014
- *CISC Model Municipal Access Agreement Working Group – Report on a Model Municipal Access Agreement*, Telecom Decision CRTC [2013-618](#), 21 November 2013
- *The Wireless Code*, Telecom Regulatory Policy CRTC [2013-271](#), 3 June 2013
- *Part VII Application by Allstream Corp. seeking access to Light Rail Transit (LRT) lands in the City of Edmonton*, Telecom Decision CRTC [2005-36](#), 17 June 2005
- *Ledcor/Vancouver – Construction, operation and maintenance of transmission lines in Vancouver*, Decision CRTC [2001-23](#), 25 January 2001
- *Regulation of mobile wireless telecommunications services*, Telecom Decision CRTC [96-14](#), 23 December 1996
- *Review of regulatory framework*, Telecom Decision CRTC [94-19](#), 16 September 1994
- *Regulation of wireless services*, Telecom Decision CRTC [94-15](#), 12 August 1994

Footnotes

- ¹ See, for instance, Telecom Decisions [94-15](#) and [96-14](#).
- ² RCCI was previously known as Rogers Communications Partnership, and TCI was previously known as TELUS Communications Company. For ease of reference, RCCI and TCI are used in this decision.
- ³ Flanker brands are subsidiary brands operated by or affiliated with wireless carriers. For example, Bell Mobility currently offers services under the brands Virgin Mobile and Lucky Mobile, RCCI under Fido and Chatr, TCI under Koodo and Public Mobile, and Videotron Ltd. under Fizz.
- ⁴ Industry Canada set aside blocks of spectrum that were available exclusively to new entrants. See [Policy Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range](#) for details.
- ⁵ A RAN consists of mobile wireless spectrum, towers, sites, and related on-site facilities and equipment.

- 6 By way of a letter dated 4 December 2019, the Commission determined that accessibility-related mobile wireless service issues would be best considered as part of a separate and dedicated proceeding, which was subsequently launched in Telecom Notice of Consultation 2020-178.
- 7 *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, SOR/2006-355, 14 December 2006
- 8 *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation*, SOR/2019-227, 17 June 2019
- 9 LTE-A is the upgraded version of LTE, which increases the stability, bandwidth, and speed of LTE networks. It does this through the use of technologies including multiple antennas and simultaneous use of multiple spectrum bands.
- 10 Data obtained from the 2016 to 2019 editions of the Commission's *Communications Monitoring Report*. This trend continued in 2019. According to the 2020 *Communications Monitoring Report*, released after the close of record for this proceeding, the percentage of subscribers with a data plan was 90% in 2019.
- 11 A CMA is formed by one or more adjacent municipalities centred on a population centre (i.e. core). It must have a total population of at least 100,000, of which 50,000 or more must live in the core. A smaller area with a core population of at least 10,000 is known as a census agglomeration.
- 12 For the purposes of this decision, references made by the Commission to "regional wireless carriers" within the context of its analyses and determinations do not include SaskTel in the province of Saskatchewan, unless specified otherwise.
- 13 The HHI is the sum of the squares of the market share of each firm in a given market. It provides a measure of concentration in which larger firms are assigned greater importance in the market in comparison to all other firms in the market. Markets are considered moderately concentrated when the index is between 1,500 and 2,500 and highly concentrated when it is above 2,500.
- 14 The data used to inform this figure includes data pertaining to SaskTel.

- 15 As an example, CNOC mentioned two-year contracts and alleged that some WSPs imposed penalties on their call centre representatives when a customer cancels or reduces their services, which creates an incentive for those representatives to adopt tactics to avoid that outcome.
- 16 This telephone survey was administered to a nationally representative sample of 1,208 Canadians aged 18 or older, between 25 November and 12 December 2019. To be eligible to complete the survey, respondents had to have a cell phone for personal use.
- 17 For example, see ISED's *Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band*, 28 March 2018.
- 18 This variable is calculated by dividing the total revenues of a carrier in a month by the number of subscribers with a data plan, and multiplying that by the data limit of such plans.
- 19 See tables 4.2, 4.4, and 4.6 of the *OECD Broadband Portal*.
- 20 Seong Hun Yun, Yongjae Kim, and Minki Kim, "Quality-adjusted international price comparisons of mobile telecommunications services," *Telecommunications Policy* 43, 4: (May 2019) 339-352.
- 21 For example, the national wireless carriers are mandated to provide wholesale roaming service at regulated rates, terms, and conditions. In the wireline market, incumbents are mandated to provide wholesale high-speed access service to competitors at regulated rates, terms, and conditions.
- 22 The policy considerations also serve to reflect that the essential facilities analytical framework set out in Telecom Regulatory Policy 2015-326 is also applied, albeit on a more limited basis, to give effect to statutory powers other than subsection 27(2), such as those set out in section 40 of the Act.
- 23 This analysis does not capture the optional access to core network components requested by the ITPA. However, given the Commission's determinations on the question of mandated RAN access, it does not consider that it needs to perform an assessment of whether wholesale access to core network components qualifies as access to essential facilities or services and whether such access should be mandated.
- 24 For example, the Commission mandates the provision of wholesale Enhanced 9-1-1 service as a public good service.

- 25 “White label” is a term used to generally describe pure resale arrangements. In the context of an MVNO arrangement, a white label MVNO would not have any facilities of its own and would be reselling the service of a mobile wireless carrier using its own brand name.
- 26 The cited objectives of the Act are 7(c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications; and (f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective.
- 27 The cited objectives of the Act are 7(a) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions; (b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada; (c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications; (f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective; and (h) to respond to the economic and social requirements of users of telecommunications services.
- 28 That is, spectrum at the tier 4, tier 3, tier 2, or tier 1 levels, as defined by ISED. For example, if a regional wireless carrier holds tier 3 spectrum that covers multiple tier 4 areas, that carrier would be eligible for the service in those tier 4 areas.
- 29 *Industry Canada’s Arbitration Rules and Procedures*, CPC-2-0-18, 7 March 2013
- 30 This general approach also includes permitting parties to enter into forbore off-tariff agreements, without the need for Commission approval, which allows them to adopt different rates, terms, and conditions if doing so is mutually acceptable.
- 31 See paragraphs 17 to 33 of Broadcasting and Telecom Information Bulletin 2019-184.
- 32 Section 31 of the Act provides that no limitation of a carrier’s liability in respect of a telecommunications service is valid unless it has been authorized or prescribed by the Commission. The Commission notes that limitation of liability provisions are common in tariffs, and that using this power would be consistent with the manner in which limitations of liability with respect to tariffed wholesale roaming are regulated.

- 33 As discussed above, the Commission has maintained its powers under section 24 of the Act with regard to the provision of wholesale mobile wireless services by the concerned carriers. The Commission has also maintained its powers under subsections 27(2) and (3) with regard to mobile wireless voice and data services and maintained the burden of proof scheme set out in subsection 27(4).
- 34 The Commission also clarified that it would not revisit the issue of whether wholesale roaming service should continue to be mandated nor the matter of tariffed rates for the service as part of this proceeding.
- 35 GSM network standards include EDGE [Enhanced Data GSM Evolution], GPRS [General Packet Radio Service], HSPA [High-Speed Packet Access], and LTE (data).
- 36 The Commission's view in this matter is shared by the GSM Association (GSMA), an industry organization that represents the interests of mobile operators worldwide and that has more than 750 mobile operators as full members and more than 400 companies as associated members. See, for example, the GSMA's 5G Guide, which indicates that "... 4G and 5G networks can coexist for a long while because the transition from 4G to 5G does not imply or require a paradigm shift in the philosophy of the underlying technology."
- 37 Mandated access applies to support structures that are owned by ILECs as well as to support structures to which ILECs have the ability to provide third-party access.
- 38 "Strand equipment" refers to communications-related equipment inserted into cabling located on strand.
- 39 Bell Mobility cited Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements, CPC-2-0-17, 7 March 2013 (CPC-2-0-17).
- 40 See CPC-2-0-17.
- 41 For instance, ISED already requires compliance with Health Canada's exposure guidelines set out in Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz, Safety Code 6 (2015).
- 42 Citing *Barrie Public Utilities v. Canadian Cable Television Association*, [2003] 1 S.C.R. 476.

- 43 In that decision, the Commission found that LRT lands in Edmonton are an “other public place” within the meaning of section 43 of the Act. The Commission directed Edmonton and MTS Allstream Inc. to negotiate a fee structure based on causal costs for the company to have ongoing access to the LRT lands for the purpose of constructing, maintaining, and operating its transmission lines.
- 44 *Edmonton (City) v. 360Networks Canada Ltd.*, [2007] 4 FCR 747
- 45 See *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment; Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, FCC 18-133, 27 September 2018. In that policy, the FCC issued guidance and adopted new rules to streamline wireless infrastructure siting to facilitate next-generation deployments.
- 46 See paragraph 26 of *R. v. Monney*, [1999] 1 S.C.R. 652.
- 47 See, for example, paragraph 21 of *Rizzo & Rizzo Shoes Ltd. (Re)*, [1998] 1 S.C.R. 27.
- 48 See, for example, paragraph 81 of *Agraira v. Canada (Public Safety and Emergency Preparedness)*, [2013] 2 SCR 559.
- 49 Oxford University Press Canada. (2004). Line. In *Canadian Oxford Dictionary* (2nd ed., p. 892).
- 50 Éditions Le Robert. (2015). Ligne. In *Le Petit Robert* (p. 1458).
- 51 In Telecom Decision 2018-475, the national wireless carriers were directed to submit information concerning these plans every six months, measures that were to remain at least until the issuance of a decision on the review of mobile wireless services.
- 52 Exhibit 1a) and Exhibit 1b) included some of the WSPs’ posted mobile wireless service plans offered in November 2019 and February 2020, respectively.
- 53 The CSCN was established in 1991 to consider and resolve numbering resource issues and became a subtending CISC working group in 1998.
- 54 PSBN is a secure high-speed wireless data communications network that emergency responders and public safety personnel use to communicate with each other in emergency situations and during day-to-day operations. This initiative is being led by Public Safety Canada.
-

Date modified:

2021-04-15

Exhibit I

This is **Exhibit "I"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read "Jonathan Bitran", written over a horizontal line.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit J

This is **Exhibit "J"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit K

This is **Exhibit “K”** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit L

This is **Exhibit "L"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in blue ink, appearing to read 'Jonathan Bitran', written in a cursive style.

Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

Exhibit M

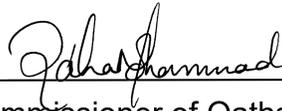
This is **Exhibit "M"** to the affidavit of Darian Bakelaar, affirmed remotely by Darian Bakelaar stated as being located in the City of Ottawa in the Province of Ontario, before me at the city of Toronto in the province of Ontario, on September 7, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.



Commissioner of Oaths etc.

Jonathan Bitran
LSO# 62117U

This is **Exhibit “55”** to the affidavit of Laura Sonley, affirmed remotely by Laura Sonley stated as being located in the city of Ottawa in the province of Ontario, before me at the city of Gatineau in the province of Quebec, on May 5, 2022, in accordance with O. Reg 431/20, Administering Oath or Declaration Remotely.

A handwritten signature in black ink, appearing to read 'Raha Araz Mohammad', is written above a horizontal line.

Commissioner of Oaths etc.

Raha Araz Mohammad
Commissioner of Oaths etc.
Province of Ontario
LSO P15816.



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Transcript, Hearing February 26, 2020

Volume: 7

Location: Gatineau, Québec

Date: February 26, 2020

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Attendees and Location

Held at:

Outaouais Room

Conference Centre

140 Promenade du Portage

Gatineau, Québec

Attendees:

- **Chairperson: Ian Scott**
- **Vice-Chairperson, Telecommunications: Christianne Laizner**
- **Commissioners: Christopher MacDonald, Alicia Barin, Joanne T. Levy**
- **Legal Advisors: Adam Balkovec, Eric Bowles**
- **Secretary: Jade Roy**
- **Hearing Managers: Jeremy Lendvay, Marianne Blais**

Transcript

Gatineau, Quebec

--- Upon resuming on Wednesday, February 26, 2020 at 9:55 a.m./ L'audience reprend le mercredi 26 Février, 2020 à 9h55

9289 THE SECRETARY: À l'ordre, s'il vous plait. Good morning, everybody.

9290 We'll now begin the presentation of Rogers Communications Canada Inc. Please introduce yourself and your colleagues, and you have 20 minutes for your presentation.

PRESENTATION / PRÉSENTATION

9291 MR. WATT: Thank you. Mr. Chairperson and Commissioners, my name is David Watt, and I am Rogers' Senior Vice President, Regulatory. It is my pleasure to introduce our panel.

9292 To my right is Joe Natale, President and CEO of Rogers Communications. To Joe's right is Brent Johnston, President of Wireless. To Brent's right is Howard Slawner, Vice-President Regulatory Telecom. To Howard's right is Richard Feasey. Mr. Feasey has 30 years of experience in regulatory matters across 20 markets in Europe, Asia, and the Americas. He was the Director of Vodafone, then the largest wireless carrier for 10 years. Currently, Mr. Feasey is a member of the UK Competition Authority, the Competition and Markets Authority, and he wrote RPs on the international experience.

9293 To my left is Jorge Fernandes, Chief Technology Officer. To Jorge's left is Pam Dinsmore, Vice-President Regulatory Cable and Broadband; and to Pam's left is Diane Gilbert, Director, Wholesale.

9294 Behind me is Suzanne Blackwell, President of Giganomics. Suzanne authored our expert piece on sunset clauses and is well-known to the Commission.

9295 And beside Suzanne is Jeff Hunter, President of IMOBIX. Jeff is a telecom expert with 20 years experience in start-ups, deployment, operations of telecom companies, experience in roaming, MVNOs, and wholesale matters, and he authored our piece on cost structures for MVNOs and that experience.

9296 With that, I will turn it over to Joe.

9297 MR. NATALE: Thank you, David, and good morning Mr. Chairman and Commissioners. Thank you for the opportunity to speak this morning.

9298 This proceeding is absolutely critical to the future of our industry, Canada's global leadership in the digital economy and, ultimately, the prosperity of Canadians.

9299 We've been listening intently for the past week. We have found the discussion informative, but also discouraging. Clearly, there is a wide awareness gap. Rogers, and our industry as a whole, have failed to communicate to Canadians that Canada is a global leader and enjoys world-class network experience based on coverage and quality, and that we have an intensely competitive wireless market that continues to deliver more affordability and value for Canadians.

9300 I implore you to keep reminding yourselves of the importance of what is at stake here. This is about nation-building. This is about the future of wireless investment and Canada's ability to leverage it for the promise of 5G and for all Canadians.

9301 Like the railroad a century ago, it's vitally important we get this right. We have built a great industry where Canada dominates when it comes to coverage and quality, reaching 99 percent of Canadians with wireless speeds second only to South Korea.

9302 Rogers brings a unique perspective to these discussions that is founded in our entrepreneurial history. Ted Rogers was a great Canadian entrepreneur, who was a builder and a visionary. In 1960, he borrowed \$85,000 to buy one FM radio station when less than 3 percent of Canadians had FM radios. He was one of the first to introduce cable TV to Canadians. Today that network reaches four-and-a-half million homes and businesses. He was the first to bring wireless to Canada in 1985, 35 years ago this Canada Day.

9303 If you'll indulge me, let's take a moment and reflect on that moment in our history.

9304 (VIDEO PRESENTATION)

9305 MR. NATALE: Today we are on the very next important doorstep - 5G.

9306 When you look back at FM radio, Cable TV, and the dawn of wireless, they all have common themes. They all required an appetite for great risk and massive capital investments, and the returns have not always been self-evident from the outset. 5G is no different.

9307 Making Canada a global leader in these areas was only possible because of two critical factors: the ability to take a long-term view of investment; and a regulatory environment that facilitated and supported investment and allowed a long-term perspective.

9308 Some people have appeared before you presenting what we think are misperceptions and mischaracterisations. Your decisions must be based on facts. You have the evidence and you have the expertise. Evidence-based decision-making may not sound flashy, but it's what delivers sound public policy and thoughtful regulation.

9309 Looking back at the last 35 years of wireless, and more specifically the last five years, I would ask you to reflect on five important principles. These are as valid today as they were when you held your last wireless review.

9310 Principle number one, it is critical that regulatory policy continue to take a long-term view. When we look to 5G and beyond, it's clear the wireless industry in Canada has not fully matured and still needs careful nourishing. The 5G road ahead requires another generational investment, not unlike the road from 1G to 4G.

9311 For the first 25 years of wireless, Rogers did not make a single cent of return on our \$15 billion investment in network and spectrum during that period. Since February 2014, only six years ago, we have invested \$12 billion in our networks for equipment and spectrum, and we borrowed much of that money. Our debt has gone up by \$6 billion. We now sit with more debt than ever in the company's history, over \$18 billion, and we're not alone. Our Canadian competitors all sit with debt leverage ratios that are at or near their maximum.

9312 Principle number two, competition is alive and well in Canada. I cannot over-emphasize how competitive the market is. We have two sources of customers, new wireless subscribers and switching subscribers. Both categories of customers are extremely price sensitive. Look at churn. Every year since 2015, five to 6 million customers have switched providers. In 2019 alone, 6 million customers switched, over 17 percent of the Canadian market.

9313 The fourth-carrier policy is working. In the past five years, Videotron has almost doubled its subscribers to 1.3 million. Freedom has done the same, growing to 1.7 million customers on an LTE network that now extends to most Canadian CMAs and is being extended to smaller communities. Last year, Freedom and Videotron accounted for 33 percent of net new customer additions. This is not a market crying out for mandated MVNOs.

9314 I get up every morning knowing there are at least three formidable competitors and seven or eight brands in every market trying to eat our lunch. Simply put, wireless competition in Canada has never been this intense. Since you took your preliminary view, there have been dramatic changes in consumer offers and significant competitor successes in the wireless market. The events of the last year cannot be dismissed as inconsequential or unimportant.

9315 I listened carefully to what regional carriers told the Commission over the last six days of the Hearing. Why would you jeopardize Canada's regional carriers now?

9316 Principle number three, our ability to drive affordability and a customer-first agenda is critical. This intense competition is expanding and the range of affordable options available to Canadians is also expanding. Overall, the price per Gigabyte of data is down by 50 percent since 2015. In contrast, since 2015 the CPI has increased almost 10 percent.

9317 We are seeing massive increases in data consumption. As data usage climbs, prices per Gigabyte are coming down dramatically. This shift is significant.

9318 If you drive an extra 200 kilometres a week to get to a new job, you will spend more money on gas. If your hydro use goes up 50 percent, your hydro bill is going up 50 percent. That's not what Canadians are seeing with their wireless bills. The price of data is going down as usage goes up.

9319 Since joining Rogers almost three years ago, my number one priority has been putting customers first. This means driving affordability and customer service for Canadians, while continuing to invest in our wireless network. We are meeting the accelerating demand for data and providing leading edge wireless technologies across our vast country.

9320 We launched unlimited plans. Rogers kick-started the introduction of unlimited data plans in Canada with Rogers Infinite, a development that has dramatically changed the marketplace. These plans are not just radically cheaper than previous plans; they eliminate overage costs and provide peace of mind.

9321 Let me be clear, regulatory considerations had nothing to do with our decision. Those who suggest otherwise are spectacularly ill-informed about our business and what drives it. Our introduction of Rogers Infinite was solely motivated by the competitive need to address the customer pain point with overage charges and to increase data affordability and consumption. We have seen

an immediate material improvement in customer satisfaction scores and massive adoption of the plans. The launch of Infinite was a crucial step to make Rogers 5G ready in advance of how Canadians will use wireless services in the future.

9322 We expanded lower-priced options. The range of lower cost plans in the marketplace has expanded, as has the service included in those plans. Your own list, distributed at the first day of this hearing, demonstrates the range and scope of these plans, as low as \$15. Consumers can choose from a number of data-only plans, the one gap previously identified and addressed by the Commission in Canadian wireless markets.

9323 If pricing is a central issue, then surely we must consider up-to-date data and rely on sound methodology. Some presenters have relied on dated price comparisons. Our rates are comparable to the U.S. A Verizon starter unlimited plan costs slightly over \$90 Canadian, versus \$75 for Rogers Infinite.

9324 Introducing a wider range of plans at lower prices means more Canadians are now connected. In the last five years, Canada has added 5 million more wireless customers, increasing the penetration rate by 10 percent. And 81 percent of the Canadian population has a smartphone. This is virtually everyone in the country over the age of 10. These phones have been made available to Canadians with substantial upfront subsidies by Canadian wireless carriers.

9325 And it's important that consumer sentiment on wireless pricing not get confused with the exploding costs of smartphones. The iPhone was introduced in 2007 and was sold for \$700. The high-end iPhone today costs close to \$2000.

9326 Principle number four, the industry must earn a reasonable return on investments to keep technology investments rolling out to all Canadians. I have heard various participants in this hearing quoting EBITDA margins, or various other metrics, as some indication of heightened profitability. I think it's important to understand and respect that return on assets is the only true indicator of profitability, especially in a capital-intensive business.

9327 A partial accounting measure, such as EBITDA, that excludes key costs like capital expenditures, spectrum purchases, interest and income taxes, is not a measure of profitability. It excludes up to 50 percent of our expenditures. It isn't economic profit.

9328 Over the last five years, our return on assets was 5.1 percent. Over the same period the Canada Pension Plan returned 10.1 percent. And this is despite heightened costs relative to other countries across the globe, specifically, we have a population density one tenth the size of the US, with a geographic area that is the second largest in the world. Tough economics for an industry where coverage matters.

9329 We pay up to seven times the amount paid for spectrum in other countries. That's a fact. We pay a vast portion of our costs in U.S. dollars, from handsets to network equipment, and that is a 35 percent currency premium, and we pay more in taxes and fees to our government than the U.S. industry does. Despite these heightened costs, prices for our customers are comparable to U.S. levels.

9330 Principle number five, network quality and capability really matters to our future. We were one of the first countries to launch 4G, and now we cover 99 percent of Canadians with LTE, and we continuously expand capacity to address demand for data. Data growth is going up by 30 percent per year.

9331 So today, our 4G networks are twice as fast as U.S. networks, on average. Make no mistake, this is a massive and profound achievement, given the cost to serve a country the size of Canada with our challenging topography and low population density. It will come as no surprise to the Panel that we subsidize our wireless operations outside of the major cities in our country. We do this because it's right for Canada and universal access is good for Canadians. We've been able to do this in smaller cities and rural communities because we have had a regulatory environment that supports infrastructure investment.

9332 MVNOs do not bridge the digital divide. They do not bring new services to underserved communities. They do not bring more rural coverage to Canadians.

9333 We began the launch of 5G this January. 5G will require a massive investment over the next five years and beyond. It will be one of the most significant civil engineering projects in generations.

9334 These five principles have served Canadian consumers well. We cannot square the success of these principles with any need to mandate MVNOs.

9335 Richard.

9336 MR. FEASY: Good morning. I was asked by Rogers to consider the evidence from the rest of the world and you have a copy of my report. In my view, that evidence leads to three key conclusions:

9337 First, very few regulators around the world ever implemented mandatory MVNO access regulation and the international trend over the past 15 years is for less, not more. Canada would be an international outlier if you were to impose MVNO regulation.

9338 There's been no new mandated wholesale regulation in the European Union since 2006. In the two markets where it was applied, it's since been withdrawn. The latest changes to the European regulatory framework are intended to make this kind of regulation less likely in future and that reflects the realization that MVNO regulation has been ineffective and that it's undermined the incentives to invest in the new mobile networks and technologies which deliver real benefits to consumers.

9339 The United States has never mandated MVNO access, nor has Australia, nor New Zealand. There's only one relevant case for your purposes today and that's in Norway, which has two facilities-based carriers, one with a 60 per cent wholesale market share of which is regulated.

9340 European competition authorities thought for a few -- a few years ago that mandated MVNOs might restore the competition lost in mergers between wireless carriers, but they've abandoned that remedy in recent cases once it became clear that it was ineffective.

9341 Second, the evidence suggests that the promises that are made by MVNOs in proceedings like this and elsewhere in the world as to their market impact are rarely kept in practice. I've seen no credible evidence that having more MVNOs in a wireless market or mandating access for those MVNOs leads to lower prices, either for consumers in general or for those on low incomes.

9342 Third, there's been little research on the impact of mandated MVNOs on wireless investment because there have been so few cases to study. What there is suggests it's negative, but more importantly, there's now strong evidence that wholesale regulation with mandated rates in the wireline market has had a significant impact — adverse impact on wireline investment. And in my view, there's no reason to think that wholesale regulation in wireless markets would not have the same significant adverse impact on wireless investment including in 5G.

9343 Jorge.

9344 MR. FERNANDES: Unprecedented new investment in Canadian wireless networks is required.

9345 In the Notice of Consultation, the Commission has posited that given the extensive investments that made in recent years, the benefits that a well-developed MVNO market would deliver to Canadians are now more likely to outweigh any negative impacts. That is wrong. In fact, the opposite is true.

9346 While Rogers already spends \$1.3 billion in capital each year just to maintain capacity while data usage grows 30 per cent a year, Rogers and the entire wireless industry are now also poised to make the most extensive telecommunication investments ever.

9347 One month ago, Rogers started to light up the first 5G network in Canada. This is a proud accomplishment for Rogers and indeed all of Canada.

9348 It is crucial that we keep pace with the rest of the world; however, while it took a considerable amount of time, capital and effort to launch 5G, this was just a small fraction of what needs to come.

9349 Why is 5G so important? Because without it, Canada's digital economy can't move to the next frontier. 5G will enable new applications for business in every sector of the economy and make faster and more innovative services available to consumers. Through a combination of ultra-low latency and high bandwidth connectivity, a combination of 5G networks will enable applications such as autonomous mining, autonomous driving and smart communities. These advances are not just important to the wireless industry; they will be the backbone of the Canadian digital economy.

9350 We know that over time investment in new technology helps drive down prices to customers. We will see a lower unit cost enabled by these investments, but to get there, 5G and the Canadian digital economy hinge on massive investments being made by wireless carriers. As you have heard before, but it bears repeating, it is estimated that between 2020 and 2026 approximately \$26 billion in incremental investment by Canadian wireless carriers will be carried out to deliver 5G.

9351 People often equate wireless investment with sophisticated equipment. In fact, 70 per cent of our 5G investment costs are related to bricks and mortar, physical infrastructure we need built. This translates into well-paying jobs in communities right across our country as we work with dozens of construction suppliers to build our networks. This includes small regionally-based businesses and large companies like Leducor and Telecon. These firms build access roads to cell sites. They build towers. They install small cells.

9352 Canadian carriers will shoulder the investment burden for Canada to compete; however, this will only happen if they have the financial ability to make the massive necessary investments. K

9353 If this money is not available from our operations, the investment level will be lower and the 5G rollout will not be as extensive as it would otherwise be. The single biggest impacts will be on rural areas outside of the major centres as they are the most costly to build and maintain and generate less revenue. Yet, these are the very areas that both the Government of Canada and the CRTC have identified as key targets for their broadband policies.

9354 Pam.

9355 MS. DINSMORE: Instead of inhibiting investment, the CRTC should be taking this opportunity to enable it. There are several measures that the Commission can take that will assist carriers to deploy new technologies and expand their footprints into unserved areas.

9356 It's no exaggeration that hundreds of thousands of 5G small cells will need to be deployed. Traditional telephone and hydro company poles are ideal supporting structures, as is street furniture such as streetlights, bus shelters and signs, and public buildings. Timely, cost-effective, non-discriminatory access to this passive infrastructure is critical. Higher access costs translate to higher prices for consumers and delay means slower rollout to consumers and Canada falls behind.

9357 We recognize the current limitations on the Commission's jurisdiction to address access to provincially-regulated utility poles; however, we believe the Commission can take steps to clarify the rules regarding carrier access to municipal infrastructure and ILEC support structures within the existing Canadian legal framework.

9358 The Commission should clarify now that its jurisdiction under the *Telecommunications Act* extends to wireless equipment, as well as to municipal street furniture and buildings. In doing so, the Commission must clarify that the rules established in the Leducor decision for wireline deployment apply to wireless equipment including the core principles of no occupancy fees and reimbursement from municipal work-related relocation of our equipment. This would address a key 5G issue; that is, the annual fees municipalities seek to charge for the placement of small cell antennas on municipal infrastructure.

9359 The Commission should also convene a proceeding to review and amend the ILEC support structure tariffs to address transparency on available capacity and future use and the fees and timelines to access available capacity.

9360 Finally, the Commission should confirm that small cell antennas are captured by the existing approved ILEC tariffs.

9361 Joe?

9362 MR. NATALE: In conclusion, let me circle back to where I began. What's most important is doing the right thing for Canada and Canadians long-term.

9363 We have a massive appetite for investment. We want to continue on our path of excellence in nation- building, especially on the doorstep of 5G, but we can only make those bets when we have regulatory certainty and support in our future. Without a recognition of that investment potential and an appropriate regulatory framework, our collective costs of capital increase materially, and the investments that are required are jeopardized.

9364 You have my commitment and the commitment of Rogers to work together and strike the right balance between driving affordability and fueling investment for the future. It is that regulatory mindset that allowed Ted to be a great Canadian entrepreneur. It is that mindset that has created a leading global telecommunications industry. And more than ever, global leadership is critical for Canada.

9365 Thank you for the opportunity to participate in today's hearing. We'd be happy to answer any questions you may have.

9366 THE CHAIRPERSON: Thank you. Thank you, Mr. Natale and your colleagues. You have indeed it would appear from your opening remarks been paying attention to our proceeding and you've touched on, not surprisingly, a number of the areas that we've been discussing with interveners. I guess the good news is that you've had a chance to listen and prepare yourself. The bad news is we have lots of statements in evidence to put before you to ask you to speak to.

9367 It won't surprise you the outline of what I want to talk to you about today I think I have a couple of questions about market power and associated definitions. We'll talk a little about retail market issues. Then not surprisingly, wholesale market issues, and finish off with a few questions about the future of the mobile wireless industry. So, that's our menu for this morning.

9368 Perhaps I'll begin just with a very broad question about market definition. Back in May, in Roger's intervention -- pardon me. I'm not getting choked up by your participation.

9369 (LAUGHTER)

9370 THE CHAIRPERSON: I'm just struggling with a little bit of a cold.

9371 You submitted that the geographic market was provincial, and you submitted a document -- figure 1, sorry, of your intervention had a summary that looked at province-by-province geographic market definitions. And in that one, for example, there were six competitors in Northern Ontario for Manitoba. Now, I don't want to minimize or dispute the fact that companies like Xplornet or Tbaytel and Eastlink are not providing service in Manitoba or Northern Ontario, but certainly they're not on the same footing or basis as the three national players.

9372 So, all that to ask you, do you continue to hold the view that using province as the relevant geographic market is appropriate, and I guess I'd ask you elaborate on do you think it hides some particular market characteristics or peculiarities that might be better addressed if we took a smaller

market definition such as that proposed by the Competition Bureau?

9373 MR. WATT: Yes, we would bonify our position in light of the substantial evidence and material put on the record over the last eight months. You know, we thought we put forward our position provincially. Typically, it has been provincial pricing, et cetera. However, we agree with other parties that a smaller geographic market would be more appropriate given the nature of competition that exists today and the ability for people to switch carriers.

9374 So, we would think the two options that have been most discussed is at the CMA level, which causes me to wonder -- that really doesn't define the areas outside the CMA area I think that has been picked up by people who have suggested a tier four categorisation. That comes, as you know, from ISED spectrum categorisation of geographic territories. I think that likely -- well, we would view that as more appropriate than our original provincial position. We have -- I'd say we've learned and improved our position.

9375 THE CHAIRPERSON: Thank you for that.

9376 Do you see -- you may have heard me ask the representatives from the Competition Bureau whether or not they saw any particular challenges in going forward with a sort of two-pronged approach of looking at provinces and potentially some kind of collection of CMAs. Any views on that particular challenge?

9377 MR. WATT: I guess what you're looking at there is you're saying is there a province that is -- where competition is widespread throughout the entire province, such that that province could be treated as a geographic market. I think we would still think that the better approach would be the smaller tier four approach.

9378 THE CHAIRPERSON: Okay. Thank you.

9379 Moving a little to pricing, generally speaking, in your submissions you've certainly made reference to declining mobile services rates. And, again, this morning, Mr. Natale, in your opening remarks you've touched on it.

9380 But how do you -- what would you say price declines in Canada -- well, let me rephrase that. How do recent price declines in Canada compare to price declines internationally? You no doubt have heard the discussions that say, yes, but they're going down everywhere, which is generally true, but I'd just like to give you an opportunity to speak to that particular point as it's been raised by several interveners.

9381 MR. WATT: Sure. I'll start. Maybe then I'll ask Brent to chime in as well.

9382 As we find ways to improve the efficiency of our business, as we find ways of adding capacity at better unit costs, we're more than happy to pass those savings along to consumers and therefore drive price points and affordability to a better place as a whole. I think it's kind of where the industry started.

9383 Go back to -- you know, go back to the early days of wireless and look at what it would cost for a minute of voice service, or the early days of data, they were far, far higher than prices are today. So, there's a natural technology curve. The technology curve has a slope on it based on the evolution of technology and our ability to invest in it, but that curve also has a floor based on what are the inherent costs of operating in a particular country.

9384 You know, the biggest cost drivers we have, I talked about them in my opening comments. First and foremost is population density and geographic area. I can't change that for Canada. It's just a fact that countries like ours that span 5 time zones, and have a population density that's 1/10th out of the U.S., and, you know, 1/20th or 30th that of many European countries are more expensive to cover period, especially if our goal is to leave no Canadian behind, if our goal is to extend the latest technology to 99 per cent of Canadians.

9385 The second cost factor really has to do with the price of some of our inputs. Spectrum's a very expensive input. We spent \$9 billion on spectrum since the first day of wireless. As I said, you know, we pay a premium for that spectrum.

9386 If you look at -- you compare it to the U.S., we're paying in rough terms, you know, 75 per cent to 100 per cent premium on U.S. cost of spectrum. You compare it to other countries, it's two or five times the amount that some of the European countries have paid for spectrum as a whole. And then there's the topic of equipment that is all priced in U.S. currency.

9387 So, there's a natural floor to that curve. We'd like nothing more than to continue increasing affordability because it's good for Canada and it'll continue to drive adoption and data consumption. We're in some ways forecasting that we'll be able to deliver a unit cost of data more efficiently in the world of 5G; hence this move to unlimited and the ability to actually lower prices. In one fell swoop last summer, we dropped that one plan that used to cost about \$100 for 10 gigabytes of data to \$75, to \$75 with unlimited on the plan as well. I mean, that was a big move. We thought about that ---

9388 THE CHAIRPERSON: We'll talk about that in a minute.

9389 MR. WATT: We thought about that for the better part of a year before even, you know, taking that decision. So we're motivated to make those moves, but they are conditioned by the reality of investment and our ability to drive that curve.

9390 MR. JOHNSTON: I would just add, building on the 5G investments, the cost curves that ensue, and the unlimited decision in June of last year, that pricing trends and pricing developments in any market are inherently non-linear. So they -- they tend to have break points and they move in single point events in large part. And I think we'd look no further than last June to see that a catalyst like the move to unlimited, creates a breakpoint and a discontinuity in the pricing environment.

9391 And we see that as 5G rolls out, as Joe mentioned, that the ability for Canadians to use more data will drive a continued price per gigabyte downtrend in the market. And I'm sure as new technologies within 5G, and millimetre wave, et cetera, come to the market, there will be continued price compression on that price per gigabyte as we move forward.

9392 THE CHAIRPERSON: Thank you for that. That's helpful.

9393 Just back to my original question though, a number of parties -- well, for example, Telus -- suggested that the recent data in, for example, the Competition Bureau's examination is out of date. And I guess my core of my question was do you think everything you said is -- I'll accept is arguably true, but it's true elsewhere. Are our rates going down faster or slower than other countries?

9394 MR. WATT: I think you're probably referring -- there we go. I think you may be referring to the Competition Bureau chart in Bill's book about that, and others ---

9395 THE CHAIRPERSON: I am.

9396 MR. WATT: --- make the same point, that chart ended in 2018. So our prices have dramatically fallen since then. Your question is fair enough, don't dispute that. But what about other countries? Well, our view is -- because another question we've heard is, it's fabulous that you have introduced the unlimited plan, but frankly, what took you so long?

9397 THE CHAIRPERSON: That's one of my questions.

9398 MR. WATT: Yes. So I think that it's fair to say that our position -- I think it's safe to assume and you know, we tell people never to do that here, but that our prices have fallen more than others because we have, as Brent said, introduced that breakpoint now, with that very substantial change, than in some other countries came a bit before.

9399 We do think, just to make the fundamental point, and you talk about the international price comparison, to really want to look to the American situation for the most comparable match to Canada in terms of the characteristics. And so that is the one that we -- we would draw your attention to.

9400 THE CHAIRPERSON: Thank you.

9401 I'll get you to reformulate all my questions. Your statement of my question was clearer than my question.

9402 You raise -- you answered this in part in your opening remarks, Mr. Natale, with respect to the motivation behind the introduction of last June's reductions. But I'm sure, as you are referring, a number of -- a number of intervenors have questioned the timing. You've said it did not relate to the threat of regulatory intervention, but I should give you an opportunity to add to that. The point's been made, what say you?

9403 MR. NATALE: Thank you, Mr. Chair.

9404 If you were to spend time in my strategy meetings with my team, many of whom are here today, you would hear us talk about what are some of the next moves in the industry? Often informed by, what are the most important customer pain points that we see out there? We had that conversation a few years ago when the topic of discussion was roaming and how roaming is packaged or priced for Canadians, and that gave birth to the notion of roam like home.

9405 We've had this conversation around unlimited for the last, I would say year in earnest, and longer frankly. The thing that's always held us back is that the market in Canada grew up with an overage regime or an overage structure that constituted a significant part of our economics. As you heard me say last summer, five percent of our revenue is in overage. We've been quickly melting that five percent. Roughly \$500 million has been quickly melting as people have adopted these plans.

9406 We did it because it's the right thing for consumers. We did it because consumers want to that peace of mind. We did it because the 5G era is around the corner. We wanted to kind of create an environment where people feel comfortable and open in using more data as a whole. When we looked at it before, it was two years ago or so, where overage was 10 percent of our revenue.

9407 So you get to a place where you say, when is the right moment we're willing to rip off the band aid and make the move? And we had a debate over a long period of time and we finally decided that we were ready to do it. We got great support from our Board. We had a Board meeting in June of last year where we talked about this topic at length and we were very open about the fact that it would lead to financial pressure. As you saw later in the year, we revised our financial guidance, not something you do lightly in a public company. But we felt it was the right thing for consumers and it's time to march on.

9408 So you can rely on us to keep looking at, you know, pain points as they come along, and other opportunities to either remove customer friction, or to create more affordable plans at all levels in the marketplace.

9409 THE CHAIRPERSON: Thank you. I omitted when we were talking about your cost curve, you made a couple of references now to spectrum costs or fees specifically, and indicated that they were in the order of seven times more than foreign jurisdictions, or the U.S. Do you have documentation, or could you undertake to provide us with details as to how that was calculated, or the source for it?

9410 MR. WATT: Yes, we can do that. The source is the GMSA Efficient Spectrum Pricing, and that's the source of the numbers that Joe was mentioning, 1.75 times the U.S. level, three and a half times higher here than in Australia, Italy, et cetera. And so, the curve is there and we'll file that with you.

UNDERTAKING / ENGAGEMENT

9411 THE CHAIRPERSON: I'd appreciate that. Thank you.

9412 We've heard a fair amount in the course of the proceeding relating to why there are differences, sometimes significant, sometimes not, between provinces, with respect to rates, and notably in Quebec. You are a national player, how do you explain the difference in regional pricing in Quebec, versus other regions or provinces?

9413 MR. JOHNSTON: Thank you. Well, first of all, I would mention that as we look most recently, and as the fourth carrier structure has emerged across the entirety of Canada in the last two or three years in a meaningful way, that the pricing variation across the province has actually normalized to a large degree.

9414 So we see on an everyday basis, all provinces, with the exception of Quebec, showing high levels of consistency in their pricing. I think the exhibits earlier in the submission, or in the hearings, supported that -- that observation.

9415 So as we look forward, you know, you will -- described it as, sort of, the various market dynamics and structures in the various provinces have led to various pricing outcomes. Quebec seems to be and has been in my experience in the industry, a persistent market where the pricing levels are different.

9416 And it's a little interesting in the sense that, for example, Alberta, where the pricing and the ARPU levels are higher, but the penetration is also higher, we see Quebec with the unique outcome where the pricing is lower, ARPUs are lower, but the penetration is also lower. And so, that points to a market behaviour or consumer behaviour that places, perhaps, less value on the latest technology or the amount of data that is being provided, and has created a persistent and enhanced competitive dynamic for any particular price point because we've seen that demand for any levels of service just seem to be lower in Québec and has led to a more competitive dynamic around that.

9417 THE CHAIRPERSON: And I would take it from that response that those are generally the factors that you take into account when you determine prices for a region? It's those -- that set of considerations?

9418 MR. JOHNSTON: Well, I think it's important to note that when we determine prices, very much the market determines the prices. So we are but one player in a very competitive market.

9419 And very often I'm a price taker not a price setter in a various -- in a market, so we are responding and reacting to the moves of our competitors. And it's that dynamic, the demand levels of consumers, the behaviour of my competitors, and our responses that ultimately define and shape the pricing. And as I said, in Québec there's a unique environment that has created a unique outcome.

9420 THE CHAIRPERSON: And is that -- is the province the smallest geographic territory or market that you would look at in terms of establishing pricing, or would there be submarkets where you would adjust pricing beyond that?

9421 MR. JOHNSTON: There -- the level of pricing discrimination is like where we set -- like the prices in Québec generally have been a provincial decision, so we wouldn't have, you know, a price in Montréal that's different than a price in Québec City, and you'll even see that Ottawa prices here reflect more prices in Québec.

9422 But if you -- if you're more broadly in Ontario, you'll see a different price level. And that's been the structure of the industry to have the major players and all the players, is that the provincial boundaries have defined sort of what the prices have been in the various jurisdictions.

9423 THE CHAIRPERSON: For marketing reasons, I assume as much as anything?

9424 MR. JOHNSTON: Yes. I would say simplicity and defining, you know, where is the boundary, and in an arbitrary sense, the provincial boundary becomes the natural place to put that line.

9425 THE CHAIRPERSON: There may not be a single answer to this question, but what's the smallest region, in your view, where you might have a different price, or package?

9426 MR. JOHNSTON: That would be at a provincial level. Yeah.

9427 MR. NATALE: Let me just add one thought on this dialogue. I think it's important to understand that when we look at, you know, marketing and pricing and how it looks geographically, yes, the province is sort of the main cut, just given the expanse of Canada as a whole. But when it comes to promotional periods, when it comes to intensely hot periods like Black Friday or Boxing Week, there are often very aggressive promotions that are aimed at a particular city or a particular retail chain, or sometimes a particular shopping mall. So there's a whole promotional intensity.

9428 And bear in mind that, you know, the majority of our volume actually happens during these promotional periods. There are about 40 to 50 days a year that make up a substantive amount of our volume, in fact, a massive amount of our volume, and they would -- they're the periods you might imagine -- Back To School, Black Friday, over the holiday period, through Boxing Week.

9429 And there, you'll see very targeted things that are often, as we call them, "back pocket offers". They're just happening in a channel, they're not advertised, and through our competitive intelligence - because every weekend we send people out to do mystery shopping, every weekend we send people out to look at what's happening in all banners, all stores, and come back for, you know, the Monday meeting that Brent holds and says "What did you learn this weekend?" "Well we saw that Competitor X is offering this particular bonus or offer or gift card in that particular channel", et cetera. And in fact, the people on the ground often will respond to that very quickly.

9430 But during these intense periods we have, for lack of a better descriptor, a War Room that is staffed by marketing people that are making in-the-moment pricing decisions because of the intensity of those periods. And if you look at the proportion of our customers that, you know, get something on a promotion, it's massive. It's the vast majority of customers get something on a promotion during those periods.

9431 THE CHAIRPERSON: Thank you. This question probably belongs in another part of my questions, but you just referenced looking at your competitors' offerings.

9432 We've heard a couple of times in this proceeding, from those in particular who support MVNOs, that there is little product differentiation in offers between the Big 3, as between the Big 3. Is that part of the reason for that, that you are closely examining your competitors' -- competitors' offerings and then matching or bettering it?

9433 MR. NATALE: The market is intensely competitive and highly efficient. It's not different than, you know, three gas stations on a corner. If one of them changes the price of gas, the other two quickly get up on the ladder and change the price of gas. And we have a strong pulse of market intelligence, and the reaction time is very quick in any part of the particular market.

9434 At the end of the day, there are no real structural advantages anymore. There was a time in our history when there was a structural advantage around a particular network technology, CDMA versus GSM, or the structural advantage around whether you had the iPhone and someone else

didn't.

9435 Now, technology has pretty much become, you know, ubiquitous. Everybody's got every technology at their disposal; and therefore, we really do compete on a combination of customer service and price because as a service provider, we have no other structural advantage.

9436 THE CHAIRPERSON: Thank you. We'll probably come back to that theme when we talk about 5G later on.

9437 MR. WATT: I just wonder, this -- Richard, would you like to weigh on this on basically competitive markets? What is a competitive market around the world in wireless, how they structure, you know, in reference to the Chairperson's question?

9438 MR. FEASEY: Thank you. So I think the way that, at least in my experience, other regulators, and as a member of the Competition Authority I would think about it, is we're obviously trying to find another -- you know, what would a -- what is the relative competitive benchmark for the Canadian wireless market.

9439 I've heard a lot about comparisons with other countries. It's an obvious thing to do to go and look at another market that you think's competitive and say well the performance in that market gives us a benchmark against which we then compare Canada. My view, my experience is that you can attach some weight to those sorts of comparisons, but not a great deal because there are simply too many other variables involved in these cross-country comparisons to really allow you to draw very strong conclusions.

9440 In my experience, what people tend to look at much more is not historic measures of market performance, such as HHIs and market shares, that tells you something about how people have got to where they are today, but it doesn't tell you very much about what's going on today, but the standard measure that I've seen in wireless markets, certainly, is shares of net additions would be the most -- would be the measure that I would attach the greatest weight to, because that gives you an indication of the current competitive capabilities of the different parties. And I observe in Canada that in that case, the regional carriers are -- appear to be performing very strongly now in terms of their share of net additions.

9441 The other point I would make that I would also attach quite a bit of weight to is a point that Joe made in his opening remarks, which is ultimately to look the relationship between the returns -- the revenues, and the returns on assets that firms are running and their cost of capital because that takes into account pricing, quality, differences in costs, and all the other factors, and in my view, would be the sort of standard view of how you would think about is this market competitive and firms are running reasonable returns on their assets or is it a market where we see there's a problem.

9442 THE CHAIRPERSON: Thank you.

9443 Change of provinces. We talked about Québec for a moment. In reference to Manitoba, in your May intervention, you emphasized that Xplornet's entry in Manitoba ensured that there would be a continuation of a fourth carrier; and therefore, continuing levels of competition.

9444 I've seen some information in the course of the proceeding that suggests that the prices actually rose initially following the merger, but that said, since that time it seems that except for the larger plans pricing in Manitoba and Saskatchewan is now generally in line with that of other provinces.

9445 Is that a fair assessment of how you see the market? And how do you -- how would you assess Xplornet's impact on the competitive environment in Manitoba?

9446 MR. JOHNSTON: I would -- I would agree that that is a fair assessment of how the market has shaped up since that time. We've seen, you know, the intensity levels, you know, continue to increase over time more broadly across Canada, and that has led to an equilibration of pricing across those markets. And I see that actually persisting and moving forward now.

9447 THE CHAIRPERSON: Thank you.

9448 You've already made reference to this in your opening remarks, Mr. -- well, actually, Mr. Natale, but perhaps more in response to one of my questions -- when you talked about the cost curve of being a mobile provider. And you have, I think in your -- again, May intervention, talked about the declining per unit price of mobile wireless data over roughly, the last five years.

9449 But I also assume you were listening to the hearing yesterday and you may have heard Mr. Lawford's reference to magic math, effectively not -- I mean, the transcript speaks for itself. But Mr. Lawford was suggesting that cost declines can and should happen every year and therefore, increased data allowance should happen naturally. So the price decrease if -- to the extent that we're characterizing increased data as part of the increased benefit to consumer is a bit of a smoke and mirrors exercise.

9450 Would you care to respond to that?

9451 MR. NATALE: I find that highly disappointing, that characterization. You know, Jorge referenced the fact that 70 percent of our capital costs our civil engineering costs, our people that are clearing roads, building towers. Well, the price of that labour is not going down in Canada, it's going up. And in fact, almost any direct comparison with the U.S. to Canada, you find that we pay our employees and our suppliers that provide those services, far better income than in many parts of the U.S. In fact, if you compare us to the State of Florida, it's roughly half the amount per hour for a technician that is clearing a road or building a tower.

9452 We talked about spectrum already, and that analogous cost around spectrum. We talked about the fact that we buy our equipment in U.S. dollars. You know, a lot of our plans include the cost of the phone. The price of the phone is going up, not down. I talked about that in my opening remarks. So you know, we are working hard to drive unit cost as we find better technologies that make better use of spectrum. We have dynamic spectrum sharing that can give us more bang for our buck on spectrum.

9453 As we find these opportunities, as I said before, we pass them along to consumers. They're not natural. They don't just happen randomly or accidentally. They happen because of the investments that we're making every year to drive that capability and that opportunity.

9454 THE CHAIRPERSON: Thank you.

9455 A little bit of a change of subject, what about network quality, generally speaking? Is there much of a difference in network quality across the province -- across the country, rather? Do you -- if you're looking at a provincial level, are there variations in network quality from one to another? You mentioned earlier, or we discussed earlier that prices were generally lower in Quebec. Is there a differentiation in network quality between Quebec and elsewhere, for example?

9456 MR. FERNANDES: Thanks for the question.

9457 We have standard engineering policies that we apply across the country. From an engineering point of view, we don't think about the country on a province by province basis. We have central engineering teams that define quality, parameters, and standards that apply across the entire country. And then these parameters are managed and maintained by the teams on a regional basis.

9458 So at any given moment, any difference in quality that might exist is always a temporary one and would have been as a result of a particular market situation. Where, for instance, an increase in consumption of data in a particular area, particular city, might then drive up the congestion at that particular city, then obviously degrade the quality parameters. And obviously that is managed by the local teams to bring the quality of the network back up to the standard parameters that we establish. And we have those, obviously for voice and for data, to ensure that our customers experience exactly the same service across the whole country.

9459 THE CHAIRPERSON: Thank you.

9460 So by design there is no differentiation. Does it follow then that network quality is not taken into account when setting prices in various provinces?

9461 MR. FERNANDES: The quality is taken into account in as much as there is a very close alignment between the engineering and the marketing departments whenever we're thinking about a new -- a new plan, a new product. So we will consider what the impact of that new product might be, might have on the network, and if we believe that the impact is going to be significant, then we make sure that we take into account investments required to maintain that quality of service.

9462 So to give you an example, before we launched our infinite plans, we had a -- obviously, a deep discussion in terms of what the forecasting of data growth impact would be on the network across the whole country. And then based on that forecasting, we made sure that we -- we provide the investments necessary to obviously add the capacity required to maintain that quality, wherever it might be.

9463 THE CHAIRPERSON: Thank you. Mr. Watt?

9464 MR. WATT: Yes. From an economist's spin on that, I think I would say that the -- the overall level of prices is set to accommodate the costs of the network quality. But then within any particular region, as we've seen in Quebec, we then deal with demand characteristics that are unique of each of the individual markets, or where the demand is significantly different, even though the network quality is identical.

9465 To get customers on the network to drive revenue, we will -- we will have to make differences in the price plans.

9466 THE CHAIRPERSON: Understood. Thank you.

9467 And does that, I guess all of that, both from a technical and the perspective of an economist, does that hold true for the flanker brands? Is that equally true for Fido and Chatter?

9468 MR. FERNANDES: The networks that serves our customers are the same networks, and so the differentiation that we have currently is with Chatter, where the customers are on our 3G network. So we have a 2G, a 3G, a 4G, and a 5G network. Our Chatter customers use our 3G network more or less dedicated and set bans on the device that they would have. Otherwise, for other brands, whether they would attach to one or another network.

9469 THE CHAIRPERSON: And generally, you've probably heard a fair amount of discussion over the past week or so, that there is broad consumer -- we can call it confusion, or lack of information, with respect to the flanker brands, as to whether or not they are of inferior quality. And you've probably again, heard our discussion the past several intervenors, whether or not they think that hesitation to subscribe to flanker brands is driven perhaps by a sense that it is an inferior quality. You've also no doubt heard the different approaches expressed by Bell with respect to the management of its flanker brands, versus the approach identified by Telus.

9470 So that's a bunch of questions in one, but if you'd care to respond?

9471 MR NATALE: I'll start and then ask Brent to add to it. We are very proud of the network quality that our flanker brands represent. And if you were to look on the website and look at the maps that show the network, or you walk into a Fido store and speak to one of our representatives there, they would extol the virtues, and quality, and reach of that network, and tell you unequivocally that it's the same network that the Rogers' brand lives on. So, we make no bones about that, and we're very proud of that fact.

9472 Where the brands are delineated is, they speak to different parts of the market, and there's certain capabilities that live in each of the brands. So, Rogers, by definition, is a premium brand with high touch service, and, you know, a person to answer the phone and be there for every interaction. It's a brand that allows sharing and share -- plans of share constructs. It's a brand that will allow any phone whatsoever to be now financed, originally subsidized, et cetera. Whereas, the Fido brand is meant to be more of a digitally present brand that doesn't provide sharing in the construct, and certain handsets are not eligible, a lower assortment overall. So, it's meant to be tuned to a part of the market that is in a different sort of affordability strata, and, therefore, lower price points, and, therefore, lower level of support as a result. So, we try to tune these brands specifically in that manner.

9473 MR. JOHNSTON: I would also add that if you look at the mix of our gross additions and the customers coming to us, there's a very, very healthy mix of Rogers, Fido and Chatr. So, I would say that there's -- that would demonstrate a very open and transparent understanding from consumers

to which choices they're making, and given the way those brands are tuned, to satisfy the needs of various customer segments. So, that'll be point number one.

9474 Point number two, when you look into a mall in Canada and look at the opportunity to make that choice transparently, you would look no further than, say, perhaps the Rideau Center here in Ottawa and discover 13 different opportunities or places to buy wireless. Some are exclusive, so they sell one brand only, some are non-exclusive, they sell multiple brands.

9475 Very, very often they are located very close to each other. So, the Fido store is very, very often very close, sometimes co-located next door to a Rogers' store, or very close to a Koodo, a Virgin, and a TELUS and a Bell store. And so, it becomes very easy for consumers to walk across and have these conversations and discover the various attributes of the service offerings and the network qualities.

9476 And then as I mentioned, you know, the vast majority of places in Canada are actually non-exclusive where all the brands are represented and the sales people there are trained by the various brands on all the, you know, pros of their particular offerings, and they can go and get that one-stop shop and be able to cross compare very, very efficiently.

9477 And thirdly, of course, is, you know, all of this information is widely and broadly available online on your mobile phone in the moment, or at home, and that makes it even more efficiently available to consumers to compare and make these decisions.

9478 So, the information is there. The mall -- the shopping environment itself actually facilitates -- very much like an auto mall -- the cross comparison of all these different attributes and makes it quite transparent.

9479 MR. NATALE: Let me just add, just to give some dimension to it, there are two-and-a-half thousand places in Canada where you can buy one of our products, one of our wireless products. About 1,500 of them are places that carry multiple -- and when I say "multiple" I mean competitor brands as well. So, the majority of those locations are places where customers can readily compare.

9480 If you walk into a BestBuy, you walk into a Walmart, or walk into a Wireless Wave ,or Telephone Booth, these are all multi-banner, multi-product locations. And given the sales representatives in those locations make their money on their ability to convince a customer to do something, whether it's their bonus or their commission, et cetera, they're very well versed in comparing and contrasting one against the other. And any time there's even a minute difference in some opportunity, whether it's price or data, et cetera, it quickly shifts the volume, which is quickly understood by the competitor and ameliorated.

9481 So, the market works very much efficiently, as I said before. And every day, in the vast majority of locations across Canada, the brands are side-by-side on a display and being talked about by the customer sales representative.

9482 THE CHAIRPERSON: Thank you.

9483 Again, changing gears a little bit, on the CAPEX front, you've already talked a little bit about the significant 5G investment requirements. Where's -- with LTEA mostly deployed, where are you right now in your investment cycle?

9484 MR. FERNANDES: We continue to invest on our current infrastructure. So, as I said before, in order to maintain the network quality across the country, we continue to invest even on LTEA as we speak. You know, in 2019 alone we deployed over 300 sites, new sites with LTEA, and we have similar plans to continue even with the event of 5G.

9485 THE CHAIRPERSON: And you've made reference, Rogers made reference to itself and its national competitors punching well above their weight, to quote your evidence. I think the numbers were \$95 per subscriber in CAPEX in 2018, which you submitted was more than the per sub levels in the U.S. You may want to take this -- answer this particular question by way of undertaking, but I'll ask you in any event.

9486 Would you be able to give us that number for 2019? I don't know if that needs to be in confidence or not, and do you have any estimates of what that number will be in the coming years as associated with 5G.

9487 MR. WATT: Okay. I think it's certainly no problem providing that number for 2019. In fact, our -- we've already released our fourth quarter results, so we know we spent 1. -- roughly \$1.3 billion in wireless last year up from 1 billion the year before, so we can turn that into the per capita and per sub. And I think, subject to check, I believe we gave a forecast of our CAPEX for 2020, but we'll check. If we haven't ---

9488 THE CHAIRPERSON: Okay.

9489 MR. WATT: --- we'll give it to you in an undertaking.

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9490 MR. WATT: One thing I would add though, when you look at those charts, I would encourage you to add the spectrum cost to the physical plant and equipment capital expenditure, which those charts only show now. Point being that over the last six years we've spent \$6 billion in wireless, property plant and equipment, traditional CAPEX. We spent almost 6.1 billion spectrum, and spectrum is needed, and there's a trade-off there in the sense that, you know, when you have more spectrum -- Jorge can elaborate, this is by layman's explanation -- that decreases the need for additional sales to a point it's a trade-off spectrum, and then sale sites. Therefore, I think to get an accurate picture you really need to look at the sum of the two. And there we know, you know, property plant and equipment Australia looks like it's more. But I know in -- Telstra spent 1.3 Canadian over the past 6 years for spectrum. We spent 6.1 billion. And the two -- both those components of the expenditure need to be looked at in a chart of that nature.

9491 THE CHAIRPERSON: You can certainly include that analysis in your response -- undertaking response.

9492 I should give you an opportunity to respond as well to the more broad issue of if the Commission were to mandate MVNO access, how would that impact those investment numbers? You can feel free to answer that now, or you can include that in your response to the undertaking.

9493 MR. NATALE: Be happy to address that question. We can certainly follow up with more specificity if it's required.

9494 If there is mandated MVNO access that impacts our investment thresholds, then investment will be reduced, and investment will be reduced in the places where the economics of that investment no longer make sense.

9495 You asked the question, Mr. Chair, a few minutes ago around where stood with LTE advanced. You know, if you go back five years when LTE advanced, we were sitting at roughly 83 per cent of Canada covered. This year we're at 95 per cent. We'll make our way to 99 in the time ahead.

9496 I will tell you the last 5 or 10 per cent is the hardest because of population density. As you know, 48 per cent of Canadians live in the big, major cities. The 52 per cent that do not live spread across our vast landscape.

9497 And if you were to sit in one of our capital investment meetings where Jorge gets his money to build those 300 new towers and to add \$1.3 billion of capacity, it is a serious discussion where we take every single request for capital, and in any given year there are far more requests than we have affordability for.

9498 We rank them one-by-one over, you know, a 20-30-page spreadsheet, and we rank them based on the expected return from that particular investment, and then we draw a line around our affordability based on the 5 percent return invested capital, and the other metrics I talked about earlier, and anything above the line gets done, anything below the line doesn't get done. So what'll happen is that line will be further up the page, and that line will impact rural Canada in the most significant way.

9499 Right now, we -- as I said earlier, we enjoy some of the best networks in the world. The fact that we're second only to South Korea, in many ways we're a global superpower when it comes to network capability and network coverage as a whole.

9500 The U.S. has speeds that on average half of Canadian speeds. If you were to draw that table, Canada would be Number 2, the U.S. would be Number 30 on that list, France would be 19, Germany would be 24. If rural Canada were a country, it would rank 14th on that list, far above the U.S. and the UK. That's the benefit of having a regulatory regime that supports this investment because we are fortunate in Canada not to have a very significant, and in fact, a very small digital divide when it comes to wireless.

9501 On the wireline side of our business, about 15 percent of Canadians across the industry, as you know, 15 percent of homes in Canada either have no Internet or have very poor Internet. There is a real and significant digital divide in our country that we're desperately trying to figure out ways of closing between government programs, CRTC programs, and our own efforts. We are blessed that we don't have that kind of divide on the wireless side.

9502 If we change the economic thesis of our industry, we will open up a digital divide on the wireless part of our world, which I think would be a shame. Would be a shame. 99 percent of Canadians is, I think a trophy on our mantle as a country. I want to keep it there.

9503 THE CHAIRPERSON: Thank you. Talk for a moment about barriers to entry. In your November intervention you submitted that barriers to entry in the mobile market are low. Obviously, there is some differing views.

9504 Shaw, for example, indicated last week that in addition to paying 1.6 billion for its acquisition of wind, they've undertaken billions in further investments, including 400 million per year upgrading and expanding their network. That doesn't sound like an insignificant barrier. Similarly, Mr. Bragg, when he appeared, also outlined what he described as this difficulty experienced by a privately-held company as it endeavours to build out.

9505 So I guess I'd like to ask you again, is that still your view that there are not significant barriers to entry to the mobile wireless market?

9506 MR. WATT: Okay. I don't recall that statement. It's obviously there. You can give me reference.

9507 THE CHAIRPERSON: I -- it should say paragraph 80 of 22 November intervention is what I'm referring to.

9508 MR. WATT: Okay. I'll take a look at that, but it -- for the reasons ---

9509 THE CHAIRPERSON: Hopefully, I haven't mischaracterized it.

9510 MR. WATT: No. For the reasons you outline they are clearly substantial barriers to entry for any facilities-based entrant. There is no question about that. Having said that, I'll stop, I'll go read that reference to see ---

9511 THE CHAIRPERSON: We can come ---

9512 MR. WATT: --- what we said. See what we ---

9513 THE CHAIRPERSON: --- back to it. Hopefully, I haven't misquoted you.

9514 MR. WATT: Oh, Howard, I think ---

9515 THE CHAIRPERSON: It's says it's low.

9516 MR. WATT: --- in a potential momentary minute of madness.

9517 MR. SLAWNER: No, I don't think it was a moment of madness. I don't think we were trying to say that there's a not a cost to enter the market. I think the point was that with the government's support, with set-asides, spectrum caps, mandatory roaming, the fourth carrier policy of the government has enabled entry by these players and they've been able to at a much lower price than otherwise they could've done.

9518 So the barriers are actually -- they're not insurmountable. People have been investing in wireless networks in this country over the last 10 years with the help of the government, and so it's not basically a free market (unintelligible). The barriers are actually being kind of brought down by the government.

9519 THE CHAIRPERSON: Thank you. That is helpful.

9520 So based on that, to what extent do you think it's possible that we'll see a potential new entrant, regional or otherwise?

9521 MR. SLAWNER: It's always possible. I mean, with the -- if the government keeps providing assistance during auctions, there's always the opportunity for somebody to come along and take advantage of the set-aside or the cap. I think you also have an opportunity now with Xplornet, who has allotted 3500 megahertz of spectrum, who was just recently acquired by a large investment fund, so they have the potential.

9522 But I think there's a real market difference between possibility and probability. I don't think you witness a lot of market entry in a competitive market where prices are declining every single year. So even if the opportunity is there, whether or not somebody actually tries to enter it seems questionable.

9523 THE CHAIRPERSON: Fair enough. So let me say the question differently, but I think the answer will probably be the same.

9524 Do you expect, let's say in a 5-year time horizon, do you expect to see new entry in the Canadian market facilities-based entry deploying spectrum?

9525 MR. WATT: We can't be certain. We've seen Xplornet come in as a fourth in Manitoba, we actually have five, actually in the Ottawa region. As to somebody else coming in, I think -- I'm going to ask Richard maybe to comment on sort of the global perspective, four to five, four to three.

9526 But you know, in a country of 36 million people spread across this huge landmass already with four facilities-based competitors, five in some locations, and the sub brands, the spectrum that's been given out, the spectrum that remains, I think it would be difficult to see another facilities-based competitor arrive.

9527 THE CHAIRPERSON: Thank you. Oh, go ahead.

9528 MR. FEASEY: Thank you. I mean, just to add. If you look at this market from the perspective of an outside observer, Canada is a bit of an outlier in going from three to four facilities-based, four facilities-based competitors. The trend certainly in Europe, to some extent in the United States, and elsewhere in the world has been towards a greater concentration in facilities-based markets, I would say over the period over the last, certainly the last five years.

9529 Typically markets are moving down from four to three carriers elsewhere in the world. To the extent that that indicates anything about how the economics of the industry is changing then the move would not be towards additional entry.

9530 THE CHAIRPERSON: Thank you. Network sharing arrangements. You have one with Videotron. Can you talk to me a little about what your rationale or reasons were at the time for entering into that agreement?

9531 MR. NATALE: Sure. At the time, we go back in time, it is before my time so I'll ask David to fill in as appropriate. At the time, we had a re-sale arrangement with Videotron as they were looking to enter the wireless market. That re-sale arrangement turned into a network-sharing agreement. We looked at it specifically and said given the extent of the network build they want to do in Québec, given the opportunity to share infrastructure we believe there is an opportunity to share some of the capital load between two providers, maintaining, of course, our competitive distinction, delineation, but share the capital load with respect towers, and fibre, and the rest, and we embarked on that path to strike a network-sharing agreement.

9532 That network sharing agreement now is evolving. It's evolving to one where we will be sharing infrastructure, meaning we'll be sharing towers and backhaul. And so philosophically, from our perspective if there's an opportunity to strike a network-sharing agreement that makes sense for Rogers and makes sense, of course, with the other partner then we're open to the idea of the construct. We do so thoughtfully and carefully.

9533 I'll ask Jorge to comment. Network sharing agreements are very hard to orchestrate, very hard to manage over time, and in Europe the experience has been a troublesome one with agreements unravelling over time. So we do it with a very thoughtful eye.

9534 Our view generally is that sharing passive infrastructure makes sense. Sharing spectrum is more difficult, and I believe fundamentally in a 5G world even more problematic as 5G evolves into multi-dimensional applications and ideas for each of the players in the market.

9535 THE CHAIRPERSON: Before you add, maybe I can just throw in another element to the question which would be: have you been approached by any other regional MNO to enter into a similar agreement?

9536 MR. NATALE: The short answer is we have -- we have.

9537 THE CHAIRPERSON: And ---

9538 MR. NATALE: And ---

9539 THE CHAIRPERSON: --- successfully or I guess maybe you can (inaudible).

9540 MR. NATALE: Yeah, I won't comment on the state of any particular negotiations, whether they're old or current. I don't think it's fair given the confidentiality around some of those discussions, but of course, we will always address and look at opportunities as they come along.

9541 THE CHAIRPERSON: So I'll take it as that you are prepared to negotiate with such network-sharing agreements with other carriers?

9542 MR. NATALE: Absolutely, if it's in the best interests of Rogers and our future, more than happy to do so. If it helps to deploy technology more efficiently and reach more of Canada more efficiently — extend further into rural Canada, absolutely we're open to the idea.

9543 MR. WATT: I would just say -- and you're aware of this -- we have a network-sharing arrangement with Tbaytel and we also do in Manitoba; it was originally with MTS and then it was in — in the BCE acquisition of MTS that was assigned over in a revised format and again, involves Xplornet et cetera to make that deal workable.

9544 In terms of any type of network-sharing agreement, you really need two partners who bring relatively equal value to the table and that is the issue in — that either makes your network-sharing arrangement happen or makes one not happen. There has to be relative equal value brought to the situation by both parties.

9545 THE CHAIRPERSON: Thank you.

9546 MR. FERNANDES: Just to maybe add a bit of colour to the statements that have been made, the balance of interests between both sharing parties is incredibly important, and this is why we believe that if there is a balance of needs, then we are open to sharing.

9547 I think it's also important to differentiate on the kinds of sharing that exists. Again here, we believe — and I mentioned in the opening statement that 70 per cent of the costs of building a network are down to the civil works; you know, the steel, the cement, the infrastructure, and so this is what you would call passive sharing arrangements and we are very open to passive sharing arrangements.

9548 Where it becomes more complex is when you have active sharing arrangements when you extend to the electronics, to the radios, to the frequencies that you own and especially in situations where there is an imbalance of ownership of spectrum, then it tends to become a very complex (inaudible) to have different strategies, different markets that they want to address, different needs in capacity and so on and so forth.

9549 And so this is where the discussion enters on, you know, one of the parties want to invest and the other one not wanting to make that respective investment and so that's — that tends to complicate sharing agreements.

9550 I think it's also important to say in the Canadian context that regardless of what sharing agreements we may, you know, come to implement, I think it's fair to say that none of these sharing agreements would match the sharing arrangement that exists between Bell and TELUS where that particular sharing arrangement I think is unique in probably every circumstance, even at the global level where the — both parties have been allowed to share spectrum and this in the Canadian context where it is incredibly expensive to apply set spectrum in what are incredibly complex auction environments where, you know, the parties are able to essentially set the price of the other. You know Bell and TELUS have the ability, more or less, to set the price of spectrum that we pay and we have, you know, very little to no chance of doing the same. And then bidding as an individual

operator and then joining that spectrum is obviously something that certainly I haven't seen anywhere else in the world and does create an imbalance when it comes to sharing arrangements in this country.

9551 THE CHAIRPERSON: Thank you. That will let me move on in a one second to believe it or not, that was Part 1. Hope you're settled in.

9552 But before I leave it, I do have a short list; maybe I can save legal counsel some work later on.

9553 There are a number of reports that were used in the May intervention, and I'm not certain that they are all on the public record. Perhaps I'll read them quickly and — for the transcript and you can see them later, but if you could undertake to file any that are not on the public record.

9554 We had the Open Signal reports; The 5G Opportunity dated February 2019, Mobile Network Experience Report Canada dated February 2019, Mobile Network Experience Report US, January 2019 and the Open Signal reports listed in footnote 11 of your May 2019 submission.

9555 There's also an Ericsson Mobility Report and a CWTA Report, the Benefits of the Wireless Telecommunications Industry to the Canadian Economy in 2017.

9556 Lastly, in your 22nd November further comments at Page 17, figure 1, there's a reference to compound annual decline in ARPU in the G-7 and Australia, 2013 to 2018. If you could please undertake to file the data used to calculate those compound annual growth rates. You can guess I did not make up that list.

9557 MR. FERNANDES: Yes, we will provide those documents and the calculation.

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9558 THE CHAIRPERSON: Thank you.

9559 All right, a few questions about the retail market.

9560 You have — I assume, Mr. Natale, you hear it a lot in your day-to-day business; we certainly hear it: there is a view from Canadians the prices for their wireless services are not reasonable. What — how do you explain that? We have heard a lot in this proceeding about the range of offers, the effectiveness of (inaudible), the — you know, the -- notwithstanding the quality and coverage of the network, there is nevertheless a continuing view that prices are not reasonable. Why is that there; what's your explanation for it?

9561 MR. NATALE: I think, generally speaking, that Canadians probably have concerns about affordability period, a whole bunch of different categories in terms of affordability.

9562 We did an exhaustive survey last year and asked Canadians the question: if you could have better affordability for something, what would you like it for? And with the support of Nanos, we did a survey across Canada and wireless was ranked as seventh or eight on that list on the two different surveys that we did and in the top five were, no surprise, housing, food, electricity, gasoline and out-of-pocket Pharmacare costs.

9563 So generally speaking, I think that life is becoming more expensive as a whole, and there's a general view that if people can get a better price or better affordability for something, they would like it.

9564 Well, frankly, we're aligned with that mission and that view. We want nothing more than to offer Canadians more affordable options and more affordable opportunities with respect to wireless services. It's actually in our best interest to do so because it will continue to drive demand for our product. It will continue to drive penetration rates in Canada and continue to drive the essential use of wireless services as a whole, especially on the doorstep of 5G, as we've discussed.

9565 If you look at, you know, any of the comparisons that we've drawn, we talked about the U.S. with respect to unlimited plans. The entry level unlimited plan in the U.S. on T-Mobile is \$80 Canadian. On Verizon it's \$92 Canadian. If you look at the MVNOs in the U.S., specifically Ting has a 1-gig plan at \$29 Canadian. Republic has a 1-gig plan at \$27 Canadian, while the Fido version of that is \$30 and the Virgin version of that is \$28.

9566 So, by, you know, a very empirical comparison, we're roughly in the same zone as the U.S.

9567 I think it's just the view that as people use more of a particular service and they like using more of that service, there is a desire to make it more affordable.

9568 I do think that, you know, the approach that the industry took to overage historically created dissonance, a lot of the customer friction that you're articulating I believe is rooted in the fact that bill shock became a major point of customer friction. And one of our goals and mandates has been to eradicate this notion of bill shock. On the Rogers' brand it's the move to unlimited. And on the Fido brand, we created something that's called worry free data protection. That is a very customer-friendly way of managing your data plan, and has been well received and lauded by our customers as a result.

9569 So, I think as we remove those friction points, you know, drive those likelihood to recommend our customer satisfaction scores, continue to drive more affordability that we'll be in a better stead with Canadians as a whole.

9570 You know, historically, we've given Canadians a lot more to think about and complain about, if -- whether it's bill shock or a customer service issue, et cetera.

9571 My personal mandate and vision and drive is to eradicate those friction points and just create a better relationship with Canadians as a whole and keep driving affordability directly.

9572 THE CHAIRPERSON: Well, we certainly wish you luck in that regard.

9573 How do you promote your lower cost plans? Are they as much a focus as the higher or larger data plans, for example, and what can you tell us about the supporting materials, training manuals, customer care, and the like that goes with that?

9574 MR. JOHNSTON: And I think I preface that with I think a constant refrain and conversation on just how vigorous the competition for subscribers are in light of the net added success of our regional players that every service rep in every store is vigorously trying to encourage and convince

customers to buy with them and for the offerings that they provide. So, that creates I think a backdrop for our then desire to satisfy and deliver to those reps the materials and all of the information, both on the higher tier plans, but also on the low-cost data plans, everything that they need to be successful in that endeavour.

9575 So, there is the same treatment for the high-end plans that there is for the low-end plans, or the low-cost data plans, and similarly on our websites, they're also similarly available and available for people to see.

9576 So, there's every effort made to make them as transparent as possible, but, again, rooted in this desire to ensure that, you know, we have the right thing for the right -- for that right customer when they walk into our store.

9577 THE CHAIRPERSON: And does your promotion or advertising for some of those lower-cost plans, do they target any particular demographic market, seniors, or new Canadians, for example?

9578 MR. JOHNSTON: Certainly -- you know, the first conversation in a store from the rep is largely around discovery and understanding the unique needs of that particular customer. And it's really that conversation that opens up the door to the rep to be -- say, "Well, here's what I have that can help solve that need for you". So insofar as those conversations are happening every day across the thousands and thousands of stores across Canada, yes, there is a discern effect to ensure that the right solution is being presented to the customer given their unique needs.

9579 THE CHAIRPERSON: A bit of a -- call it a side-step, a shuffle, but you used the word "vigorous" when you described your agents or employees explaining and offering their services. Obviously, we, not so long ago, had a proceeding to look at aggressive and misleading sales practices. I'd be remiss if I didn't give you a chance to tell us how you think you're doing in light of the issues raised in that proceeding and since then.

9580 MR. JOHNSTON: Well, first of all, my vigorous comment was really around the vigorous competition and that risk.

9581 I will say that we are in a repeat business, meaning customers stay with us -- our desire is for them to stay with us as long as possible. So, the quality of the conversation at the beginning of that relationship is very, very central to the quality of the relationship that ensues.

9582 And so, reps deeply understand that when they have the right conversation, present the right solution, they are developing an ongoing relationship with the customer, and those customers often come back to the same store, talk to the same rep about their ongoing needs.

9583 We have implemented, you know -- and have had in place, you know, the structures and the training and the infrastructure to ensure that those conversations happen appropriately.

9584 I might hand it off to David or Joe to talk more specifically.

9585 MR. NATALE: First of all, we take the issue of sales practices very seriously. We've worked very hard to drive the right behaviour, the right training, and deal with any issues that come along.

9586 We have 13,000 team members that interact with customers every single day. It's a great team. They care deeply about the customer.

9587 Yes, from time to time there may be some small be it, but some behaviour that is not right, which we quickly kind of find and deal with.

9588 Eric Agius was here in that hearing last year and spoke at length around our sales practices and what we're doing about it. He's done a great job of actually driving that to a new place, a new height for us overall. In fact, Eric was just recently promoted to Chief Customer Officer for Rogers, which really means that he bears the burden of responsibility for customer advocacy at our table, reporting to me directly. And I think that'll help to enshrine not just the focus on this topic, but more broadly, the customer as a whole and having a voice at my table.

9589 THE CHAIRPERSON: Thank you. And I was going to ask you if you had -- if you could file training manuals and other documents that show how you teach your sales representatives to propose those -- or describe those low-cost plans ---

9590 MR. NATALE: Sure.

9591 THE CHAIRPERSON: --- and that relates to the earlier discussion ---

9592 MR. NATALE: Sure.

9593 THE CHAIRPERSON: --- not the discussion we just had about misleading and aggressive sales practices. I just, as you've heard from other parties, would be interested in seeing your training materials in relation to how you describe and promote those brands.

9594 MR. WATT: We will provide that information.

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9595 MR. WATT: Can I maybe do sideways shuffle back to I think two questions ago, and this was the -- sort of the threshold question of general perception the prices are too high. This is a real problem. What do you have to say in your defence? And Joe has explained our view there.

9596 This is a real conundrum because the thesis goes that if your prices are too high, and then the next statement is, quote one of the interveners, they were advocating for MVNO on the basis that the goal should be to immediately reduce excess profit taking from the Big Three. So, the connection between these high prices and excess profit.

9597 And if there's one message we'd like to get across to -- amongst many, is that, no, that happy solution of stripping a layer of big excess profits off the carriers to lower prices and still have everything continue on, that scenario isn't an accurate scenario. We've outlined in our opening statement the 5.1 per cent return on net assets, and people sometimes question that number. They say, well, your plant is mostly depreciated. No, that 5.1 percent number is calculated on the net book value of that plan, what is undepreciated so far. This, we almost -- you could go and put your money

into a long government bond at 4 percent. Five point one (5.1.) percent with the risk that we -- we bear, is not evidence of excess profits. In fact, those are the profits that we need to continue to run our business.

9598 So this -- this is the conundrum. People think the high prices, big profits, therefore -- and then vice versa, and it -- you get into a mindset thinking that you can sort of, have it all. So we really need to, from our perspective, break this perception of high prices, because we understand the problem it causes for us, for you, for Canadians, and the danger that it generates for the fundamental development of the industry going forward. That's long enough.

9599 THE CHAIRPERSON: Well, thank you. You've clearly put it on the record for our consideration. So instead of talking about high prices, how about we talk about low prices for a second? There's been some discussion for example, about the success of the Connecting Canadian Families program on the broad wireline broadband side, as providing us with an example of perhaps what might be done in respect of mobile services.

9600 What are your thoughts about to what extent that would be feasible, and if it were feasible, need it be means tested? I'll give you the floor.

9601 MR. WATT: I'm going to start off again, I pretty much said what I was going to say as a framing of this particular question. Again, it is the situation of we have all these competing objectives. We want to have a high-quality network, we want to build more rural and remote locations, we want to deploy 5G broadly, and then we have the -- some of the pricing issues that work in the other direction.

9602 I'm going to pass it over to Joe. I will say that we are certainly very proud of our wireline initiatives in this area with our own initiative, Connected for Success in rent geared to income community housing, that has been out in the market for six, seven years. It's now a 25 Megabit per second service at \$10 and it's -- there is an eligibility qualification around that.

9603 So certainly, in the wireline side, we've gone down this path and we are participants, willing participants in the Connecting Families program of ISED, which we really see as a compliment to our program. That one is addressed at households who receive the maximum Child Care Benefit.

9604 And Joe, over to you.

9605 MR. NATALE: I think it's a great question, and I think it's something that we're philosophically aligned with. As David mentioned, we're proud of our Connected for Success program that we launched on our own initiative in 2015. It now supports 25,000 low income households. We'd be happy to sit down with the right people to figure out some of the complexities around it.

9606 You hit the nail on the head, one of the complexities is means testing. What is the right approach to means testing? And secondly, you know, how do we architect and structure that program in terms of price point, in terms of amount of data, et cetera. It requires some careful thought and discussion.

9607 And thirdly, how do you make sure that you direct at the people that really do deserve it and it - it's not -- doesn't fall prey to augmentation unnecessarily that take it away from the people that deserve it? Because in the case of Connect for Success, we can connect it to the household itself. Mobility, by its definition is a mobile service and the question is, is it the individual, is the family? How do we characterize that?

9608 But, you know, suffice to say that we're more than happy to entertain that discussion, and it would be great to launch something that makes sense in Canada with the right parties at the table to discuss how we deal with the complexities.

9609 THE CHAIRPERSON: Mr. Lawford -- I mentioned means testing, which was not what was proposed by consumer groups that we've heard from. You've indicated that's one of the complexities. Mr. Lawford yesterday indicated that he thought it shouldn't be a concern given the relatively low cost of a program. You know, is there a serious risk for providers if they don't have to means test, don't have to do a credit check, with respect to post-paid? I think, setting aside devices.

9610 MR. WATT: Okay. We may have misunderstood then. We heard the discussion yesterday around line 150 of the income tax return as potentially being means of qualifying eligibility. There's a substantial difference between a program that is -- has eligibility qualifications, as opposed to a wide-open program which exacerbates greatly the concerns that Joe raised.

9611 THE CHAIRPERSON: Thank you, Mr. Watt. I misspoke.

9612 I'm referring -- I should have said with respect to credit checks, would put Mr. Lawford's comment in the appropriate context. When asked about pre-paid versus post-paid and the recommendation was for post-paid, and then with respect to post-paid, a need for a credit check. So I misspoke.

9613 MR. WATT: Terrific.

9614 THE CHAIRPERSON: But your views on that, pardon me.

9615 MR. WATT: So the -- oh, right.

9616 MR. JOHNSTON: You know the -- first of all, I would say that the distinction between pre-paid and post-paid in a world where on our Fido brand we have the data overage protection that Joe mentioned, where your data allotment stops at the end and then you decide if you want to go over. And if you use it -- on pre-paid on the other hand, if you get to the end of your purchased data, you can buy more. I would say that the concerns over credit distinct from handset, do sort of, you know, fade away in some respect.

9617 And I would say that the pre-paid option in that construct mimics almost entirely the post-paid. And so, they start to mimic one another and I think there's a lot of space between those two constructs to create a value proposition for customers, for those customers, that makes sense and that does not really create a user experience differential that would be meaningful at all.

9618 So you know, I think, subject to going into the details of that, I think there's a lot of room to solve and not make -- I guess the concern being will credit be a barriers? I think credit needn't be a barrier to providing and satisfying the needs that were presented yesterday.

9619 THE CHAIRPERSON: Thank you.

9620 You introduced a number of low-cost data only plans with some urging form the Commission in 2018. What could -- what did we learn from that process? I'll stop there.

9621 MR. JOHNSTON: We've learned -- first of all, we have a substantial number of people on those plans, and we've described the process by which they are promoted in store, that there is a segment there that has adopted those plans, and that continues. At the same time, we're also seeing that Canadians' desire for, you know, full solutions remains intact. And there's many, many Canadians that are looking for other alternatives.

9622 And so, we see that there's been a healthy balance between the low-cost data only, but also the in market plans, which are, you know, very, very close to those offerings as well. So the balance of that has been, I would say, a very healthy outcome for -- for the market and for us.

9623 THE CHAIRPERSON: Just more broadly ---

9624 MR. WATT: Sorry, I think ---

9625 THE CHAIRPERSON: Sorry, go ahead.

9626 MR. WATT: Really, we were both interesting to see the attractiveness of having voice and text included with the data, even though a substantially bigger package of data, without voice and text is not as appealing. I think we had thought with low cost data only, appeal to people who would obviously use a fair bit of wi-fi, but also would use a voice app on the data. And that really hasn't proven to the be case. People -- the talk and text plans have proven to be more attractive. These are ones that we introduced in conjunction with the \$30 1-gig data only plan there in March, but talk and text, very popular.

9627 THE CHAIRPERSON: Thank you.

9628 I'll maybe come back to the issue of credit checks on postpaid plans in a second, but before I do, you will have seen Commission's Exhibit 3, which provides a summary of low-cost plans that have been proposed by consumer groups. It was a range that had been proposed. You heard submissions yesterday.

9629 How feasible, in your view, would it be for you to offer a plan with similar attributes to those proposed, recognizing there is a range both in terms of price and the data allowances in the plans, at a price between 20 and \$30?

9630 MR. JOHNSON: I'll start off by saying that a 40-gigabyte rate plan today with unlimited nationwide talk and text postpaid is in the very heart of the Fido value proposition as it stands today and appeals to a very wide berth of Canadians.

9631 So, the introduction of a plan in the 20 to \$30 range would be sort of a 25 to \$30 discount to the market price for that service above -- you know, in a available to all scenario would have a dramatic effect on the overall price in the industry. And I say that because that 40-gigabyte rate plan today is what I refer to is what -- you know, pretty much a reference plan. It's a reference value point in the market.

9632 Rogers' pricing, Fido pricing and Chatr pricing all are interconnected. The pricing is always -- everything is always connected to other pricing in the market at every time. And so, by offering -- changing the price point at that price point, it would hinge and ratchet on the pricing of all the plans in the market across Canada.

9633 So, in an above the line in market scenario, it would have a dramatic effect and get in the way of some of these -- you know, the balancing acts that we talked about between financials and the essence of the future, et cetera.

9634 With a strong eligibility criteria, as we described earlier, and the right conversation around exactly how to fine-tune that value proposition within that range, I think there is an opportunity to offer something, you know, with substantially more value for those customers in Canada in the most need.

9635 THE CHAIRPERSON: What about, for example, a two-gig plan? Same views? I ---

9636 MR. JOHNSTON: The two-gig plan clearly wouldn't be quite as -- you know, four gigs is right in the heart at \$55 today. Two gigs though would -- I think is still at 45, in the 40 to \$45 range, so it would have that similar effect, for sure. On Chatr right now we have a \$30 1-gigabyte plan unlimited nationwide. That plan is an in-market plan. We see that plan satisfying, you know, the basic needs of Canadians looking for some data, understanding how much wi-fi is consumed amongst our customer base when they're not on wireless connectivity. So, you know, there's already that price point in place today.

9637 But getting north of into the two and the four-gigabyte range starts to really hit at the center point of the Canadian market where we looked at an average usage in Canada of two-and-a-half to three gigabytes per sub. That becomes a -- at the very heart of the Canadian wireless market today.

9638 THE CHAIRPERSON: But just bears repeating, but you did say with the -- with necessary, in your view, restrictions, then you're prepared to look at those types of plans.

9639 MR. NATALE: Yeah, if it's aimed specifically at groups of low-income Canadians or seniors with the right means testing, then I think it's a conversation we're willing to entertain, discuss how to best approach it. If it's a plan that's broadly available to everyone, it's -- it could be devastating overall.

9640 As Brent said, the average customer that we have uses about 2 1/2 gigabytes of data a month, and our average revenue per customer right now is -- sits around \$55 -- 54, \$55. Our break-even point, and I'm not going to repeat all the elements of our cost and our cost base, our break-even point sits in the 40s, in the 40s. So, it stands to reason that if we introduce a plan that in -- you know,

would impact two-thirds of our customer base is our math in terms of how a four-gigabyte plan would actually, you know, reflect itself in the market, it would eradicate, you know, I would say the vast majority of our profits. And more importantly, it would actually stop investment in totality.

9641 So, by narrowing the size of the plan and aiming it at a specific group that is means-tested, then I think that's a great conversation to have and something we can work on. But a broad plan at four gig would -- it would eviscerate the industry economics, given the cost structure and all the things we talked about around population density.

9642 As we continue to invest in the future, as we drive the unit cost economics to a better place, of course there'll be an opportunity to offer more data at a better affordable price point, just like we have over the last five years. But to do it in sort of one key moment would make the melt from overage on unlimited plans seem immaterial in comparison to what would happen here.

9643 THE CHAIRPERSON: Thank you. I think I know the answer to the next question, but I will ask you for the record. Would you have a view on whether the Commission should mandate such a plan?

9644 MR. NATALE: Mr. Chair, you are correct. I think I've answered that question.

9645 THE CHAIRPERSON: Just touching back on the marketing or the way in which you communicate with consumers at your retail points of presence and so on, you said that the initial contact helps the sales agent or Rogers' employee to determine needs and so on. If I were a customer just asking what my best low-cost option is, I don't know if you can answer that, what would you -- where do you think your representative would begin? What kind of information would be provided? That's a bit general, I understand, but ---

9646 MR. JOHNSTON: Yeah. I can give you -- like a directional answer I think to that broad question.

9647 Many Canadians view their wireless service as a solution which includes both service plan and a hardware solution. That solution very often has -- and depends -- you know, the time of year, as Joe mentioned earlier, a promotional aspect to it. So, there will be certain plans that are discounted and certain devices that are discounted. I would say that becomes a very important point of the conversation.

9648 Customer would -- you know, would ask you what -- how much your data usage tends to be, have you gone over on your old plan? Because we know -- we want people to feel comfortable that they're in the right data plan for them. And what kind of device do you really like to use? Are you a heavy Smartphone user? Do you have an appetite towards Android or IOS? These all become very important factors. Are you a really engaged user, or are you an occasional user?

9649 For the occasional user, I'm just going to argue that a customer -- we're going to probably, you know, suggest to you a mid-range iPhone, a mid-range Android device with a plan that has somewhere around the average gigabytes for Canadians and you would give us a very -- hopefully a very specific answer around the type of user that you are, probably in the sort of two to four-gigabyte range would be the solution.

9650 Increasing, increasingly, customers are moving to used devices in Canada also. So, we're seeing -- and we're -- probably to create affordable solutions with that allow people to get into a used phone that's certified by Rogers and/or Fido to -- so they can get even more affordable outcome on the device side, because that allows them to get into a device that's more of a mid-range and perhaps a few generations old, but it's been previously used, but we've refurbished for them.

9651 THE CHAIRPERSON: Thank you. What about customers who may be more vulnerable due to their age, language barriers, and so on? How do you address those types of challenges?

9652 MR. JOHNSTON: Again, you know, this the beginning of a relationship in that conversation in the store, so there's, you know, every effort made to ensure that there's the right communication occurring.

9653 One of the more recent things we've done, is we -- on the Rogers brand we've introduced a service Pro-On-The-Go. We're expanding that nationally. This is a service where a rep will actually come to your home and offer -- you know, you buy online or over the phone through a phone conversation, have that discussion. But a rep will physically come to your home, often in the language of -- because there are multiple language opportunities -- to offer very tailored and unique assistance in the comfort of your home or in the local Starbucks around the corner.

9654 We've seen this appeal greatly to people with accessibility issues, people who find it difficult to get out to the mall, and we're quite excited about its opportunity to serve those customers which have difficulty and also to expand our addressable market, and that's been something we're rolling out as we speak. We're starting in Toronto and we're rolling it out nationally.

9655 THE CHAIRPERSON: Thank you. A little more of a focus question having regard to the concerns raised about overall about reasonableness of wireless prices, including those on behalf by vulnerable customers.

9656 Can you comment on whether you believe it would be appropriate for the Commission to deforbear from either or both of section 25 and 27.1 on that basis, and only insofar as is necessary to mandate a specific low cost occasional use plan?

9657 MR. SLAWNER: Yeah. I think it really depends on what actually you mandate. If you mandate something that's very specific, very targeted with high eligibility requirements then perhaps section 24 might work. However, if you do something that's more broad that would impact the market in the way that Joe and Brent were describing, that you set one price point and everything pivots around that would possibly lower the entire industry's prices, then I think that possibly forbearance would have to go through, or deforbearance, excuse me. I don't, however, believe that the market conditions as they are right now would dictate deforbearance.

9658 THE CHAIRPERSON: You mentioned how broad it might be and whether or not it would be suitable to impose a condition under section 24. If it were to ensure that customer service representatives are properly trained, provide prominent links, for example, on websites and kiosks, and in the stores, is that type of ---

9659 MR. SLAWNER: Yeah. I think that's probably ---

9660 THE CHAIRPERSON: --- framework suitable to mandate under section 24?

9661 MR. SLAWNER: Yes. I think those kind of ideas would probably fall under section 24, would be more suitable, yes.

9662 THE CHAIRPERSON: Thank you. Perhaps, and I'm nearing the end of my questions on retail, then we can take a short break, I think, before I do wholesale.

9663 Winback, talk about winback for a moment. Are winback tactics appropriate and fair for consumers?

9664 MR. JOHNSTON: Let me start that by saying customers switching is one of the primary means in which customers communicate with us as a carrier, and when customers switch we have a variety of what we would refer to as retention activities. We certainly don't want to see them go.

9665 And so there's two instances. One is, of course, they call us and say, you know, I'm thinking of switching. We will offer them a solution which we think better fits their needs and try to retain those customers; and/or secondly, if they go to a store and they port out and port their number to another provider, we will call within 24-hours that customer with a similar conversation to try to retain their business with us. Yeah, and it's within the 24-hours -- 24-hour period. Sometimes it takes us a little longer, depending on how quickly we're able to contact the customer.

9666 We see, you know, Joe mentioned the vigorous promotional activity that occurs in the market. There is -- all prices are bouncing very, very often. Sometimes at the store level there will be a one-day sale. Sometimes over the weekend there will be a weekend sale. And so you know, carriers are different -- moving prices at different times and the prices are moving around the market constantly.

9667 So this, again, reflects the -- hesitate to use the word "vigorous" again, but vigorous competition for subscribers, and as was mentioned earlier, the 33 percent of net additions taken by the regional carriers in the market in 2019.

9668 So this is actually an opportunity for us to provide more choice and a solution to that customer that if we didn't communicate -- if they didn't provide that communicate to us and we didn't respond they would not have available to us. So to me, it enhances choice for consumers. It creates another basis of competition, and it keeps the promotional intensity sharp in the industry because customers know, you know, every participant knows that everybody is all trying to win back each others' customers when these things are in place. So it actually -- it stimulates even more competitive dynamic around that.

9669 So I would say no, or the original question being that I would encourage winbacks to continue be seen as a valid and customer-oriented promotional and business activity in the light that I described.

9670 THE CHAIRPERSON: I think you were saying no for my next question ---

9671 MR. JOHNSTON: Okay.

9672 THE CHAIRPERSON: --- which would be would you agree with a proposal, for example, that we've heard about restricting on a time-limited basis winbacks?

9673 MR. JOHNSTON: My personal -- it's my view that that would be anti-consumer. I think the only -- the consumers would be hurt in that situation, and I don't see a basis for making that decision. It -- yeah.

9674 THE CHAIRPERSON: Do you have proactive programs or proactive measures to ensure that your long-time customers have plans tailored to their needs? You know, do you reach out proactively to go get them to sign up, give them another plan, a better plan ---

9675 MR. JOHNSTON: Sure.

9676 THE CHAIRPERSON: --- before an opportunity to leave you occurs?

9677 MR. JOHNSTON: Yeah. There's -- you know, there's always the pricing that one sees on the website, there's the offerings, and then we have, you know, a large customer base, and we have tactics and promotions and treatments that we provide to our base on an ongoing basis that are tailored for their unique needs.

9678 And we'll always be looking to figure out how we can offer our customers things that make their experience better with us. Sometimes there is treatments where maybe our network was down in a particular area and we want to apologize to that customer and you know, ensure that they continue to be happy with our services, and we take action on that, or we see them that they're on one of our older plans and they've been bumping up against their data limits and are experiencing overages, which ---

9679 THE CHAIRPERSON: M'hm.

9680 MR. JOHNSTON: --- we don't think is just a great thing. So we will reach out to them proactively and offer them an infinite plan and try to get them onto a better place. And when it's -- you know, more win-win.

9681 As I mentioned earlier, we were -- we try to be in long-term sustainable relationships with our customers. Customers can switch very easily in the Canadian market, 17 percent in a given year. It's a real fight every day to both attract and retain customers in the Canadian marketplace, so we need to always be on our front foot in terms of ensuring customers see us as having, you know, good value with the right solution.

9682 And increasingly, actually, that we're personalizing our experiences and our solutions to their unique needs. Given the state of play across, you know, a broad -- other set of industries that Canadians increasingly expect us to know more about them and how we can serve them more uniquely and in a more personalized manner.

9683 THE CHAIRPERSON: This will be my last one.

9684 MR. NATALE: Just one quick comment ---

9685 THE CHAIRPERSON: Oh, sorry.

9686 MR. NATALE: --- on that. Sorry, Mr. Chair.

9687 We have a team that we call Customer-Based Management. Brent's alluding to their activities and how they treat customers, et cetera. What they do every day is they have an ability to look into our customer base and say which customers do we think have a propensity to churn, and they have created a model, if you will, that says have we let that customer down recently because maybe the network was down or they had a billing problem that we had to make an adjustment or they tried to call us and they couldn't get through.

9688 We have a number of parameters that speak to how that customer might be thinking about leaving and we'll practically reach out to a list every single day to say hello, we notice that, you know, you've bumped up against your overage plan. If we do this, would that resolve your problem, et cetera.

9689 So it's been a very effective approach for us, and it's actually helped to drive churn improvement by getting ahead of it before customers decide to leave.

9690 Sometimes we know the customer loves the latest phone, we'll call them well before they've paid off their phone balance and we'll say, "Hey, the new iPhone is out, you've been a great customer of ours. Here's a special promotion on the new iPhone if you want to make the change right now."

9691 So this base management is sort of -- is a massive activity and a big investment that all the carriers have made that isn't as visible on the Website or isn't as visible anywhere else, but it actually fuels affordability in the industry.

9692 THE CHAIRPERSON: That's a great segue to my last question.

9693 But you understand, appreciate the view from consumers that they don't know what the real price is for that very reason, that it's not necessarily what's on the Website; that there are a wide range of promotions that the service providers are reaching out to some customers but not all customers and offering them what they might perceive as a sweetheart or special deal.

9694 So there's a great angst among consumers that they're not sure about the prices and the fairness of the prices.

9695 MR. JOHNSTON: Well, just having -- when we see the results of these particular programs -- which we're always evaluating, saying is what we're doing making a difference -- if we don't offer an above-value plan; in other words, some solution that's more than what they could get by going onto the Web, we don't get the results that we need on those campaigns.

9696 So I would say that, if anything, Canadians are becoming more and more aware of the various things, and are highly aware of the various offerings. They are one click away from a Website to look at what's available; or, actually, it's on the device that they're using every day.

9697 And so -- and a lot of these communications aren't -- they're not individual one-on-one conversations; they might be an MMS; like, a text message that we send to the customer. They don't have to respond right away, so they have the opportunity to shop and compare.

9698 And I would just go back to, you know, those offerings are always above what -- and attuned in a way to get customers to a new place that you wouldn't otherwise be able to get on the Website because they're offering value, given their unique circumstances, and given our understanding and the relationship we have with them.

9699 THE CHAIRPERSON: Thank you.

9700 Mr. Watt?

9701 MR. FERNANDES: I was going to say outside of what we asked Mr. Feasy -- Richard -- to do for us, but from your experience around the world, do you have any insight into this particular type of issue, the posted price versus promotional and discounted pricing?

9702 MR. FEASY: I think my experience -- I mean, it's a standard feature of certainly all the wireless markets that I've seen; and I recognize, I think, the challenge to some extent that the Chairman is characterizing, which is the appearance that active and engaged customers appear to be able to get a better deal than customers who are less engaged, either because they're vulnerable, as you talked about earlier, so that they have sort of identifiable reasons why they may struggle to engage with the market, or for other reasons which may be quite difficult, in terms of them being able to identify them.

9703 And I think, you know, regulators around the world, in my experience, are wrestling with this problem because the answer to it does not appear to be on the supply side of the market. It does not appear to be giving customers -- inactive customers more choices. It's on the demand side. It's finding ways in which customers who otherwise struggle to can engage effectively with the choices that are available to them and the opportunities that are available to them. And certainly my experience, the big insight, in a way, and the new insight that people are currently wrestling with is the solution to these kinds of challenges, is not on the supply side; it is trying to find ways on the demand side to help groups of customers engage better with the market.

9704 THE CHAIRPERSON: Thank you.

9705 Madam Secretary, let's take a 10-minute break and we'll resume at 12:27.

9706 Thank you.

9707 --- Upon recessing at 12:17 p.m.

9708 --- Upon resuming at 12:29 p.m.

9709 THE SECRETARY: Please take your seats.

9710 THE CHAIRPERSON: Welcome back.

9711 Wholesale. Let's start, I guess, with first question, which most -- put in the most general sense, one would expect regard -- not regardless, putting aside the mandating of MVNOs that such arrangements would occur naturally in a market, and we've heard much about the various MVNO offers that have evolved in various markets. But we really haven't seen that in Canada. And I know -- and we'll put aside MVNOs focused on IOT applications or -- which I know you have taken on, or negotiated, I should say. Why not? I mean, a simple -- really simple question; why don't we have -- why haven't MVNO arrangements been negotiated? Why haven't you negotiated MVNOs?

9712 MR. NATALE: Well, first of all, we have negotiated MVNOs. But let me just start more broadly and I'll come back to that statement.

9713 As a carrier, as a provider, we look at market segments and areas of the market and say should we address those directly? Or should we do it through a wholesale arrangement? And that's been happening since the very beginning of the telecommunications industry.

9714 As you well know, on the wireline part of the business in Canada and elsewhere, it's -- there's a fervent wholesale market. On the wireless market, you know, we made a decision to buy Microcel and keep the Fido brand. We made a decision to launch the Chatter brand. These were ways of addressing a part of the market. We could have easily have said, you know what; we're to going to address the Chatter segment of the market. We're going to do that through an MVNO post-sale relationship. And you basically make a trade-off in your mind, do I want to open stores, open a call centre, worry about marketing, building a brand, or do I just get economic rent from my network and let someone else worry about that.

9715 In Canada the market has evolved such that we have multiple brands by carrier, not just on national carriers, but increasingly the regional carriers with the launch of Fizz in Quebec, as well as the Videotron brand, as a whole. So, the markets evolve in that manner.

9716 Where there are areas of the market that we feel are being underserved, or there's an opportunity, we're very open to the idea of MVNOs. We have an MVNO relationship with a company called Star. They are provider of wireless services under the Petro-Canada brand, under the 7-Eleven brand. So, that's a part of the market where we believe it's important to have presence, but we don't want to do it directly. We -- happy to form that sort of relationship.

9717 We have -- we had a relationship with both Videotron and Eastlink in the early days of their foray into wireless where essentially they were reselling the wireless network of Rogers to get going in the marketplace. And we felt both in Quebec and Atlantic Canada it was the right economic trade-off between wholesale and retail for us as an organisation. So, we've been very open to those notions and those ideas.

9718 In areas where we may own spectrum that we're not using as much or that we can't seem to get it above that list that Jorge looks at with respect to investment, we're happy to subordinate that spectrum to really it's a wholesale relationship, but it's really an infrastructure-based provider and we've got dozens of these across the country that, you know, will address the market by wholesaling our spectrum, for lack of a better descriptor, by subordinating to them. So, we're open to the ideas.

9719 I would maybe ask Diane, if you don't mind, Diane, just talk a bit about -- Diane's our director of wholesale -- about the proposals you do see from potential MVNO candidates, how you approach and address it. Just give the panel a view into that world.

9720 THE CHAIRPERSON: Well, and a good start -- just a starting point would be helpful in terms of just how do you -- what is the starting point for negotiations? Do you propose a set of terms and conditions? How do you go about it?

9721 MS. GILBERT: Thank you. We get approached by a number of prospects year -- every year. We have conversations with each one of them. We assess the proposal, the value proposition that they want to bring to market. And then at that point, if we believe there's a way forward and there's a larger conversation to be had, we sign an NDA with them, but only 50 per cent make it to the NDA stage. Many of them drop off, for the reasons we've mentioned earlier, go into the IOT market segment because they're not quite clear on what exactly they want, so they come to me first.

9722 Some of them get -- proceed with the discussions with our competitors and sign arrangements with them. And then many of them actually tend to -- once we start to talk about what it's required, the scale and scope of running such a business, sometimes they end up speaking to our branded channels and go to the retail side because they're much more supported there, and the role that they play is at a smaller scale and scope, and they feel that that's something that they could be more successful with.

9723 So, they approach us. If they make it to the NDA stage, like I said, about 50 per cent of them do, once we get past that stage, that's for the purposes of share more details, to understand more about how they want to go to market, what level of investment they have, what market or segment they want to target, and we give -- we ask them for a business case. And when we get to that stage, then another about 70 per cent of the 50 per cent that remain drop off because they just don't have -- they don't understand what's required to get into a business like this, and they tend to lose interest.

9724 And so that's kind of the process we follow, but certainly there's been a mass shift from a Smartphone MVNO voice proposition to the machine-to-machine, as we mentioned, and I know you already said you're very well aware of that, but it's very difficult to find a niche market today that isn't already fully addressed by the many brands in the market today.

9725 THE CHAIRPERSON: In most of the proposals, for lack of a better word, that come to you, do they tend to be sort of full MVNO proposals, or do they tend to be a rebranding type offering?

9726 MS. GILBERT: They are generally and mostly full. They don't have any infrastructure. They don't own spectrum. And they are looking for -- what they believe is an easier way into the market and quicker, but when they realise that just because you're not bringing the engineering or the spectrum to the table, there's still a very large endeavour behind that.

9727 THE CHAIRPERSON: And what -- sorry, go ahead, Mr. Watt ---

9728 MR. WATT: Oh, I was just going to -- to clarify in terms of how full that we're talking about the same thing here in terms I think full is in the context of the hearing, a full MVNO is where the MVNO provides a core network, you know, switching and billing, et cetera, as opposed to more what you

might call a rebrander. I think Diane is going the other way there.

9729 MS. GILBERT: You're absolutely right, David, and I apologise for that. I always knew the full MVNOs being those where they fully MVNO the business case. I apologise for that.

9730 THE CHAIRPERSON: I understood your response ---

9731 MS. GILBERT: Okay. Apologies for that.

9732 THE CHAIRPERSON: Not at all.

9733 What role does spare capacity play in your consideration? Is that a determining factor, the amount of capacity available, spare capacity in your network?

9734 MR. NATALE: Given the 30 per cent per annum data growth rates that we have, spare capacity is being very quickly used up across our network. And Jorge spoke earlier to how we manage capacity. The forward capacity in our network is often measured in months, in some cases, depending on, you know, events or major activities, it can be managed -- measured in weeks. So, Jorge has a methodology that looks on a -- as he mentioned, a 100-square meter basis it looks at capacity and is forever evolving it.

9735 It's not in our interest to have capacity lay fallow. Given our cost of capital, given the amount of debt that we take on as an organisation, given the returns at 5.1 per cent, it's not in our interest to have capital in the ground that's not earning revenue. So, we tend to try to really synchronise as much as possible the additional capacity with the ability to extract return from that capacity.

9736 The only thing that's sort of warehoused, for lack of a better word, often is spectrum, because we're waiting for spectrum to, you know, be cleared, or be available, or be deployed, but everything else is done as much as possible on a just in time basis for the reasons I described.

9737 THE CHAIRPERSON: Thank you.

9738 Some parties in the proceeding have argued that wholesale MVNO access is not an essential service in the same way that wholesale roaming was found to be in 2015-177. I'm guessing that's your position as well.

9739 MR. NATALE: Correct.

9740 THE CHAIRPERSON: So, what's the appropriate service or facility to apply the test to? Is it RAN access or is it MVNO access?

9741 MR. SLAWNER: Sorry, I think it would probably more apply to the RAN, but I don't think the RAN would actually meet the test by itself. I think there are ways -- excuse me -- for people to get entry into the market, as you already discussed. The government's been setting aside spectrum -- excuse me -- consistently for over 10 years now. I think we've seen a lot of entry into the regional markets of Canada. I again see Ray's Xplornet who has the possibility to become an additional carrier on the network. And last, but not least, I don't think there would be any substantial lessening

in competition if someone did get access to these components. The market in Canada is clearly competitive. There are, you know, three or four -- excuse me -- four facilities-based carriers in each market, seven or eight brands, so I don't think it would meet the essentiality test in any event.

9742 THE CHAIRPERSON: Thank you.

9743 We talked earlier, Mr. Watt, about appropriate geographic market with respect to retail for wholesale. It was national for roaming, but some parties have argued for MVNO access it be provincial or smaller. Which of these positions do you hold?

9744 MR. WATT: I believe we would want the wholesale definition to match the retail definition.

9745 THE CHAIRPERSON: Okay. We've also seen arguments that RAN's not essential because it's been duplicated by the regional carriers. But in areas where the regional carriers -- sorry -- in areas where regional carriers have duplicated the RAN does that decrease the likelihood of further duplication? We talked about this a little bit this morning.

9746 MR. WATT: I think it does because we come the fifth carrier, they're starting up, they would have to acquire spectrum. Spectrum is not easy to acquire; a lot of spectrum is already in the hands of the existing four providers. Those four providers also need additional spectrum to grow. I think it would be difficult.

9747 THE CHAIRPERSON: In your view, do national wireless carriers have market power in the upstream wholesale market for MVNO access?

9748 MR. WATT: Well, I believe there are three sources of acquiring the supply in the current time. Now, you might say that there's four. It depends on the restrictions within the network sharing agreements as to whether there are four potential suppliers of the service to MVNOs. So that is one of the ways you could possibly promote more competition in that sector by requiring the elimination of those requirements to get approval to the extent that they exist. By that I mean you get approval from Partner A if Partner B wishes to offer an MVNO service to an MVNO potentially from agreements have restrictions or require the approval of the other partner, and by eliminating those you could increase the potential supply of that product.

9749 THE CHAIRPERSON: Assume or agree with me for a moment that there is upstream market power. Would denying wholesale access to MVNOs substantially lessen or prevent retail competition in your view?

9750 MR. WATT: No.

9751 THE CHAIRPERSON: In response to an RFI, you -- and we appreciate the effort that was put into it -- did put forward a proposed model for an MVNO access service. It contains, however, a number of conditions and qualifications. I'd like to talk about those for a second.

9752 In your model, you propose that eligibility be restricted to facilities-based cable carriers, ILECs and small ILECs, but exclude CLECs. So can you -- can we start there? Why exclude CLECs?

9753 MR. SLAWNER: Just that some CLECs don't actually put a lot of -- it's just that some types of CLECs don't actually have to invest in any kind of significant amount of facilities, so they want restrict it to those entities that actually have -- make the facilities investments that wouldn't preserve the incentive to invest.

9754 THE CHAIRPERSON: Would that include facilities-based cable carriers who are also CLECs?

9755 MR. SLAWNER: Well, at the time that we did the proposal we suggested that, but in fact since we've seen the proposal made by the Bureau, if you are going to mandate MVNOs, and we don't believe that you should, but if there was to be a mandated MVNO model it should probably be more reflective of what the Competition Bureau suggested.

9756 THE CHAIRPERSON: Okay. Thank you. Again, with regard to small ILECs and CLECs -- sorry -- ILECs and cable facilities-based cable carriers, some of them are also operating as CLECs outside their incumbent serving territories. Would their eligibility be restricted to their incumbent territories in your view?

9757 MR. SLAWNER: It should be restricted to wherever they actually have footprint for delivering service using their own facilities, and if they're not making any significant investments then they shouldn't. I'd also like to point that when we made our suggestion we had said that just investing in landline facilities is not sufficient. If they are going to do anything they have to actually invest in wireless facilities, and that would have to be their ongoing obligation. Otherwise, they're just going to continue making the investments they otherwise would've. And there's really no teeth to the small. So in our view you'd have to actually mandated investment in wireless facilities.

9758 THE CHAIRPERSON: Thank you for that. You also proposed a restriction on the reselling of MVNO access. Can you elaborate on your reasons of why it's necessary?

9759 MR. SLAWNER: It's just to keep control of who's entering the business. It's to understand how much traffic will be on the network. Anybody -- if there's a mandated regime out there, anybody can approach us directly. So it doesn't make sense, in our view, to actually have somebody who can resell resell. You need to keep some control over it.

9760 THE CHAIRPERSON: But if you had the necessary -- go ahead, Mr. Watt.

9761 MR. WATT: Well, I was just going to say, there has been some discussion earlier this week about the -- about cybersecurity issues of having resale of resale so that being able to actually track where the traffic is originating and how it is going I think is another consideration when contemplating resale of resale.

9762 THE CHAIRPERSON: But if the resale -- if the reseller reselling is subject to Commission jurisdiction and the concerns about full information or cybersecurity concerns were removed, does it still remain a problem in principle? In other words, if we got rid of the practical concerns are you still opposed to reselling?

9763 MR. WATT: Could I take an undertaking on that? Because you know, I'm thinking back several years. There have been -- there were certain clauses required of us, actually. So we were the -- the carrier was held responsible for actions of certain reselling parties. I'd like to refresh my memory on that ---

9764 THE CHAIRPERSON: You are welcome to take an undertaking.

9765 MR. WATT: --- and make a proper answer.

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9766 THE CHAIRPERSON: Another condition is restricting it to the consumer market. Again, can I ask why prohibit MVNOs from selling to IoT business or enterprise customers?

9767 MR. SLAWNER: Just because we ourselves have over 200 M2M IoT relationships out there. I think there's two distinct marketplaces between retail and business and enterprise, and clearly there is no shortage of MVNOs on the business side. I'm sure that other facilities-based carriers have similar, you know, customers on their networks, so I don't understand why we would try to create a mandated regime for something that's so obviously well-served.

9768 THE CHAIRPERSON: Thank you. You ---

9769 MR. NATALE: Mr. Chair, may I just take a second ---

9770 THE CHAIRPERSON: Yes.

9771 MR. NATALE: --- and explain these relationships now that we've talked about them?

9772 We do have about 200 different resale relationships in the IoT machine to machine world. They are everything from a service that enables your Kindle e-reader, a service that enables entertainment in your car if you subscribe to a particular service, it will enable transportation on fleet management. We even have a service that will deal with, you know, pest control.

9773 So we are open for business as it relates to entrepreneurs and Canadian small businesses that show up at our doorstep and say I've got a great idea for a machine to machine or IoT business or platform in a particular industry. We think it's part of our responsibility to actually enable these businesses.

9774 And I think in some ways it's a microcosm of what 5G is all about. 5G is all about creating these platforms that will go far beyond, you know, e-readers and transportation management that really go into enabling the business of the future and driving productivity in all sectors.

9775 THE CHAIRPERSON: Thank you. In your response you also included a condition that does not give MVNOs access to domestic or international roaming arrangements of the host carrier. Again, can you speak to why?

9776 MR. SLAWNER: Again, those are relationships that we have spent a lot of time and effort building over the years. It is perfectly possible for any MVNOs to actually build those relationships. There actually are middleman broker types out there that'll do them for them, and you can just go to

one stop. So there is no requirement for them to take advantage of our roaming relationships. They are fully able to build their own.

9777 And I think the idea is to keep creating that incentive for these MVNOs to do as much as possible on their own and not rely upon on us.

9778 THE CHAIRPERSON: Okay. Thank you. You've no doubt, if you've been monitoring the hearing, heard our questions about in relation to some concerns that have been raised about entry by large, well-financed companies as MVNOs, for example, large North American tech firms. You've heard the questions; do you share the concern? Can you tell me if you share it, and if so, why and what kind of potential measures we could use, market caps, and so on if appropriate?

9779 MR. NATALE: I share the viewpoint that says large, global Webscale providers whose business value is measured, you know, at a trillion dollars or less that have massive balance sheets don't need any help or support coming into the country if that's what they chose to do.

9780 They have the financial wherewithal. They have the investment dollars to come and participate in this market and become an infrastructure-based player in this market and build network and capability that would support Canada and Canadians, so I feel the same way that they just don't deserve a handout in any way, shape or form. The market's been open to them from the very beginning and they're welcome to participate is the way I would describe it.

9781 THE CHAIRPERSON: And as to measures, subscriber limits, market caps; any suggestions for us?

9782 MR. NATALE: As an infrastructure-based player?

9783 THE CHAIRPERSON: Measures to potentially limit their ability to make -- avail themselves, pardon me, of an MVNO arrangement if mandated.

9784 MR. NATALE: I don't -- I don't think they -- first of all, we don't believe that MVNOs should be mandated and certainly ---

9785 THE CHAIRPERSON: I got that.

9786 MR. NATALE: --- should be made available to a Webscale provider. In terms of a test, I defer to my colleague to see if there's something we'd like to propose or whether we want to make it an undertaking.

9787 David.

9788 MR. WATT: I think we'd like to make it an undertaking because we think there are lots of complexities with any type of a cap or test in terms of, you know, trade considerations in a number of attributes, so can we take an undertaking?

9789 THE CHAIRPERSON: That would be fine.

9790 MR. WATT: Thank you.

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9791 THE CHAIRPERSON: Another favourite subject of yours.

9792 MR. NATALE: Can I just make one more comment, Mr. Chair, on this ---

9793 THE CHAIRPERSON: You may.

9794 MR. NATALE: --- topic? I do think that it would be absolutely devastating to the quality and capability of the networks in Canada to allow an MVNO of that scale or proportion as a whole. I do think it would just change the very nature and the future of the general economy in Canada.

9795 They've got incredibly deep pockets. Any one of them could just buy Rogers if foreign restriction on ownership weren't there as a verbal rounding (inaudible) in their balance sheet. So I just don't understand any logic by which they would even be allowed to participate on any threshold.

9796 THE CHAIRPERSON: Thank you. I do understand your position.

9797 Back to my next question, another favourite subject area: negotiated terms. What if there is to be a wholesale MVNO access arrangement and if mandated, your view is that terms and conditions and rates should be left to commercial negotiations, so couple of questions on that front.

9798 Putting aside the rate, which is not insignificant, in your view, would it be more efficient and less administratively burdened if the Commission were to endeavour to set out terms and conditions at the outset rather than -- in a tariff or decision rather than leave it all to commercial negotiations?

9799 MR. WATT: We would prefer to leave it all to commercial negotiation.

9800 THE CHAIRPERSON: And would the Commission's existing processes -- it's FOA process be appropriate for resolving disputes between prospective MVNOs and Rogers?

9801 MR. WATT: We think that would be the fallback position, yes. We think it -- really the FOA should be conducted by a third-party arbitrator. Maybe that -- and I understand this raises issues in your mind as to the delegation of authority et cetera, et cetera, but we do think that you could provide guidelines to that third-party arbitrator, and we would find that preferable to having the Commission act as the arbitrator.

9802 THE CHAIRPERSON: But whether ---

9803 MR. WATT: I just think it makes it more -- a stronger sort of commercial setting.

9804 THE CHAIRPERSON: But whether it was the Commission or a third party, if everything is left to the negotiation process, including all the terms and conditions, is it likely -- I can just envisage some very complex negotiations if parties are coming with -- starting from totally different starting points, someone looking for a full MVNO versus a lighter version or rebranding version.

9805 Absent terms and conditions, how do you see all of that being resolved, in particular, by a third-party arbitrator?

9806 MR. WATT: As we say, we think it should be resolved in a commercial negotiation. We really think that's the essence of a properly functioning MVNO market. If people come with the propositions they negotiate, ultimately, the only way it can work is when it's a win-win for both when

both parties agree, and that can only be achieved when they're able to hammer out a meeting of the minds, and that really is what you should want. You should want all those matters to be sorted out by the parties, but if they are not, I would suggest it's very unlikely it's going to be a very successful MVNO experience for anybody.

9807 THE CHAIRPERSON: The record is clear that you don't support other approaches to establishing terms and conditions and rates for an MVNO if mandated, but I should give you an opportunity to put on the record your view for, first, retail minus approach to establishing a rate.

9808 MR. WATT: It won't be surprise, but ---

9809 THE CHAIRPERSON: Few things are, Mr. Watt.

9810 MR. WATT: Yeah, sorry. We're not in favour of a cost-based study to arrive at a rate. Whether it be the traditional methodology of phase II, we think -- think we have clear evidence of the difficulty of that exercise earlier this year.

9811 In terms of retail minus: retail minus, a problem that generally arises; there is what is the definition of the services and then how do you address promotions, discounts? The product has provided three months' free; is that the lowest retail price that you then discount from?

9812 There are these complexities we have mused and we know that we're coming to a proceeding on a review of costing methodology we muse and will it hold us to this when we make our submissions, but whether something such as an average retail (inaudible) ARPU for a service, it would take into account the discounts in the promotions et cetera would be a better starting point that said the listed price that takes -- it sort of ignores your problem with discounts and free months. And then arguably, it's simpler to identify the costs -- the avoidable costs than it is to do a bottom up Phase II and get into the complexities of the network which is very difficult.

9813 So -- but in general, we don't like any of those proposals. I might ask Richard to talk about the international experience on how some of these -- some rates have been set or how are they set, if that's alright, Mr. Chairman?

9814 THE CHAIRPERSON: Yes.

9815 MR. WATT: Okay, thank you.

9816 MR. FEASY: Thank you. So the first point, I suppose, is that instances of regulators determining the price are so rare as I think to be almost nonexistent.

9817 In the two cases that I referred to in my opening remarks in Europe where MVNO access has been regulated, the regulator was never asked; the firms were always able to come to a commercial conclusion with the MVNOs because the -- in those cases it's worth noting the challenge that had been identified was that there was a lack of offers of MVNOs. It wasn't there wasn't an allegation that the operators were coordinating on the terms, the commercial terms that were then supplied. So, once the operators were obliged to supply, the commercial terms appear to sort of take care of themselves.

9818 The problem, in my view, or the biggest problem, whether you're doing some kind of cost model or you're using the retail minus, but any sort of regulatory approach, is that you end up setting a single price for a very diverse set of demands.

9819 So, typically in MVNO markets, their characteristic is the MVNOs differ amongst themselves in terms of the parts of the market they're seeking to serve, the niche -- often niches, and the strategies that they're pursuing. And in a normal functioning competitive market that would lead to different commercial prices for each of those MVNOs with the host operators reflecting the different value calculations for each in particular model.

9820 So, and the difficulty with using a regulated pricing approach, it's very hard for a regulator to set all those different pricing points that would mimic the way a properly functioning competitive market was. You would just set sort of one rate, and that rate will then apply to all the MVNOs who are seeking access. And it might be appropriate for some, if you can get there, but it won't be appropriate for others.

9821 So, you're in a world where there will be permanent discontent amongst at least some of the players because the pricing is not reflecting the commercial situation.

9822 So, I think the experience is that -- and the consequence of that, recognising that is that typically regulators have adopted this approach of saying we look to the parties to find that -- a commercial price that you would expect to get in a properly functioning market, and we seem to avoid and thus far successfully in the rest of the world, ourselves intervening in terms of substituting our own view of what the rate should be.

9823 THE CHAIRPERSON: Thank you.

9824 Let's talk about the Bureau's model for a second. Let's set aside their conclusions with respect to the competitiveness of the retail market, which I understand you do not agree with. Otherwise, what's your view of their model?

9825 MR. NATALE: I know this sounds repetitive, but I need to say it. We are against the notion of mandated MVNO ---

9826 THE CHAIRPERSON: Understood.

9827 MR. NATALE: --- access in the market.

9828 You know, on the surface, when you look at the Competition Bureau proposal, it's the most similar to an infrastructure-based investment oriented regulatory approach that we've seen or that has been, you know, postulated. But -- and they, on the surface, seem like the least harmful, if I can call it that, with respect to investment, et cetera. But when you dig into the details, you realise it's very complex, extremely complex, and it really, you know, pivots on this notion of the five-year sunset. And we've debated amongst ourselves, we just can't seem to figure out how we could actually effectively manage a five-year sunset if we were to have -- given responsibility for it.

9829 Frankly, I think it does undermine the regional carriers and the investments that they've made and the success that they're having in the market. And it just punts the problem into the future with respect to managing that sunset.

9830 I don't know what would happen in year four, for example, when there are, you know, customers being served by that provider, yet they have not met their obligations with respect to building, and then we're into this very difficult circumstances that will probably start with a plea to extend the period longer, and we will, you know, really never effectively be managing to that complexity is the worry.

9831 So, I mean, I'll pause there and let others comment if they want to, but we think it's problematic.

9832 THE CHAIRPERSON: You mentioned the sunset and I appreciate you've made clear that you don't support the approach. If it were to be implemented, in your view, would it be from the day of a decision or would it be tied to when a competitor buys spectrum in the market?

9833 MR. WATT: We do think it would be from the day of the decision.

9834 THE CHAIRPERSON: Would it be ---

9835 MR. WATT: In terms of ---

9836 THE CHAIRPERSON: Pardon me.

9837 MR. WATT: Excuse me. I was going to -- I was thinking of the second part.

9838 When there's a spectrum auction probably either later this year, early next year, should a new player acquire spectrum, I think it would start for that player at the time of the spectrum acquisition. I don't think that's all that administratively complex because I don't think you're going to have really large numbers of players, new players buying spectrum. So, I don't think at least in that perspective from the start date that their proposal is overly complex.

9839 THE CHAIRPERSON: If we did adopt the Bureau's model, would it be appropriate to restrict MVNO access to regional carriers with a minimum investment, spectrum deployment or number of subscribers in order to ensure continued investment?

9840 MR. NATALE: I think it's fair to say we just don't support the proposal as a whole, and it just in its complexity feels like we're trying to land a very big airplane on a very small aircraft carrier to try to find a solution that might work with all these complexities wrapped around it. So, it's very difficult to comment on a specific element of it when we just think the models doesn't make sense in totality, Mr. Chair.

9841 THE CHAIRPERSON: Okay. Thank you.

9842 MR. WATT: Maybe one comment we would make though, we really do not understand the possibility of having a fine levied on people who availed themselves of the opportunity, and went into an area where they had previously been, and actually sold, and then started to deploy, and then found, well, it just doesn't make sense. I think, quite frankly, they've been punished quite enough

having that investment and/or having had customers come to them and then being told, "Well, no, we're not going to actually provide service in that area anymore". I really don't see how that aspect of the proposal plays.

9843 THE CHAIRPERSON: And what do you think of the notion of call it a Bureau plus approach where access on an MVNO basis might be permitted for the regional players outside of their serving territories?

9844 MR. WATT: I think for the reasons that Howard mentioned earlier, we would be opposed to that. We believe it should be closely tied to facilities-based investment and facilities-based provision as possible in the wireless spectrum field.

9845 THE CHAIRPERSON: Thank you.

9846 In your submissions you've stated that if the Commission mandates the provision of wholesale MVNO access it should be limited to a period of five years. Can you clarify what you're thinking? You just mentioned some of the concerns about the Bureau's proposal to sunset after five years. Are they not similarly true for an MVNO arrangement?

9847 MR. WATT: Yes, they are. This was in our -- I'll reiterate what Joe has reiterated that we're opposed to MVNOs. So, this was in a spirit of in the alternative should that be the case, how would you, in our view, limit the damage, and in our view, you would limit the damage by a sunset clause, despite our reservations that the sunset clause would not ultimately be adhered to. But we ---

9848 THE CHAIRPERSON: Is the -- if you look at other carriers -- again, if the Commission were to mandate MVNOs, should regional carriers be mandated? And you can guess the follow-on question, SaskTel specifically, or Tbaytel.

9849 MR. WATT: Well, if you're going down that path, I think you probably would have to with respect to SaskTel and Tbaytel. They are the large provider in those territories.

9850 With respect to the three newer regionals, I would think you possibly could not place the obligation on them.

9851 I mean, quite frankly, I don't think that it resolves the concern. If you're thinking that if they are not mandated to provide the access that lightens the issue for them, I don't think so because they still will be facing -- an MVNO would be riding on the larger players' networks and competing against them in the retail market.

9852 I know Tbaytel said they actually wanted, should you go down this course, that they would have -- an MVNO would have to come to them first. And again, their presumption there is that the rate that would be struck by whatever means would be fully compensatory.

9853 They might live to regret that decision that it comes to them first if the rate were to be struck below the cost, but I think that would -- that would be our answer, Tbaytel and SaskTel as the largest players in those markets, and don't think you should have to mandate on the -- between new players.

9854 THE CHAIRPERSON: Thank you.

9855 I know you don't -- all of this is assuming something to which you stated your opposition, but I have a couple of more points in this -- in this area.

9856 Should the requirement to provide MVNO access only apply to the wireless carrier in each area with the largest network coverage -- coverage area or market share?

9857 MR. WATT: As you can tell, this is one we really haven't thought of before. Can I take an undertaking?

9858 THE CHAIRPERSON: You may.

9859 And why don't I give you two other sub-points, and maybe you can address them all together?

9860 So maybe it would bear repeating. Should the requirement to provide MVNO access only apply to the wireless carrier in each area with the largest network coverage area or market share?

9861 And perhaps we can add, you might want to comment on the benefits of requiring the provision of a wholesale MVNO service over multiple networks covering a given area and what would be the implications if we were to mandate only a subset of the national carriers to provide MVNO access and if a subset were appropriate, to whom would it apply.

9862 So if you'd care to respond to those in an undertaking, that would be fine.

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9863 MR. WATT: We will.

9864 I think Richard wants to respond from the international perspective now since we have him here.

9865 THE CHAIRPERSON: Go ahead, please.

9866 MR. FEASY: Thank you.

9867 I mean, just a quick comment about how I think in other contexts people would think about this is the scope of your intervention depends on the problem that you've identified.

9868 So if the problem you've identified is that one carrier somehow has market power and is distorting the functioning of the market, then you would focus on the problem on that carrier.

9869 My understanding is those people who are advocating intervention in this proceeding, I'm not aware that anybody is suggesting that the single carrier in and of itself has market power. As I understand it, the suggestion is that collectively some group of carriers.

9870 So at least the starting point for thinking about that question in other contexts would be that the scope of the intervention would depend on the way you characterize the problem.

9871 THE CHAIRPERSON: Thank you.

9872 In your view, does the current definition of "roaming" in your roaming tariff apply to 5G?

9873 MR. SLAWNER: No, the current wording in the roaming tariff does not cover 5G.

9874 THE CHAIRPERSON: And what would need to be changed if it was to apply to 5G?

9875 MR. SLAWNER: You'd have to redo the roaming tariff.

9876 THE CHAIRPERSON: And the supporting rates?

9877 MR. SLAWNER: And the supporting rates to roaming?

9878 THE CHAIRPERSON: Would it require re-examination of the rates -- of the -- pardon me, of the costs? Not rates.

9879 MR. SLAWNER: Possibly, yeah.

9880 MR. WATT: I'll make it a more definitive yes.

9881 THE CHAIRPERSON: I thought you might.

9882 Would such a change have an impact on 5G rollout?

9883 MR. WATT: So the question is, if roaming were required on a 5G network if the rates were redone to reflect the cost.

9884 I'm going to say likely not. To put it in perspective, roaming -- and there's been a lot of talk about roaming.

9885 You have the numbers. You know the relatively small quantum of roaming, the dollar amount. It's -- I'm not going to say it's *de minimis*, but you're looking at, say, in the one to two percent range of the costs of people so that that is not -- that change in and of itself is not going to make or break a new player.

9886 You know, in terms of, I think, for us, an absolutely new product that we're rolling out when they have exactly the same opportunity to roll it out, like I don't think it would be appropriate to require us to have to give access to 5G. It's again -- assuming that we have some type of advantage on something that hasn't even -- we're just in the very early stages of rolling something out and to be ordered to give access to it just doesn't seem to be the right way to go about it.

9887 MR. NATALE: It would only serve to slow the progression of 5G. If anything, you know, those who can avail themselves of set-aside spectrum at a lower cost, they have a bit of an advantage as relates to 5G, so I think look at it from the perspective of, you know, 5G's early days. Let's push as hard as we can to extend it as far as we can into Canada before potentially impeding it.

9888 THE CHAIRPERSON: Thank you.

9889 Just sticking with the roaming tariff for a moment, would any changes be required to limit the scope of mandated 5G roaming to service this connecting to individual consumers versus like IOT devices?

9890 Would that -- would that kind of change also be required?

9891 Using the current roaming tariff as a starting point.

9892 MR. WATT: Again, I think this is one I'd like an undertaking for, if I could. Even just listening to the question I was having trouble.

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9893 THE CHAIRPERSON: That may be the responsibility of the questioner, but ---

9894 MR. WATT: No, no. The question was fine.

9895 THE CHAIRPERSON: --- you can see it on the transcript and I'll accept the undertaking ---

9896 MR. WATT: Yeah. No, thank you.

9897 THE CHAIRPERSON: --- and not let you embarrass me.

9898 MR. WATT: No, the question was clear. My brain just couldn't connect the two pieces to think of an answer.

9899 THE CHAIRPERSON: I'm kidding.

9900 And a question we have asked a number of parties, which really is two parts. We've asked whether your current network supports full tape, but I think the most important consideration is are you on schedule for the 31st December, 2020 date mandated by the Commission for 911 real-time text?

9901 MR. SLAWNER: Yes, we are.

9902 THE CHAIRPERSON: Thank you.

9903 Seamless roaming. You have identified -- you've no doubt again heard the discussion on the record. You've identified that there are a number of changes required, billing systems, in effect, having two networks inter-operate seamlessly. Others have presented us with a different picture, suggesting that the costs are less than -- and complexity is less than has been suggested. So, for the record, could you give us your views, and I guess more important, and I'm sure this will be via undertaking, could you give us an estimate of what it would actually cost to implement seamless roaming and that will -- as I said, I will assume you will want to respond to that on -- via undertaking.

9904 MR. FERNANDES: Mr. Chairman, the implementation of seamless roaming is not only incredibly complex and costly to implement, but so complex to maintain that it becomes effectively useless looking to qualify this statement.

9905 We have around 135,000 cells on our network. To provide seamless roaming we would have to map each and every one of these in terms of the neighbor relationships between these cells and the cell of the roaming or the handover network. And not only would this be incredibly costly, as you can imagine, I mean, it's costly as it is for our own network because, you know, we have to provide this mapping and relationship between the cells on our network, but we now have to align the ongoing management and optimization with the other network as well.

9906 And so even if such an endeavour were to be done, every time there was, you know, a change in power on the network because of an increase in demand, or there was a change on a tilt of an antenna, or a change on a fault, that work would have to be redone again.

9907 I can also state from personal experience in the UK where we had to apply this solution between two networks, one in the east of the country, the other on the west of the country, that, you know, even with the ongoing effort in what is arguably a much, you know, simple solution because it's along a well-defined boundary, even there we were never really able to successfully implement it, and so, you know, troubles continue to happen.

9908 I would end by saying that, you know, even so, you know, a seamless handover is only something that truly only really applies to voice. It's not a problem for data.

9909 THE CHAIRPERSON: Out of curiosity, how long did it take to implement that solution in the UK?

9910 MR. FERNANDES: It's still ongoing, to be honest.

9911 THE CHAIRPERSON: But the initial attempt to?

9912 MR. FERNANDES: It takes -- well, a few things. One, it takes months, and the other one, it has to be done within a part of the -- you have to essentially separate your engineering teams because this information of both networks is complexitively (sic) sensitive information. So, if you can imagine, a network that is building a new site would have to provide information of this new site to the competitor to inform that this change would have to be done.

9913 And so, in the case in the UK, we had well-defined Chinese walls between engineering teams that were part of this partnership and the ones that were not part of this partnership. And so, this was an operation that took, you know, essentially months and months.

9914 But as I said, you know, it's an ongoing effort because I think as, you know, Richard will attest, if he uses the M4, I'm sure he still has the same dropped calls that, you know, we've tried to solve for many, many, many years.

9915 THE CHAIRPERSON: Recognising, or taking into account what you've just said, would you undertake to give us a best efforts response at what would be the cost and timeframes involved ---

9916 MR. WATT: Yes, we will.

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9917 THE CHAIRPERSON: --- in facilitating it with the usual underlying calculations and assumptions?

9918 THE CHAIRPERSON: Change of subject and I'm getting near the end, you'll be glad to hear. You've heard from some parties, for example, Railway Association of Canada last week and other public utilities who are seeking mandated access for enterprise and public entities. Your view is, I take it, that such access isn't required because there are commercial solutions. Is that a fair assessment?

9919 MR. SLAWNER: Yeah, that's the case. We've actually had discussions with several utilities and railroads. We've already started to explore possible solutions for their issues. I think that we are, as a wireless carrier, the wireless connecting -- connection experts. They have clearly special issues, including security, that they need to have addressed. And I think what will happen, is that we'll work together to provide a solution that, whether it's private, or semi-private, or something, something will happen.

9920 I think you've already seen around the world with utilities or, you know, port installations or what have you, these kind of partnerships are already developed and I think that they will develop in Canada as well.

9921 THE CHAIRPERSON: Thank you for that.

9922 Do you object to their proposal to obtain mobile network codes?

9923 MR. SLAWNER: I think as long as it becomes part of the commercial arrangement, then we can figure out how best to do it. And if that's the best way, then we could consider it.

9924 THE CHAIRPERSON: Thank you.

9925 MR. NATALE: Mr. Chair, just one comment on this topic. In the world of 5G, one of the capabilities that we're working on is this notion of network slicing. And as you know, network slicing will allow us to deliver a portion of our network to a particular customer application that has very specific characteristics that meet their needs, whether it's latency, whether it's connection time, whatever that might be for that railroad, or mining operation, or utility, and actually save them the cost and effort of having to do something themselves. Where the expertise is becoming more complicated and more individualised, we think that one of the great promises of 5G, besides speed and latency, is mobile edge computing and network slicing. We haven't talked much about these things, but I think they're topics that are worth considering as you opine on the future of the industry.

9926 THE CHAIRPERSON: Thank you.

9927 Some of those parties, same parties have also raised the use of eSIMs. Is that -- do you support the use of eSIMs in your devices, in your network today?

9928 MR. NATALE: We do.

9929 THE CHAIRPERSON: You do? And would a device -- see how to put this -- would a device on your network be permitted to have another network profile on its eSIM at the same time as yours?

9930 MR. FERNANDES: Not at the same time. The device would be attached to one network at a time, if that's your question.

9931 Now, the device could detach from one network and then attach to another network. You're able to do that today on any iPad where you can select another network and attach that network through the eSIM capability.

9932 THE CHAIRPERSON: But not multiple ones at the same time?

9933 MR. FERNANDES: Not at the same time.

9934 THE CHAIRPERSON: Thank you.

9935 And is that true for machine-to-machine devices as well, the same applicability -- availability, rather, of eSIMs and those same characteristics?

9936 MR. FERNANDES: Those devices, when they do need alternative connectivity, they tend to resort to roaming to provide the alternative connectivity.

9937 THE CHAIRPERSON: Thank you.

9938 You've already answered my questions about network sharing I think when we talked earlier on the retail side. So, my last area of questions, just a couple or final ones, and that goes to support structures.

9939 So, you're unique among national carriers in that you don't have the same support structure assets that Bell and TELUS do, since you started off as a cable operator, not as an ILEC. So, in that sense you've probably got more in common with the regional competitors than with at least Bell and TELUS.

9940 Something that we've heard from both sides on this issue is that we don't seem to have a lot of hard data, and there's a lot of missing facts with respect to the magnitude of the problems faced and the resulting impacts. There's a lot of anecdotal evidence, anecdotal descriptions, not so much in the way of hard evidence.

9941 Is there anything that you can provide now or through an undertaking that, for lack of a better term, a little harder data that can give us some information on frequency of denials, length of delays, financial impacts on your business?

9942 MS. DINSMORE: We heard that question being asked the other day, and we got the wheels in motion to begin looking at a more fact-based approach that we could provide to you in an undertaking.

9943 We have many, many anecdotal stories. They are legion. The problems are real. They span from anything from the permit application process, where we're paying for inspections, we're effectively doing an audit for the ILECs. And when we finally complete that process and given the bill we are told that they don't actually have spare capacity for us, and on some occasions they end up using that very same capacity that they claim is not available for us. That's one anecdote.

9944 When we do get denials we're never really told is it because we're using the capacity or is it because we're saving that capacity for future use. So the rules under the tariff are very different than they are under the ISED protocol that we have for towers siting. That process is far more transparent.

9945 There are requirements if you are going to reserve capacity to provide that reservation to the requesting licensee. You have to provide drawings as to what the loads look like on the tower, and if you do reserve for say 18 months imminent future use and space does become available in the

interim, you then have to go back to that requesting licensee and you let them know that they can get on now. We have none of that when it comes to the ILECs.

9946 So what we're doing is we are doing, for your purposes, a more extensive audit of our own -- of the problems that we're facing. We're very hopeful that that can then feed into a tariff review process where these things would be fully aired, and we would end up with a tariff that would be far more transparent and where we would have much more, again transparency in this process.

9947 THE CHAIRPERSON: Thank you. To be ---

9948 MR. NATALE: Mr. Chair, if I were to -- just a quick comment. There are three things that will impede the progress and evolution of 5G for the benefit of Canadians. One, we've talked about investment support in terms of regulation. Number 2 is access to spectrum. Access to 5G spectrum in all its frequencies; and Number 3 is this issue, access to support structures.

9949 We are woefully underprivileged on this -- in this area and we need your help and support so that Rogers can fulfill in their commitment to deliver 5G to Canadians.

9950 THE CHAIRPERSON: Thank you. To the extent that you can provide, as I said, some more specifics by the deadline date of 10th of March, that would be appreciated.

UNDERTAKING / ENGAGEMENT

9951 THE CHAIRPERSON: Beyond that, and you just made reference to this, you proposed that we hold a follow-up proceeding to look at the tariffs. But late last year, we did launch a proceeding looking at barriers to infrastructure deployment in rural areas. In your view, could the issues that you've raised about support structure access be addressed in that proceeding, or do you -- are you still in favour of a separate proceeding to specifically address these tariffs?

9952 MS. DINSMORE: I think we'll still need a proceeding to separately address these problems because we're talking about -- so the tariff sets out the rules of engagement between, say Rogers and Bell, Rogers and TELUS in terms of our actual access, it's very detailed. And I think we can raise these issues in that proceeding, we will raise these issues, but I think more specifically we're going to need to actually amend the tariff.

9953 THE CHAIRPERSON: You have given us an indication of the kinds of issues you want. Perhaps in that undertaking you could give us a more complete list of the issues that you would propose to see examined in that follow on proceeding?

9954 MS. DINSMORE: We'd be happy to do that. Thank you.

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9955 THE CHAIRPERSON: Thank you.

9956 Last question from me, and then I'll ask my colleagues.

9957 You've also heard our discussions that we've had with numerous parties about the desirability of establishing a 5G working group, for example, as proposed by the FCM and some others. You've said some other things should come first, for example, some clarity around jurisdictional arrangements. But are there any lessons that we can take from your prior experience in other working groups, CISC or otherwise, that would make a 5G working group effective?

9958 MS. DINSMORE: I mean, I think the problem is if we go back to the model MAA process, which I think was one of the working groups that was referenced in this context, that process took a year-and-a-half. The parties could not come to consensus on many of the major issues, most of which revolved around, you know, what are causal costs, what gets reimbursed, what doesn't, and so that process then took another year-and-a-half to get a decision.

9959 So I think the lesson learned there is that this process probably won't work. That we really do need the Commission to clarify the rules of engagement. We had proposed that frankly out of this proceeding you can do that. The record is rich in terms of discussion around these issues. You asked questions in your RFIs that specifically addressed what was in the bounds of your jurisdiction.

9960 We responded, so did many other parties, it's a legal issue, it's a legal interpretation. There really in our mind is no policy reason that would cause you to treat wireless and wireline equipment differently.

9961 Now with the onset of 5G, the time is nigh. If we have to wait for a working group which we think would just get bogged down in issues of non-consensus, especially around things like occupancy fees.

9962 I mean we -- as you know, we don't agree that we should have to pay occupancy fees to place small cells of municipal street furniture, but we have in our negotiations to date with municipalities, because we don't have the Commission's framework that we're looking for, we do end up paying occupancy fees to municipalities to place our small cells on traffic, you know, on traffic standards, light standards. That's something that is totally contrary to the Ledcor principles, but because we don't have the framework and we need the access we need to go ahead, and so we're currently signing those kinds of agreements but we don't think it's right. And if we had your oversight and we had this clarification, then we would be well on our way to resolving that problem.

9963 We're quite prepared to pay for causal costs as we do with access to rights-of-way, and we think that that same rule should extend to wireless equipment and to street furniture, and we've detailed that in our RFIs to you.

9964 THE CHAIRPERSON: Thank you. Thank you very much.

9965 Those are all my questions. Commissioner Barin?

9966 COMMISSIONER BARIN: Thank you.

9967 I have a question for you regarding the example of the Québec market. This morning, we spoke about the fact that Québec has lower prices for wireless services. Now, I want to understand your position with regards to competition from regional facilities-based carriers in other markets.

9968 So when you say that the Canadian market is currently competitive, are you saying that regional competitors in other markets are already providing effective competition and that this will drive prices down potentially if we're patient or are you saying that the Québec is an outlier or different in some fundamental way?

9969 MR. NATALE: We're saying both. First of all, we're saying that the regional carriers are doing a good job of driving competitive intensity in the markets. Look no further than last year. Last year between Videotron and Freedom and Eastlink they garnered 33 percent of the net new customers in the first three-quarters of the year. That's more than Rogers got, that's more than TELUS got.

9970 And to Richard's commentary earlier, that is probably the most visible demonstration of success in a market that new customers coming to market they're getting that proportion of. When you compare that to the size of their base it's even more stark given that they have, you know, a far smaller base of customers than we have as a whole.

9971 As it relates to the Québec market, it's as intensely competitive as the other markets. Even before the arrival of Videotron prices were lower in Québec because the appetite for whatever reason was lower in Québec. And today, even though prices are lower in Québec, the percentage of Québécois that have a cell phone is also amongst the lowest in the country. You know, it's just the nature of the market and the structure of the market.

9972 Brent talked about Alberta, where in Alberta our pool is the highest and actually penetration is amongst the highest in the country. So these are vagaries of the Canadian market as they differ from region to region.

9973 But I would say to you that when you look at the fact that wireless prices have gone down by 50 percent in the last five years; you look at the percentage of new customers garnered by the regional carriers; you look at what's happened this last year along with respect to unlimited plans, the market is working, and the market is driving affordability while at the same time supporting investment.

9974 COMMISSIONER BARIN: Thank you. I don't have any more questions.

9975 THE CHAIRPERSON: Pardon me.

9976 Commissioner Levy.

9977 COMMISSIONER LEVY: Good morning -- good afternoon now. Just a couple of questions.

9978 We've seen different assessments of the Canadian market, and you're in the forecasting business; you do it all the time. What do you see as the capacity, the expansion and capacity of the growth in the numbers of consumer in the Canadian market over the next few years?

9979 MR. NATALE: Sure. Well, as I said earlier if you look at the number of Canadians over the age of 10, by the math alone, it's roughly equal to, you know, complete penetration as a whole.

9980 Having said that, a couple of factors do play in; our models and forecasts look at the benefit of immigration to Canada, roughly about 2 percent growth in the population, and we're seeing that in terms of the growth in wireless subscribers in the marketplace as a whole.

9981 We're also seeing growth in penetration in the remaining portions of penetration fueled by a few factors that are more novel to Canada right now and have been fully articulated in the U.S., for example.

9982 The idea of having two phones is not as prominent in Canada. In the U.S. it's actually quite prominent. The idea of separating your personal life from your work life and having a work device and a personal device is starting to take root in Canada; we're seeing some of that. So that creates a penetration gain in opportunity as well.

9983 The opportunity for people to add a tablet or other device to their plan, you know, counts as a degree of penetration, albeit a different type of penetration but still a rich appetite in use for the technology as a whole.

9984 So we think between immigration growth, the use of dual devices; thirdly, the fact that the used phone market, as Brent has called it, will actually create more opportunity in terms of affordability and we'll see people give a used phone to, you know, the older person in their family that may not have a phone yet, or a child that wants a phone for whatever reason, for security, safety reasons, or entertainment reasons. So we're seeing the proliferation of used phones actually expand the market as well.

9985 Penetration rates in Canada are roughly about 85, 87 percent, and we see them marching towards, you know, 100 percent over the fullness of time based on these factors.

9986 MR. WATT: I'm just going to pick up on that last point that Joe mentioned.

9987 We do recognize a lower penetration in the lowest income quintile and it's -- so there's opportunity there to drive more penetration in what Joe has described as a pretty saturated market. And that's going to come from things like the used phones, some of the plans we're introducing and, you know, quite frankly, the potential plan that we were discussing earlier today. But there clearly is opportunity to drive more penetration in that area.

9988 COMMISSIONER LEVY: What about your forecast for Canadians' data usage? Do you have anything that you can add to your previous comments on that?

9989 MR. NATALE: Sure. I mean, right now we're seeing about a 30 percent growth into the usage. We do look to other markets to see, you know, if you will, where the puck is going. If -- you know, we talked earlier about South Korea. South Korea probably leads the world in many ways, along with Japan, in terms of overall consumption. Their data consumption sits in the 20s; 25, 25 gigabytes per month on 5G. They've got a very vigorous 5G network.

9990 Before they launched 5G in Korea, the average consumption was sitting closer to 7 or 8 gigabytes. So there really is no reason why we won't be on that progression path. It's almost a bit of a view into the future. And we spent time with our peers in different countries to understand, you

know, how they're seeing data consumption.

9991 So data consumption, we believe, will, you know, march from 2.5 to 3 gig to eventually 7 or 8 and beyond in the next many years.

9992 COMMISSIONER LEVY: You mentioned that that 5.1 percent return on assets, and you suggest that that's a better way of looking at your profitability, if you like.

9993 MR. NATALE: M'hm.

9994 Commissioner LEVY: How do you think that compares to your major competitors?

9995 MR. WATT: Bell and Telus are both roughly in the same range.

9996 COMMISSIONER LEVY: Okay. And, finally, transparency has arisen several times in various parts of the conversation this morning and this afternoon. You talked about the relationship with your customers and the kinds of deals that you're prepared to offer them.

9997 We heard one of the intervenors earlier in this process suggest that Canada is still such a small market that you can't get Apple, for instance, to give you a bulk discount on devices for Canada. Is that your experience?

9998 MR. NATALE: I'll defer to Brent, who is the former leader of Apple Canada.

9999 MR. JOHNSTON: I'll be careful what I say here.

10000 So, you know, the -- I would say in the global context, Canada is relatively small, from an Apple -- in the single digits in terms of percentage of their business. But is large enough, fully, for sure, to be engaging with carriers to offer, you know, various incentives, and we work together to perform well in the market together. I'll just leave it at that.

10001 MR. NATALE: I think one comment I'll make much more broadly, not specific to Apple, but if you add up the revenue of Rogers, Bell, and Telus, and then add to it Videotron, Shaw, and Eastlink as a total in wireless, we are no more than 2 to 3 percent of the total global revenue of the wireless industry across every country.

10002 So we sometimes have a hard time punching above our weight. We sometimes have to really work hard to understand what the very large players are doing, the Vodafones, the Verizons, the SK Tels of the world because they actually make the market and drive the technology direction.

10003 We often find ourselves draughting in their wake and making sure that we avail ourselves of some of the ideas that are out there. And we all do it; all the players do it, industry does it. It's part of being in Canada and being small on a global scale.

10004 COMMISSIONER LEVY: So are you prepared to make any kinds of discounts and so forth readily apparent to your customers when you're negotiating with them? You know, if I have come to the end of my plan and I'm trying to decide am I going to have more muscle in the market as I come

to my new plan if I bring my own device, if I buy it myself, but if you can get it for me at a discount and over the course of a term it will be less, does that -- can you break that out for a customer so that they can make those kinds of decisions?

10005 MR. JOHNSTON: Yeah, I'll say a couple of things. We've moved now across all of our brands that provide devices to a financing world where the service -- the cost of service and the cost of the phone are delineated and very, very transparently separated. So people know exactly what they're paying for the phone and they know exactly what they're paying for the service. And then at the end of the contract when you're done paying for the -- payment for the device falls off and you're left with just paying for the rate plan.

10006 So I think that takes us a giant leap forward versus a day when subsidy was -- in some ways the rate and the hardware repayment were baked into the same cake and it was hard to disaggregate, sometimes, which was which. So that's been a major step forward I would say, first of all.

10007 Second, when you look at a customer and you're deciding at the end of their contract what type of promotion, or what type of offer you might want to provide to them, I'd say two things, one Joe mentioned that the vast majority of our volume, a large proportion of the volume that happens in the market happens at these peak moments, Black Friday, Boxing Week, and back to school.

10008 When you dig into that volume, you'll find that the majority of that is actually renewal activity. Those are people that are coming back to you and resigning a contract and extending their relationship. And those happen disproportionately as well in those sale moments.

10009 So that's when customers are getting a deal. And those deals are very much set across the entire industry, given the level of competition, so that everybody is offering deals at the same time.

10010 And then in the case where perhaps we're talking to a customer one on one, given financing and given the opportunity to also understand that customer's unique needs, and their loyalty to us over time, and how long they've been a customer, and the quality of that relationship, we will reward that and offer, you know, specific promotions and incentives to continue to be a customer with us. And those are very clearly laid out.

10011 And of course, we want them to say yes to that, so we'll always be referencing the in-market price at the time and the discount that's being offered.

10012 So that would be the nature of those interactions.

10013 COMMISSIONER LEVY: Thank you.

10014 THE CHAIRPERSON: Commissioner Laizner?

10015 MR. NATALE: If you look at our desire, our number one priority as a company is to put customer's first.

10016 Right in that language and that manifest to the Roger's team is to be clear and simple with our customers.

10017 So it's part of our wiring to focus on all of these areas where we could improve clarity.

10018 MR. WATT: Commissioner Levy, if I could, just very quickly, I very confidently said that Bell and Telus' return on assets was similar to Rogers, 5.1.

10019 I said that on the basis of having looked at that number for 2018.

10020 It's dawned on me the 5.1 number we provided, in order to take out gyrations or any jumps up and down in one year, is a five-year average.

10021 Can I undertake to do the precise same five-year average for Bell and Telus just to make absolutely certain that what I said, that's very comparable, is true? I don't want to mislead you.

UNDERTAKING / ENGAGEMENT

10022 THE CHAIRPERSON: Thank you. Sorry, I interrupted you, Mr. Natale.

10023 Commissioner Laizner?

10024 THE VICE-CHAIRPERSON: Good afternoon.

10025 You've argued that the current definition of roaming in your tariff does not include 5G.

10026 There are other parties that have argued, based on the way the roaming service is defined in the tariffs, that is incidental access to GSM based voice, text, and data services, that 5G would automatically be included, unless the definition were to be changed.

10027 And I understand that that is the kind of wording that you used in Rogers Access Services Tariff.

10028 So how do you respond to that argument?

10029 MR. SLAWNER: I just think that 5G is a big revolutionary step from the current existing technology. I'm not sure that the current tariff has phrases specifically directed at GSM type technologies covers 5G.

10030 So I do think that some changes would be needed to reflect that change.

10031 THE VICE-CHAIRPERSON: Okay. I had another question on spectrum.

10032 You mentioned that you have subordinated spectrum to a number of other providers. Would you undertake to provide us with a list of the specific spectrum and providers?

10033 MR. WATT: Yes, we will.

UNDERTAKING / ENAGEMENT

10034 THE VICE-CHAIRPERSON: Okay. And then my last couple of questions.

10035 We heard yesterday from the Coalition for Cheaper Wireless Service that -- and specifically I'm thinking of the representative from ACORN, that a one gig plan just doesn't meet needs.

10036 I think she gave the example of currently there's a lot of disruption in the educational system in Ontario, and the only way she gets her information about whether the schools have will be closed for her children is through data.

10037 You've indicated that you have a one gigabyte plan which you feel is very reasonably priced. I think you mentioned around \$27.

10038 So what's the overage charge on that plan?

10039 MR. JOHNSTON: The one I mentioned was a Chatr prepaid plan for \$30. That, by its definition, doesn't have overage.

10040 THE VICE-CHAIRPERSON: Okay.

10041 MR. JOHNSTON: So prepaid, you pay in advance, and then when you use up your allotment, then you're prompted to pay more if you'd like to continue to use it.

10042 It allows you to very efficiently begin and end service. It really appeals to people who don't always know that they're able to, you know, continue on with service also.

10043 So that's -- it's sort of inherent to that plan that it doesn't have overage.

10044 MR. NATALE: Broadly speaking, the biggest consumer of data is video.

10045 If you were to see a pie chart or a sort of unpacking of how data gets consumed, video, and especially high-definition video, is the biggest consumptive factor.

10046 And it's happening in all media that people are watching more and more video, for entertainment, or information, or other purposes.

10047 And that's the challenge that we face in trying to structure these plans, at the same build a network that can, you know, transmit and broadcast more and more video time.

10048 THE VICE-CHAIRPERSON: Although, I mean, we have seen that two gigabytes are available in Quebec for \$35 amongst virtually all the providers. It just seems to be that outside that province, consumers are out of luck at that price point.

10049 MR. NATALE: As we said before, there are variations in plans across the country.

10050 As opportunities come along, we will look to create more value in low end plans.

10051 We hear the comments of Canadians loudly and clearly.

10052 As the economics of the business improve and evolve, much like when we went from 250 meg, to 500 meg, to a gig, at roughly that price point, we'll continue to see more low-end price points over time.

10053 THE VICE-CHAIRPERSON: Thank you.

10054 THE CHAIRPERSON: I believe Commission counsel has a short snapper. Hint.

10055 MR. BOWLES: Given the time, I'll endeavour to make this short.

10056 I just wanted to make it perfectly clear -- or sorry, to get your position on the matter perfectly clear.

10057 When you were discussing the issue of the current roaming tariff and 5G, is your position that the current tariff ought not to cover 5G, because changes should be made to the tariff, or that it technically does not apply to 5G?

10058 MR. SLAWNER: Technically it does not. It does not contemplate 5G.

10059 MR. BOWLES: Okay. Last question.

10060 MR. SLAWNER: Just a -- yeah, no, that's right. That's fine. Sorry.

10061 MR. BOWLES: So it's how the terms are defined in the tariff do not ---

10062 MR. SLAWNER: The tariffs, as currently written, do not cover 5G.

10063 MR. BOWLES: So then your position on that would be that Videotron's interpretation of the tariff language is incorrect?

10064 MR. SLAWNER: Exactly.

10065 MR. BOWLES: Last area that I wanted to ask a question on has to do with the discussion that was going on earlier about the mechanism for establishing rates, terms, and conditions in a hypothetical environment where there was a mandated MVNO.

10066 I believe, Mr. Watt, you were saying that in that hypothetical environment, it should be left to negotiations backed up by some third-party arbitration process, which would see, to the best as I understood it, no Commission involvement.

10067 Now, I believe you spoke a little bit to the question of delegation and why you thought this would not constitute impermissible delegation, but I just wanted you to expand a little bit on that.

10068 MR. WATT: I'll have to turn to one of my lawyers to expand on the delegation authority.

10069 I'm not sure if we're prepared to speak to that today or give you an undertaking on that.

10070 I know it was an issue that you raised with other parties.

10071 We've addressed it. We're still coming to the conclusion on it.

10072 I'm not sure if that's helpful or not.

10073 MR. BOWLES: If you'd like to take that away as an undertaking, ---

10074 MR. WATT: We will.

10075 MR. BOWLES: --- that would be fine. Thank you.

UNDERTAKING / ENGAGEMENT

10076 MR. BOWLES: Then that's all. Thank you.

10077 MR. SLAWNER: Sorry, could I just clarify? Because before you asked whether it technically covered 5G or ought to cover 5G.

10078 So technically I don't think it covers 5G.

10079 And why I got a little confused is our position is very clear that it should not include 5G. If there is a mandated MVNO regime, 5G should not be a part of the regime.

10080 So I just wanted to make sure that position is quite clear. Thank you.

10081 THE CHAIRPERSON: That concludes the presentation from Rogers.

10082 Mr. Natale?

10083 MR. NATALE: Mr. Chairperson, thank you for the time and the considered thoughtful questions and commentary. We appreciate the opportunity to state our views and thoughts.

10084 Before we go, I think it would be remiss to not recognize a particular individual.

10085 It was 38 years ago this year that a young David Watt first sat at a CRTC hearing.

10086 And this year we will celebrate the contribution of Mr. Watt to the Rogers organization, as we celebrate his retirement and he takes the next chapter forward.

10087 I would ask for the record to recognize Mr. Watt.

10088 THE CHAIRPERSON: Thank you for that. I wasn't sure that Mr. Watt would ever actually retire.

10089 (Laughter / Rires)

10090 MR. NATALE: We tried to convince them otherwise. We were unsuccessful.

10091 THE CHAIRPERSON: And I'm not entirely persuaded that that's the case.

10092 We may leave a seat somewhere in the back with a name plate on it in the event that he just starts to hang out at future proceedings. But I would -- I, too, would like to acknowledge Mr. Watt.

10093 He has always been a collegial and responsive participant in our proceedings -- see, I'm getting choked up now -- in our proceedings and has no doubt made significant contributions to building a public record on many proceedings over many years.

10094 Mr. Watt, I wish you well in your retirement.

10095 MR. WATT: Thank you very much. Thank you very much for the kind words, and it has been a great honour for me to appear before the Commission.

10096 THE CHAIRPERSON: Thank you.

10097 We will adjourn, returning at 3 o'clock.

--- Upon recessing at 2:03 p.m.

--- Upon resuming at 3:00 p.m.

10098 THE SECRETARY: Good afternoon. Before we begin, we would just like to announce that due to the weather forecast for tomorrow and to allow everyone extra time to arrive, the hearing will start at 9:30.

10099 And now we'll hear the presentation of the Canadian Wireless Telecommunications Association.

10100 Please introduce yourselves, and you may begin.

PRESENTATION / PRÉSENTATION

10101 MR. GHIZ: Thank you. Merci beaucoup.

10102 Good afternoon, Chairperson Scott, Vice-Chair Laizner, Commissioners, Commission staff and counsel. My name is Robert Ghiz, and I am the President and CEO of the Canadian Wireless Telecommunications Association.

10103 To my right is Eric Smith, Senior Vice-President of the CWTA, and to my left is Katherine Winchester, CWTA's Vice-President of Operations.

10104 CWTA is the recognized authority on wireless issues, developments and trends in Canada. In addition to promoting the importance and benefits of wireless connectivity in Canada, CWTA also facilitates a number of industry councils and committees as well as consumer-facing programs such as Mobile Giving Foundation Canada, Wirelessaccessibility.ca, DeviceCheck Canada, and Recycle My Cell.

10105 We appreciate having the opportunity to participate in this important proceeding and to appear before you today.

10106 Dans son avis d'audience, le Conseil a déclaré que le principal objectif de l'audience était de

10107 « s'assurer que son cadre réglementaire favorise une concurrence durable qui donnera lieu à des tarifs raisonnables et à des services novateurs, ainsi que des investissements continus dans des réseaux sans fil mobiles de haute qualité dans toutes les régions du pays ».

10108 Le Conseil demande aux intervenants de déterminer s'ils « répondent aux besoins des Canadiens et atteignent les objectifs stratégiques énoncés dans la

10109 Loi. »

10110 Autrement dit, il convient d'examiner la santé globale de la concurrence dans le marché de détail en tenant compte de sa capacité à produire des résultats attendus, plutôt qu'en tenant compte de résultats statistiques, comme le nombre ou le type de concurrents.

10111 Le gouvernement fédéral a clairement défini les besoins des Canadiens en matière de services sans fil mobiles dans le document intitulé Perspectives du spectre de 2018 à 2022. Reconnaissant que le Canada dispose d'une « infrastructure de télécommunications de classe

mondiale », le gouvernement déclare qu'il veillera à ce que « les consommateurs, les entreprises et les établissements publics canadiens continuent de bénéficier les applications et des services avancés de télécommunications sans fil ».

10112 Pour parvenir à ce résultat, le gouvernement a cerné trois principaux objectifs : qualité, couverture et prix abordables.

10113 MR. SMITH: These objectives of quality, coverage, and affordable prices are not controversial. They reflect the policy objectives in the *Telecommunications Act*, are consistent with the Commission's stated focus, and are shared by CWTA and its members. The question is, what is the right path to achieving these goals.

10114 To quote the Competition Bureau from its appearance before you last week, facilities-based competition should be the "guiding principle" for the path forward. Why? Because facilities-based competition is working.

10115 Facilities-based competition is widely recognized as the market structure best capable of delivering sustainable competition and encouraging the level of investment in network infrastructure that is necessary to achieve desired outcomes for Canadians. It is driving more intense competition, growth in wireless adoption, increased data consumption, declining prices and more choices for consumers.

10116 Equally important, continuing innovation and investment by Canada's facilities-based carriers is providing Canada with some of the fastest and highest-quality networks in the world, as well as expanding network coverage.

10117 Despite this success, in the Notice of Consultation the Commission expressed its concern that an appropriate mix of facilities-based competitors and MVNOs has not developed and that it might be appropriate to mandate wholesale MVNO access.

10118 We strongly disagree. A low number of MVNOs is not an indication of a competition problem. In fact, as expert witness in this proceeding attests, the number of MVNOs in any particular country is largely irrelevant when it comes to assessing competitive intensity and positive consumer outcomes.

10119 The Commission's preliminary view on mandating wholesale MVNO access comes at a critical time in the evolution of the wireless market in Canada. The Commission and the federal government have placed the expansion of both wired and wireless coverage near the top of their agendas.

10120 They have also stressed the importance of investing in next-generation 5G wireless technologies. Yet a mandated wholesale MVNO access regime would undermine both of these objectives with little, if any, corresponding benefits.

10121 First, the reduction in capacity to invest brought on by mandated MVNO wholesale access would be disproportionately borne by Canadians in rural and remote areas where the economics of network deployment are already challenging. By way of example, existing wholesale internet access

regimes have already forced national and regional providers to suspend certain planned investments into smaller communities where the wholesale regime would impede them from obtaining a reasonable return on investment.

10122 It is notable that if facilities-based carriers no longer have the capital to expand and upgrade networks in less populated markets, residents of those areas will not receive any of the alleged benefits that come with mandating of wholesale MVNO access.

10123 MS. WINCHESTER: With respect to 5G, the Commission has correctly stated that, with the introduction of 5G wireless technology, the wireless market is -- and I quote -- "on the verge of a major transformation" and that "wireless carriers will be required to make significant investments in network infrastructure".

10124 5G will bring more than improved and faster wireless communications. 5G will expand the capabilities of wireless communications through the use of different bands of spectrum, new technologies, and a more intelligent and dynamic wireless network. The impact of 5G extends well beyond the wireless industry. It will be an indispensable platform for innovation, increased economic prosperity, and improved quality of life, and countries that do not recognize the importance of 5G will fall behind their international counterparts.

10125 The deployment of 5G in Canada will add an estimated \$40 billion in GDP to the economy by 2026 and create close to 250,000 new permanent fulltime jobs in that same time frame. Beyond these macroeconomic factors, 5G will provide benefits to cities and rural communities and improve the quality-of-life of Canadians, including helping to fight climate change and extending network connectivity to underserved rural communities.

10126 However, deploying 5G will require massive investments by facilities-based wireless providers. According to Accenture, this level of necessary investment is estimated to be 26 billion by 2026. This does not include the several billions more that is likely to be spent by facilities-based wireless providers from 2020 to 2022 in the upcoming 3500MHz, mmWave, and 3800MHz spectrum auctions.

10127 MR. GHIZ: Mandating wholesale MVNO access will reduce facilities-based carriers' capacity to invest in 5G infrastructure and spectrum, threatening Canada's leadership role in wireless telecommunications, and hampering Canadians' access to the latest mobile innovations which are vital to increasing productivity, growing the economy, creating jobs, and improving Canadians' quality of life.

10128 Finally, while mandating MVNO access to facilities-based carriers' networks would negatively impact investment by all facilities-based carriers, regional providers will be particularly harmed. In CRTC 2015-177, which set out the current wholesale wireless roaming framework, the Commission acknowledged the important role that the regional providers are playing in bringing sustainable competition to the wireless retail market. Mandating MVNO wholesale access would effectively "pull the rug out" from under the regional providers, threatening their capacity to contribute to sustainable

competition as independent network operators. It would instead favour economically inefficient MVNOs whose business model is dependent on gaining regulated access to the national carrier networks.

10129 As we have discussed in our written interventions, mandating MNVO access will not improve consumer outcomes, nor, as the Competition Bureau has testified, can MVNOs substitute for the positive impact that regional providers have had in increasing sustainable competition, investment, and declining prices.

10130 Justifying regulatory intervention requires compelling evidence that the benefits of such intervention clearly outweigh any negative consequences. The benefits of mandating MVNO wholesale access are purely speculative, and if they exist at all, are minimal and short term. In contrast, the negative effects of mandated wholesale MVNO access on sustainable competition and investment are well-established by the record of this proceeding and will have long-term negative impacts affecting all Canadians.

10131 These negative impacts have also been recognized time and time again by the Commission, which has concluded in past proceedings that the costs of mandated MVNO wireless access outweigh any potential benefits. Since those decisions, the benefits of facilities-based competition are even more evident, and the need for massive ongoing investment in innovation, infrastructure and spectrum has only increased. The evidence on the record does not support mandating wholesale MVNO access.

10132 Thank you, and we'd be happy to take your questions.

10133 THE CHAIRPERSON: Thank you for your presentation.

10134 Commissioner MacDonald?

10135 COMMISSIONER MacDONALD: Good afternoon and welcome. Your comments today and your submissions throughout this process have largely been consistent with statements that we've heard from the large facilities-based carriers across the country that are also members of your organization. So, I'm not going to cover all of the same ground perhaps we have with other -- with facilities-based providers, but if there are particular points where you potentially take a different view from that of some of your members, perhaps you might just want to outline that as we go through.

10136 I guess the first question I would have is one of the criticisms that has been levied against MVNOs is the fact that they don't invest in any infrastructure, but other parties have said, "Well, yes, they actually do. They invest in core network. They invest in billing systems. They hire people".

10137 Why are you of the view that such investments are not significant enough to warrant some merit in this proceeding?

10138 MR. GHIZ: Well, I'll start off with that. Just to address your first point where you asked if we have any different views than our members to let you know when those issues come up, we're not going to have any different views than our members today.

10139 COMMISSIONER MacDONALD: I was expecting that response. Thank you.

10140 MR. GHIZ: Or I'd be in a lot of trouble.

10141 With regards to investment, when we talk investment, we talk about investment in building the world-class networks that Canadians have enjoyed. Where we've got 99 per cent of Canadians that have access to LTE networks, where we have, you know, some of the fastest networks in the world, second only behind South Korea, those are the investments we're talking about. And where we see that investments that, from a particular point of view that I have, that where they will definitely not invest is for those Canadians that still do not have access to wireless networks.

10142 So, if you're a Canadian out there today and you happen to be watching this at home, and you do not have access to wireless networks, or you're still waiting for upgrades to your wireless networks, it's very important to know that mandating MVNO access, allowing MVNOs to have access to the incumbent networks is going to do absolutely nothing, nothing to build out into those rural and remote communities where Canadians are still waiting to be able to be connected. And that's probably the biggest -- one of the biggest issues that I have.

10143 They also don't do anything in terms of upgrading our networks where we're on the verge of 5G, which, as we've heard, is going to be transformational. And perhaps I'll talk a little bit about it later, but even with 5G, with those upgrades, we're going to go into fixed wireless, which is even going to make it even more easier to be able to connect those Canadians that don't need it.

10144 So, where my concern comes from is people out there that don't have access, MVNOs -- mandating MVNOs is going to do absolutely nothing to help.

10145 COMMISSIONER MacDONALD: Sorry, go ahead.

10146 MR. SMITH: Yeah, if I could just add. I, you know, definitely agree with Rob. I think also, you know, you heard this morning from Rogers where they talk about like 70 per cent of their investments are in things like building roads, building towers, building that physical infrastructure. So, certainly, depending on, you know, the model, an MVNO will have to make some investments, but those are sort of more in some operational things that they will need, that any business needs, but they're not contributing, as Rob mentioned, to actually building the physical infrastructure that's necessary to provide world-class service to Canadians.

10147 COMMISSIONER MacDONALD: Thank you for that.

10148 So, given your viewpoints that investments should be focused on building networks, not necessarily investing in internal systems or a new core network for a potential MVNO, are there certain proposals from different parties that cause you more or less concern when talking about a mandated MVNO? Because if I'm looking at the range of possibilities, at one end of the spectrum we have what the Bureau has proposed, and then at the other end of the spectrum we have what perhaps a provider wishing to be a full MVNO would like to see as a result of this proceeding. So, which ones give you more concern?

10149 MR. SMITH: Well, obviously we're -- we've stated quite clearly, as has our members, we're against any MVNO model.

10150 And I think, you know, some have commented that maybe the Bureau model is less harmful.

10151 But I think what's key is that any type of intervention along that will still have potential negative impact.

10152 And the key is, you know, the Bureau has created that model as part of this proceeding.

10153 But the focus of their report is really that facilities-based competition is working, the regional providers have provided additional competitive intensity, and basically they're saying, "Commission, whatever you do, don't do anything to hurt the regional providers."

10154 Even with that proposal, the regional providers aren't asking for that proposal. They're not asking for that.

10155 So, you know, could it potentially, in theory, be less harmful than the others? Yes.

10156 But also, as we heard, there's many complexities to it, unanswered questions.

10157 Even the Bureau themselves indicated that, in response to some of your questions, well, you know, that they weren't sure what the answers were, there maybe would need to be another proceeding, et cetera.

10158 So it's a theoretical model that even they said -- they didn't say in the report it would work, they said it may work.

10159 So we're really against all the models, because we don't think we need any of them and facilities-based competition is working and it's producing positive outcomes.

10160 COMMISSIONER MacDONALD: Thank you. One of the things that you -- or one of the points that you tried to drive home in your submissions was around the negative financial impact that mandating MVNOs would have, particularly in the context of the rollout for 5G.

10161 So on that topic, I'm just wondering, in your original submission, you note the many benefits of 5G to transportation, mobility solutions, precision agriculture, energy management, rural connectivity.

10162 Those would seem to be excellent lines of business that a 5G provider could leverage to offset any potential harm that MVNOs might create.

10163 Could you perhaps comment on that?

10164 Mr. GHIZ: I'll start off. Well just allow me to put things into context.

10165 For us to even get to where we want to be so that we can take advantage of 5G, it's going to take a \$26 billion investment.

10166 We know that that is a massive investment that needs to be made by facilities-based providers.

10167 For us to -- and then there's a lot of other steps along the way as well.

10168 But when we do get to that step, I think that the benefits that are going to come are going to be delivered to society.

10169 I did talk about, and in our open remarks, about how 5G will actually help with climate change.

10170 We see from some of the examples that you just used, whether or not it is smart grids, smart energy, less traffic on highways, reducing down our carbon footprint, there's a lot of things for us to get there.

10171 But when it comes to, again I go back to MVNOs, they will do nothing to help us get there.

10172 Are there going to be other avenues to be able to gain, perhaps, revenue? It's unpredictable what's exactly going to happen with 5G. We know what some of the use cases are.

10173 But in terms of exactly how that's all going to work, I think it's going to be an evolution, kind of like how we didn't predict a lot of the things that were going to come about when 4G arrived.

10174 So it's going to be an evolution before we start to see what some of those results could be.

10175 COMMISSIONER MacDONALD: Thank you. A couple of days ago, I was asking questions of a panel of former telecom executives, and I'm going to paraphrase, but the statement was made, "The investments are going to happen. No provider would not invest in 5G."

10176 And that could very well be true, but I think the example that I used at the time was there will always be a business case to build in the GTA, there will always be a business case to build in Montreal, but there's an awful lot of Canada outside of the larger centers.

10177 Could you perhaps give your thoughts on where the negative financial impact will most be felt from a network deployment standpoint?

10178 MR. GHIZ: Very good point. And I agree with your assessment that I think where the bigger components are going to be felt, and I addressed this a little bit earlier, is going to be on those Canadians that do not have access to networks, first of all, that are still waiting for 4G and LTE, that are still waiting on the hope of what fixed wireless and 5G could bring to those communities.

10179 It's also going to hinder the buildouts in rural areas.

10180 You heard from just Rogers this morning, they're going to look for areas where they can get a return on their dollars.

10181 But to go back to -- and I watched the testimony of those three former telecom executives, and they're partially right.

10182 And I think you've heard this from all the members.

10183 There's still going to be buildouts that are going to happen, they're just not going to happen as fast as they could have, which then leads to some major issues for Canada as a nation.

10184 Because you heard from Joe Natale this morning talking about we should be proud of our networks and how this is about nation building.

10185 And there is a race to 5G. And those countries that get there first are going to have the new jobs, the new apps, the new technologies.

10186 I don't want rural Atlantic Canada missing out on that, or the prairies missing out on that, or the north missing out on that.

10187 And so while buildouts may still happen, they will happen at a much slower pace.

10188 And if they happen at a much slower pace, then there's incremental costs that will happen because we're losing out on that growth that could deliver that.

10189 And I have just some quotes here from -- and we've referenced it in our submissions, and you mention it, from our 5G report from Accenture, and it just has to do with rural connectivity, just to put things in perspective, and those that may not have broadband today, or may not have wireless, and what 5G and the potential of fixed wireless is able to do.

10190 And it says here:

10191 "studies have shown that a 10 percent increase in broadband penetration can achieve a 0.9 percent to 1.5 percent increase in GDP growth..."

10192 Applying these figures to Canadian rural regions showed significant economic benefits.

10193 In Saskatchewan, a province with 296 rural municipalities and 33 percent of the population live in rural regions, only 75 percent of households have access to broadband services.

10194 In a scenario where the province achieves the Canadian Government target of 95 percent broadband service available, Saskatchewan can expect a potential increase in GDP of up to 1.2 billion.

10195 Similarly, the same marks in Nova Scotia and in Newfoundland and Labrador are 520 million and 430 million, respectively.

10196 Rural connectivity will become easier with 5G through fixed wireless.

10197 Slowing down those investments will mean that they'll get those investments years later down the road.

10198 And the incremental cost to that is something that concerns me, from someone who comes from a small jurisdiction in this country, that we cannot afford to be left behind. We need to be able to get there together. We need to be able to make sure that Canada is competitive all over the world and that no matter where you live in our country, you have every possible opportunity to compete with anywhere else in the world, let alone with Canadians regardless of where they live.

10199 COMMISSIONER MacDONALD: So still on the topic of 5G and making sure that Canada is at the forefront, some parties have indicated that we're already lagging behind.

10200 And one of the suggestions that's been put forward in this proceeding was the possibility of a working group being established to sort through some of the many complexities that are going to be involved in the rollout.

10201 I believe, and I may use the wrong term, but you also have a 5G collaborative group who share thoughts within your organization.

10202 But pretty much universally, all of the service providers have said that the working group won't provide any benefits and may, in some cases, actually slow down progress.

10203 So what are your thoughts on a 5G working group?

10204 MR. SMITH: Yeah, as you mentioned, there's divergence of opinion among carriers.

10205 I think the majority of our members have indicated that they're not in favour of some type of mandated working group and they have concerns with it and whether it's things like potential sharing of confidential information, or just even the feasibility or workability of it. And others have indicated it may have some merit.

10206 I mean, definitely collaboration itself is important in our industry, and it goes on every day, and we know the that carriers work with municipalities on issues, et cetera. But you know, in terms of whether that should be a mandated working group, I mean we'll let the comments of our members that are on the record stand. We don't, you know, as we said, there's a divergence of opinion, so we don't have anything to add to that.

10207 MR. GHIZ: If I can -- sorry.

10208 COMMISSIONER MacDONALD: Go ahead.

10209 MR. GHIZ: If I can just add to that, because you talked about where are with 5G and are we behind other jurisdictions in the world.

10210 I like to point out, I was -- I remember I was at a conference in the U.S. and I was listening to a panel, and this was when I first started my job, and we like to talk about how great our LTE networks are and how we're world leaders, and there was a panel on and there was -- they were talking about 5G. And they were talking about how they were the first to get there to 4G. And I said to my staff is that true. And they said yeah it's it true. You know, the U.S. was the first country to get to 4G.

10211 And here we are a number of years later, and Canada's networks are twice as fast as the United States. We reach more on a percentage-wise of Canadians.

10212 And then there's a great quote from OpenSignal that I like to use where they say

10213 "There is no question, Canada is a global 4G superpower today. That likely means there are few other countries better prepared than Canada to deploy the 5G networks of the future." (As read)

10214 There's a caveat to that, and that caveat is that if we do not have a regulatory environment that supports facilities-based competition, then we cannot help deliver on that to help make sure that maybe we will be a little bit behind in terms of 5G, that -- but that in 5-years time OpenSignal will say isn't it great that Canada is a 5G superpower today. And I think that's what we should try to strive for when we look at our regulatory framework.

10215 COMMISSIONER MacDONALD: I have a question on building networks in just a second, but before I go there, do you have specific thoughts around if a working group were established who should be at that table. Obviously, the carriers, I would assume municipalities, ISED. Are there other parties that you think should be around that table, if indeed they are invited to that table?

10216 MR. SMITH: No, I mean, I think you've hit the main ones. But I think, as Rogers mentioned this morning, part of the issue is that there is uncertainty regarding the sort of regulation of certain things like access to municipal infrastructure, passive infrastructure, access to electrical utility poles, et cetera. And so it's probably -- you know, the concerns I know that Rogers expressed anyway, and I think some others have was that it's more difficult to have that kind of discussion without those rules and those frameworks being worked out.

10217 COMMISSIONER MacDONALD: I have some experience with working groups, and one of the challenges can be, well one, not having the right people at the table; but two, having too many people at the table to actually get everything accomplished. Is that a concern when we're talking about the number of municipalities that will be involved in a 5G rollout? They all may have different priorities, very different circumstances. Can you comment on that?

10218 MR. SMITH: Yeah. I mean, you know, we have roughly, I guess, the same number of municipalities as when rolling out 4G, but the issues are probably more complex now because of, you know, small cell ---

10219 COMMISSIONER MacDONALD: M'hm.

10220 MR. SMITH: --- architectures, et cetera.

10221 You know, we know that our carriers have good relationships with municipalities, obviously some relationships better than others. Our hope is that as, you know, we're still very much in the infancy of 5G in a lot of these, you know, sort of best practices and things like that are still being worked out, and we hope as deployments begin those best practices will be identified, will be shared across municipalities, et cetera, and that it will make the process more streamlined and work better.

10222 But you're right. I mean, it's always a challenge because every municipality has, you know, different concerns from their citizens, has different priorities, has different economies of scale. So they may -- you know, one -- a large city may have a department dedicated to it, whereas a smaller municipality may have somebody who it's, you know, part of their job. So those challenges are very real.

10223 COMMISSIONER MacDONALD: On the topic of building a 5G network for Canada, I would assume it's cheaper, faster, and easier if one network were built as opposed to multiple networks serving the needs of each individual carrier. So I'm wondering, could I get your thoughts on a

potential mandate for all carriers to build a 5G network to serve Canadians' needs and where the challenges might be with such a proposal? Other countries have gone down that road, which is why I ask the question.

10224 MR. SMITH: Right. What was the last part, sorry, that you just said?

10225 COMMISSIONER MacDONALD: I was just going to say, what might the challenges be with a mandate for all the carriers to work together ---

10226 MR. SMITH: Right.

10227 COMMISSIONER MacDONALD: -- and build one 5G network ---

10228 MR. SMITH: Yeah.

10229 COMMISSIONER MacDONALD: --- as opposed to building one individually for each of them.

10230 MR. SMITH: Right. And I think, though, you said something about others ---

10231 COMMISSIONER MacDONALD: Oh, other countries, particularly South Korea and Germany, have received a mandate that all carriers will build a single network.

10232 MR. SMITH: Yeah. I did hear that earlier in the proceeding, and I was looking into it for -- your information, obviously may be better than mine. I'm not sure in Germany that it's an actual mandate. I thought it was basically cooperation among three of the carriers who are, in one case I think they've entered into a letter, a memorandum of understanding, another one they're exploring discussions, and I think TELUS's expert talked a little bit about that in terms of sharing some of the building to address white spots areas of the country that are not receiving coverage. But obviously I stand to be corrected if I'm not accurate there.

10233 And I think part of that was actually -- arose out of concerns with some of the recent happenings in the German market, where with the spectrum auctions, the recent spectrum auctions were incredibly inflated in terms of the costs for the 5G spectrum. And basically, the comments that came out of the CEOs of the carriers were essentially, you know, our whole investment model is broken, we don't have money to invest in infrastructure, with this money we could've built out in these areas, areas, and areas. And so it was really a solution they came to, not because they felt it was the best thing to do or the best thing for the German people, or to provide the best networks, it was really driven out of a necessity.

10234 South Korea as well, I don't know too much about that situation other than I would say that, you know, South Korea is a much different country. Almost half the population lives in the Greater Seoul Area. Their population density is roughly around 16,000 people per square kilometre, whereas if you look at the GTA area it's like 800. And so they have some very real issues in terms of building the type of small cell architecture in a relatively small area to serve that many people, and so again, I think it's more of a -- come out of a necessity, rather than something seen as it will drive the, you know, the best network experience.

10235 One of the strengths of Canada is having multiple networks that allow facilities-based carriers to compete based on network performance differentiation, and I think in 5G that'll be even more key. Because we're not talking just about providing connectivity. We've heard earlier speakers talk about the diverse set of capabilities that 5G will deliver, and that will enable carriers to differentiate themselves from others even more.

10236 So you know, I don't think a mandated network is really something that's in the benefits of Canada.

10237 COMMISSIONER MacDONALD: Okay. Thank you. Regardless of whether we're living in a 4G or a 5G world, I think everyone could agree it's important for Canadians, particularly, perhaps more vulnerable Canadians, to have access to the communication services they need.

10238 And we've talked a lot about the potential to mandate a particular plan that would be available to low income Canadians. We've talked about low cost plan that would be available to all Canadians. We've talked about, and others, and myself included have referred to it as the ISED model, but it includes the partnership with, I think last count 13 different service providers have come together in the Connecting Families initiative. If we were looking as a way -- looking for a way to potentially solve that gap in the market if indeed it does exist, what's the best vehicle to do that with?

10239 MR. SMITH: Yeah, no, certainly, I mean, you know, our view and our members, view is right now that the market is serving Canadians in terms of providing a broad range of plans at different price points, plans attributes, as well, but we certainly heard the discussion of different interveners and some of the questioning from the Commission about, well, isn't there still potentially a segment of Canada who simply, you know, just does not find wireless affordable and you reference to the Connecting Canadian Families program on the wireline side.

10240 And I think, as Rogers mentioned this morning, I mean our industry is always open to have conversations about ways that that can be addressed. But I think the need for a mandate is not there. I think that, you know, some of the plans that have been proposed as part of this proceeding, as other members of ours have mentioned, are really not economically feasible and don't reflect, you know, the true cost of delivering a service.

10241 But in terms of having an engagement with industry to look at whether something could be put together, I think is fair. I don't think you can simply map the Connecting Families program to wireless because there's different economies; it's a different, you know, it's a -- on one side, it's connectivity to a family or household versus connectivity to individuals.

10242 COMMISSIONER MacDONALD: M'hm.

10243 MR. SMITH: There's device costs, so there's a lot of, you know, issues and complexities that would be -- had to be worked out. But I think that's -- that would be the way to do it.

10244 And again, you know, along the lines that it would have to be, you know, strictly means tested et cetera because you don't want to distort the whole market. You don't want to totally destroy the economics of the market and impact investment et cetera, but you do want to, you know, look for

ways if there's a manageable way to address the needs of Canadians.

10245 MR. GHIZ: And I totally agree and those are great points and, you know, as Eric mentioned, you know, we don't believe there's a need to mandate. Industry is open to conversations. You hear — you know, our members are always looking for better ways to find new customers, but for those that perhaps need help in our society, you know, I think that yes, you know, obviously you've heard from some of our members saying that they are open.

10246 There is another avenue, and I think I heard you asking some questions about this the other day. And with my background, I can say that, you know, provinces do receive a transfer payment from the Federal Government specifically designed for provinces themselves to decide on whether or not the needs of their citizens are being met to help them in areas where they may not be able to afford things. It was the health and social transfer; that was divided up I think in 2004-2005. Now, it's the Canada Social Transfer, and within the provinces, there's different names for social assistance programs all across the provinces, but that could be another area that to help make sure that those Canadians that need the help are able to get it.

10247 COMMISSIONER MacDONALD: Thank you for that. If we did decide to mandate a low-income plan, do you think that should also come with a requirement that it would be promoted in the same way — sorry, a low-cost plan -- that that low-cost plan should be promoted in a similar way as carriers would promote other plans in their market: visual displays at kiosks, same size font on their website, that sort of thing?

10248 MR. GHIZ: Well, first of all, I think that there are inherent dangers in mandating a plan that is below cost and that could distort the entire market. You know, obviously, I'm somewhat paraphrasing Mr. Natale from this morning, but also, at the same time, if you remember Lee Bragg who represents a smaller private company said that they had a program at one point and that there was very little uptake on it, so they got rid of it.

10249 I think that I go to our two ways that I've described, but I think that if you want to sit down with industry and perhaps have some discussions or the second avenue would be to ensure that provinces do have the mechanisms in place to help bridge those gaps that exist within our society.

10250 COMMISSIONER MacDONALD: Thank you. Just one final question and then my colleagues may have questions of their own, and it's a bit unfair to ask you, but I'm going to anyway.

10251 Just because you have a large number of members who compete with each other, who steal — steal — who attract customers away from each other with enticing offers, -- we have talked a lot in this proceeding about win back activity, especially what could be described as somewhat aggressive behaviour of a service provider calling one of their soon to be former clients upon receiving the (inaudible) request while the customer is still in the store -- do you think that there should be any guidelines put around that activity to: 1) allow the customer to still take advantage of the advantageous offers that may be put in front of them, but protect the service provider who has just unwrapped the \$2,000 iPhone?

10252 MR. SMITH: Yeah. Yes, we heard the discussion about win backs. I mean, again, I'll just say, you know, one of the concerns was brought by one of our members and it was, I guess, opposed by other members of ours, so, you know, we don't have a view as an association on that issue. It's not something we talk about at the CWTA, so we don't have anything to add to the record on that.

10253 COMMISSIONER MacDONALD: Fair enough. Thank you. Those are my questions.

10254 THE CHAIRPERSON: Commissioner Barin. Pardon me.

10255 COMMISSIONER BARIN: I thank you. Thank you for the responses to the questions. I have a couple more.

10256 I heard you say that Canadian networks are twice as fast, and we've heard in the course of this proceeding that Canadians consume less data generally than international benchmarks, so that the networks are possibly less congested which makes it so that the speeds are better. We've -- so I'd like your comments on that.

10257 And also, we've heard from some of your members that they refer to the Canadian networks as higher quality, so I want to just ask you what is meant by the term higher quality; is it the equipment that's different? What accounts for Canadian networks being of higher quality?

10258 MR. SMITH: Yeah, I mean on the issue of congestion or capacity -- I think we've heard those comments as well, but we also heard from facilities -- facility-based providers is they essentially build to the demand and the anticipated demand. So this notion that there's a whole bunch of excess capacity just sitting there that they happened to spend millions of dollars in building, but nobody's using it, I think that's a fallacy.

10259 In terms of what quality means, quality is more than just speed; it's reliability. There was a reference -- I think it was this morning -- to one of the Open Signal reports they did on the performance of networks in rural Canada, and they looked at things, not just speeds compared to other nations, but they looked in terms of availability, the -- so essentially the expansion of the network or how broad it is and also its reliability.

10260 So those are some of the elements that go into quality, but it's everything that makes up the consumer's experience, so, you know, whether it's the reception on a call, whether it's how quickly your device connects to the network; it's how many devices can connect to a network, so there's a lot of elements that go into quality.

10261 MR. GHIZ: And then the other part of your question, I'll paraphrase, I guess, some of my members in terms of data usage and that is that, you know, you are starting to see today incredible growth and you just heard with the unlimited plans that are taking place now.

10262 We also have a higher rate than some. I heard a comparison between Canada and Norway, you know, in terms of Wi-Fi availability and Wi-Fi availability makes a big difference there too. So, I don't think there's any one direct answer to why our data usage is lower. I think there's a whole lot, but I think you're going to see -- and you've heard this from our members -- is an incredible amount

of growth, and we've seen an incredible amount of growth over the last number of years, but I would say if we're here in another couple of years, it won't be an average of 2.5, that average will be much higher.

10263 MR. SMITH: And just -- just to add to just that is I don't think Rogers mentioned this morning, but I think it was one of their submissions that with -- or actually, it may have been as part of their financial earnings conference calls, that, you know, on their -- they're seeing on their unlimited plans a usage of those subscribers going up to average like seven or eight gigabits. And obviously, as Mr. Natale said this morning as well, they're getting ready and anticipating much higher growth because of the capability that 5G will bring.

10264 COMMISSIONER BARIN: Thank you.

10265 For my second question, you talked about the dangers of mandating low-cost plans that are below cost. Yesterday we spoke with Québecor that operates the Videotron service, and they mentioned that there are \$35 2-gig plans that are widely available in the Quebec market, and these are not plans that are targeted at low-income groups, so they're widely available.

10266 So, and we asked Québecor about the costs of operating a network in Quebec. Their response was that they were similar to the costs of operating networks elsewhere in Canada.

10267 So, my question to you is, is it fair to say that that price point of \$35 for a 2-gig plan is not below cost?

10268 MR. GHIZ: I'll let Eric fill in if I don't go into anything too technical here, but just basically from the testimonies that have taken place, and I love to support my members, and I believe that if you heard -- the reason why the rates are lower in Quebec is, according to Mr. Péladeau, is because Québecor's offering that competition, and they've been in the market a little bit longer. And it's the facilities-based competition with the fourth player that is allowing those rates to go lower.

10269 My argument would be allow that -- those new entrants to have the opportunity to continuing to grow, the Shaws, the Eastlinks, the Xplornets, so that all the other jurisdictions can get to the same level and start to drive down prices after they've been in the market a little bit longer. That's one of the arguments that you hear.

10270 In terms of prices, you know, I take it from what our -- all our members say is that, you know, they're knowing their best to find those low-cost plans. We know that in Quebec the rates are a little lower. I would say that you heard from these proceedings that the rates in Saskatchewan were a little bit lower a few years ago. And then now it's becoming more of an equilibrium across the country.

10271 I think that if we allow facilities-based competition to continue and encourage the new entrants to continue to grow by not mandating MVNOs, that we'll see more of an equilibrium as well.

10272 COMMISSIONER BARIN: Okay. So, I understand that it's really a competitive issue to get the price lower, but that in terms of the costs, that costing a low-cost plan at that level would not be below cost.

10273 MR. SMITH: Yeah, I mean, I think that obviously we don't have a lot of discussions with our members about pricing, et cetera, for obvious reasons. You know, they're competitors and so we don't talk about those things. And we don't have a lot of visibility into different cost structures that companies have.

10274 I'll note that that offer though, you know, is from Fizz, their flanker brand, which is a purely sort of a digital light -- I'd say light touch with the consumer. So, I mean, that has a lower cost structure.

10275 And I think every carrier is a little bit different. I mean, Eastlink said it would not -- they couldn't offer them because they would -- at least so an so were opposed because they would be -- it's cost prohibitive.

10276 And also, you know, I even have to note that when you ask some of the interveners who, you know, are advocating for MVNO access or aspiring to be MVNOs, when they were asking would you make these plans available, and to paraphrase, you know, the response was, well, not if they're below our cost, and those are the people that are holding themselves out as, you know, people who will serve those markets better than the facilities-based carriers.

10277 At the end of the day, costs, you know -- you can't look at price without looking at cost, but we can't really answer about one particular member and what their structure is.

10278 COMMISSIONER BARIN: Fair enough. Thank you.

10279 THE CHAIRPERSON: Thank you. Thank you for your submissions and for taking the time to appear and answer our questions.

10280 I bid you a good afternoon and turn it, Madame secrétaire.

10281 THE SECRETARY: Merci. I will now ask the Halton Regional Police Service to come to presentation table.

10282 THE CHAIRPERSON: Hopefully no guns at the table.

10283 CHIEF DURAIAPPAH: We barely found our pens.

10284 THE SECRETARY: Please introduce yourself when you are ready, for the record, and you have 10 minutes for your presentation.

PRESENTATION / PRÉSENTATION

10285 CHIEF DURAIAPPAH: Thank you. Merci beaucoup.

10286 Good afternoon Commissioners. My name is Nishan Duraiappah, and I'm the Chief of Police for Peel Regional Police Service in Ontario, and the former Deputy Chief for Halton Regional Police Service. I'm pleased to be here today with my co-panelists to present on the CRTC's review of mobile services.

10287 We'll be focussing our submission today on the growing importance of and the role of reliable mobile data communications in the context of daily 9-1-1 emergency services across tri-services, first responders, municipalities, and critical infrastructure entities across Canada.

10288 It's my pleasure to introduce my co-presenters, who consist of leaders from a cross-section of Public Safety agencies, associations, critical infrastructure and communities, which you will see outlined on the slide. In the interest of time, I won't go through each -- everybody's name.

10289 Public safety communication needs have seen a rapid evolution in operational revolution in the past decade and significant increases in the reliance on broadband data as part of emergency services and day-to-day operations.

10290 In our collective experience providing emergency services, we can confidently state that data has become as important to emergency services as voice communications. From text messages and data files to video and photos, through new applications that provide for better frontline efficiency and coordination in life-saving missions to society.

10291 Emergency responders require reliable access to data during the minutes and seconds that can make a difference between life and death.

10292 We need telecom services that resiliently survive all manner of disasters, both human and natural, and the ability for communications to survive in the face of new, modern issues, such as cyber security.

10293 Unfortunately, commercial broadband services around the world have been shown to provide a level of resiliency and reliability below the threshold required by first responders and critical infrastructure entities during our times of needs.

10294 We, therefore, suggest that enabling a pro-MVNO telecom policy in Canada will provide emergency services with an added technology tool that permits first responders to seamlessly collaborate and coordinate in disasters and during surges of traffic seen during large public events.

10295 Our interest and vision is that the CRTC Mobile Wireless Review pertains to a series of transformative policy and infrastructure decisions happening this year. And that's related to a Canadian public safety broadband network, or PSBN, and key generational decisions related to setting up a reliable, resilient and cyber secure framework for emergency responders communication over the next several decades.

10296 ISED has allocated 20 megahertz of spectrum in the band class 14 or the 700-megahertz spectrum for the experimental and future operational use by Public Safety. This valuable spectrum was reserved for Public Safety in light of the tragic deaths of hundreds of first responders during the September 11, 2001 attacks in New York City, where access to reliable data could have saved hundreds of lives of first responders and civilians during the evacuation of the towers during that disaster.

10297 Key decisions on the technology and business model for the Canadian PSBN and the future course and effectiveness of first responder communications in Canada are going to be made in 2020.

10298 We submit that permitting a small and specialized class of public safety MVNOs is a key enabling technology tool to ensure always available data, communications for emergency responders.

10299 SUPT. ODOARDI: Thank you, Chief.

10300 My name is Anthony Odoardi. I'm a Superintendent with the Halton Regional Police.

10301 Reliability, resilient cyber security, cost effectiveness and interoperability are the theme of what we're here talking today.

10302 The revolution in data needs for first responders are going to grow. In fact, they're upon us with near-term enhancements to next-generation 911 in the next couple years.

10303 In fact, here today, we're seeing changes, also including enabling Voice Over IP-based services and an exponential growth in data sources that are fast approaching first responders today.

10304 If we're to accept, then, that next-generation 911 and all these -- and the growth of digital sources are essential for community safety and well-being and that the upstream path of that data from civilians requires resiliency so the data can reach our call takers, then the same is true for the downstream path of those sources to reliably reach our first responders, our front-line people out working.

10305 Without broadband connectivity that reliability gets 911 data to front-line emergency personnel, effectiveness and reliability of coordinated 911 services are diminished and at jeopardy.

10306 So given the generational explosive growth in data use for first responders and issues related to commercial grade telecom reliability, our vision for public safety communication stems from a desire to ensure, and these are key for us, public safety agency oversight and collaboration on strategic direction, initiatives and operations surrounding a shared public safety LTE core.

10307 Canada's emergency services, although small, representing a small portion of the commercial telecom system, represent a critical facet of overall telecommunication users in our country and an important arena to CRTC policy reviews and the parallel legislative reviews of the *Broadcasting and Telecommunication Act* which can help address important issues to assist mission-critical efforts on behalf of all first responders.

10308 As part of our commitment and concern for reliable communications, a rapidly-growing not-for-profit association of first responder agencies, municipalities, like-minded commercial and non-governmental partners has been established -- we will talk about that in a moment -- to advocate for reliable communication policy, focused changes to the *Telecommunications and Radio Communications Act* that take into account the specific needs of public safety, what our citizens have come to expect and demand.

10309 Our rapidly-growing not-for-profit association, named the PSBN Innovation Alliance, encompasses lead responder agencies and critical infrastructure entities that cover over three million of Canadians, and growing daily, which I am the Executive Director of.

10310 Our members support telecommunications policy, business models and technology innovations that help establish a level of communication, reliability, need for 911 response.

10311 You will hear that we are also firm advocates for policies that help bridge the rural and remote broadband digital divide in Canada, business models and partnerships that bring new capital to bear on this critical issue.

10312 MR. CRNKO: Thank you, Commissioners. My name is Phil Crnko. I am President of Black Castle Networks and Engineering Consultants Inc.

10313 In our collective view, there are several key areas we need to focus on improving in a holistic network approach that would provide 4G and 5G service resiliency for first responders, including a focus on rural and remote broadband enablement, reliability for first responders, resiliency, high-cost service rates, cyber security from a holistic systems view.

10314 Public safety MVNOs or PS-MVNOs can be a key innovative enabler for better reliability of communications for emergency responders. PS-MVNOs effectively create a digital right-of-way to help 911 life-saving services in times of need.

10315 As noted in our written submission and also in the submissions of the Canadian Electricity Association and the Rail Association of Canada, MVNOs offer technical architecture that is better able to withstand outages of individual MNOs.

10316 Put simply, MVNOs permit stacking the reliabilities and availabilities of several carriers, one on top of the other, to get a net better level of signal strength and system reliability than any individual MNO.

10317 The PS-MVNO model is an effective concept that has been proven and implemented in other jurisdictions in the world. Indeed, in a recent study on MVNO performance in the United States market, a report by Tutela has confirmed that the concept of stacked reliability where reported in their October 2019 state of the MVNO paper that MVNO performance measured across all 50 states have shown an ability to be as good and even better than Tier 1 MNOs.

10318 This superior performance stems from an ability of MVNO users with multiple roaming agreements to effectively jump to the best signal level and the best network in any given location, thereby always maintaining the best level performance for their users.

10319 This MVNO concept of providing first responder access to the best signal in any given location effectively amounts to a digital right-of-way in a similar manner that an emergency responder's vehicle sirens and lights provide a right-of-way in the real world on our highways and roads.

10320 Besides the performance advantages that a PS-MVNO policy has for first responders, the relatively high cost of telecom in Canada shown over years of international studies also impacts the operational budgets of first responders.

10321 Chronic high costs due to competitive skew in the Canadian telecom marketplace in turn draws valuable operational budget dollars away from critically-needed 911 field resources, staff and equipment.

10322 MR. PAYNE: Thank you, Phil.

10323 Good afternoon, Commissioners. My name is Bill Payne. I'm the Director of Information Technology for the Halton Regional Police Service.

10324 The advantages of PS-MVNOs run across both operational and financial considerations. Our financial modelling has shown that a pro market-driven approach to a PSBN in Canada, which includes enabling PS-MVNO services, can result in operational cost savings of between two and four billion dollars in the sample case of the Province of Ontario over a 20-year operational period.

10325 These projected savings are considered to be a conservative view given the growing use of data anticipated for first responders due to next-generation 911 services and represent funds that will go back into the budgets of first responder agencies to buy essential equipment, apparatus or vehicles for emergency response and to hire more front-line staff for 911 life-saving response.

10326 Our proposed hybrid PSBN model consists of a network of networks approach with an ability to roam via PS-MVNO services on multiple, if not all, MNOs in Canada through roaming agreements with CRTC-established fair market rates for specialized PS-MVNO service with an ability to connect to 4G and 5G networks and traditional land mobile radio networks.

10327 Recent successful testing conducted between both Halton Regional Police Service PSBN and Land Mobile Radio networks and the Telesat Low-Earth-Orbit satellite network, a technical first in Canada, has demonstrated the effectiveness of our network-of-networks approach.

10328 A network-of-networks model provides resilient communications and extends the reach of first responders by giving municipalities and their first responder agencies the flexibility to license and monetize Band Class 14 spectrum in PSBNs in the manner best suited to their diverse regional needs. With PS-MVNOs as an architectural tool for reliability and cost savings, we can assure that valuable spectrum resources are flexibly deployed in a manner that best meets the diverse needs of Canadian communities.

10329 Our PSBN model consists of a two-tiered choice for municipalities and provinces to select the spectrum deployment model that is most effective. The model includes a place for MNOs and yet with a strong competitive framework between MNOs and PS-MVNO service providers, it's about choice in how Band Class 14 is deployed and monetized in a given community.

10330 In turn, to maximize competitive forces flexibility in choice for first responder agencies, we propose a second optional MNO oriented licensing and PSBN service approach that provides municipalities the market-driven option to obtain PSBN services from MNOs also.

10331 MR. SLACK: Thanks, Bill.

10332 I'm Shawn Slack. I'm the Chief Information Officer for the City of Mississauga.

10333 From an IT municipal services stance, a pro-public safety MVNO policy enacted by the CRTC gives regional municipalities more market choice and competitive options in our current marketplace.

10334 This choice helps drive down costs and serves to align Canada with other G7 countries and the majority of G20 nations around the world that have had strong MVNO markets for the past several decades, providing both facility and virtualized competitive services.

10335 Canada remains one of the very few industrialized countries on earth without an MVNO model.

10336 On the balance of analysis, a pro-public safety MVNO policy can help solve the problems we noted earlier in our presentation, namely rural broadband.

10337 Our policy proposals leverage Band Class 14 spectrum, which has been made available to first responders and municipalities to permit deploying the public safety use case in rural areas where it makes sense for community safety needs.

10338 Coupled with new sources of P3 capital investment, our model creates new facilities-based competition via the 700-megahertz spectrum.

10339 Municipalities can partner with both critical infrastructure, for example, rail, and transit, and utilities, and public safety, as part of an existing smart city or smart rural programs to gain a trifecta win that solves both the need for reliable public safety access, provides municipalities with new tools through spectrum, along with a PS-MVNO business model that provides cost savings on municipal broadband.

10340 This approach also enables rural and urban broadband infrastructure in areas where MNOs decline to invest today, and achieves a better net service resiliency than a single carrier.

10341 On reliability, as noted earlier, the PS-MVNO concept permits stacking multiple MNOs where existing commercial service providers exist, or to layer Band Class 14 PSBN networks on top of incumbent MNO services, or in partnership with incumbent MNOs in a given region.

10342 This helps build a more robust layer of survivable infrastructure.

10343 Resiliency. A strategy for the first responders that built a skeleton of highly ruggedized Band Class 14 sites, coupled with PS-MVNO services to permit first responders to jump to the best available single strength, enables the digital right-of-way concept for data that we've described, the better survivability for public safety than relying on a single MNO today.

10344 High cost. The chronic problem can be alleviated by permitting new sources of competition.

10345 Canada's telecom market continues to exhibit constrained competition with the three main incumbent MNOs commanding market power, with a significant majority of the national mobile wireless market.

10346 Where this power dynamic constrains competition, in our view, requires ongoing regulatory review by the CRTC to ensure market forces are viable for the long-term.

10347 And lastly, cyber security. With the growing risk of cyber attacks, it is incumbent for Canada to build a secure and survivable telecom network for times of crisis and disaster response, where reliable and secure communications help in the minutes and seconds that count in emergencies.

10348 MR. MITCHELL: Good afternoon. Chris Mitchell. I'm the Associate Director of Airport Operations for the Greater Toronto Airport Authority, the Operator of Toronto Pearson.

10349 We are pleased to note that our recommendations for PSBN Band Class 14 and PS-MVNO policy are aligned with the views of the Canadian Electrical Association, the Ontario Association of Chiefs of Police, the Rail Association of Canada, and the Ontario Professional Firefighters Association, as well as the membership of the PSBN Innovation Alliance.

10350 We also, in turn, firmly endorse and support the RAC and the CEA proposals for PVNO services in Canada.

10351 Critical infrastructure entities also often bring significant telecom assets in rural and remote regions, such as fibre backhaul links in Northern Ontario, where no commercial cell service exists today.

10352 In partnering, we can share PSBN costs and leverage fibre assets across critical infrastructure organizations.

10353 It would also reduce the burden on government and taxpayers in building a secure 5G PSBN asset for Canada, and yet obtain the required level of reliability in critical communications where lives are on the line.

10354 At the Greater Toronto Airport's Authority, we are firm believers in the risk mitigation benefits that a sound public safety MVNO and public safety broadband policy can provide.

10355 As a mission critical entity, the GTAA understands first hand the impact of communications breakdowns and how failures in communications can lead to catastrophic results to society.

10356 As a personal anecdote which highlights the critical importance of coordinated and reliable communications, the GTAA experienced major communications failures on cellular services during the Air France flight 358 disaster at the airport in 2005 due to a surge in network traffic.

10357 During the crisis, cellular service ground to a halt with very significant impacts on operational effectiveness during the event.

10358 MS. PAYNE: Good afternoon. My name is Susan Payne. I work for Peel Regional Police and I am the Manager of VCOM and Support Services.

10359 Our proposed PS-MVNO concept combines the strategic use of Band Class 14 and hybrid PS-MNO approach, which can help in many emergency scenarios ranging from special events and high-density gatherings.

10360 And as an example of cases where combined PS-MVNO and Band Class 14 could have helped include the very recent Raptors' Victory Parade where broadband communications experienced serious access issues.

10361 Also, in cases of ad hoc evacuations where networks experiences surges of users on limited RF site capacity, including school and high rise building evacuations, where large numbers of civilians can congregate and overwhelm limited commercial sites, crisis events where commercial telecom infrastructure is damaged, or where power outages exceed the relatively short levels of battery backup at commercial sites, or where infrastructure is down due to a lack of resiliency and poor architectures or links to cores.

10362 Additionally, special events and emergencies where seamless coordination and data sharing across tri-services and secondary responders is essential to saving lives, where minutes and seconds can mean the different between life and death.

10363 In order to help address these risks and challenges to public safety communications, Halton and Peel Police have embarked on an innovative path for first responder communications with the first multi-regional public safety broadband network in Canada, providing coverage and resilient first responder communications in a region that covers over two million Canadians.

10364 We are also pleased to note our work with the Canadian Electricity Association in a series of ongoing inter-PSBN core tests with public safety and utilities innovating and collaborating together between our PSBN in Ontario and the Powertech-hosted PSBN in British Columbia, with the multicore PSBN tests showcasing security, resiliency and reliability in communications.

10365 CHIEF LAZENBY: Good afternoon. I'm Dave Lazenby, Fire Chief for the Burlington Fire Department.

10366 From a tri-services stance, reliable broadband communications has never been more important to saving lives on a daily basis in Canada.

10367 We're please to note that our fast-growing coalition within the PSBN Innovation Alliance includes a significant support of a number of public safety associations and agencies, including the Ontario Association of Chiefs of Police and the Ontario Professional Firefighters Association.

10368 Reliable communications saves lives and makes sense from a CRTC policy stance.

10369 Our proposed hybrid model PSBN would provide Canadians with many advantages, including improved reliability, resiliency, and cyber security for first responder communications, support to help bridge the rural broadband divide, support to critical infrastructure entities in municipalities such as healthcare, transit, rail, utilities, airports, and public works, a maximum market-driven choice for municipalities, a maximum fostering of market innovation and technology innovation, and maximum optimization of costs by permitting innovative market solutions.

10370 CHIEF DURAIAPPAH: We'd like to conclude our presentation with the following four key recommendations for the CRTC to consider in the development of a telecom policy that can help save lives and help emergency responders.

10371 First, to permit a PS public safety MVNO model for public safety focused on the niche emergency responder community.

10372 Number two, establish competitive wholesale PS-MVNO rates for emergency responders as a specialized CRTC MVNO rate at or below commercial rates, given our life-saving mission with CRTC involvement in rate establishment, negotiations with carriers as well.

10373 Number three, further consider our additional detailed legislative recommendations, which we've submitted, for the *Radiocommunications and Telecommunications Acts*, including the perspective of emergency responder needs within the Acts.

10374 Number four, to mandate and facilitate a special case for public safety roaming, given our public safety life-saving mission, and permit the following key technical elements: MNC allocation and intersystem roaming; seamless roaming; special cooperation with public safety; potentially network sharing; access to MNO VoLTE services; access to MNO 4G and 5G networks.

10375 We'd like to sincerely thank the Commissioners and the CRTC staff for their time today and we remain available for questions.

10376 Thank you.

10377 THE CHAIRPERSON: Thank you. Thank you for your presentation.

10378 Where to begin? I might just make a note with respect to your summary of proposed CRTC and government policy actions, that obviously the CRTC does not have a direct role in amendments to the *Radiocom Telecommunications Act*. That is the work of parliamentarians and the Minister for Industry.

10379 So we'll leave that on the side. I appreciate the suggestions that you've made and I know you made them to the expert panel as well. So we'll just note that. I'd like to start by just having you give me a little more of an explanation of what a non-profit public safety MVNO would look like. I'm assuming this is fairly comparable to the FirstNet Services in the U.S.?

10380 SUPT. ODOARDI: Good afternoon, again, Anthony Odoardi, and I'll be directing the questions to our subject matter experts on the panel so that we save some time for you folks in comment. Phil, I'll turn that over to you.

10381 MR. CRNKO: Certainly, thank you Anthony. And so quite simply, you're correct in that it's an analogy to the FirstNet system which is in the United States. However, our proposal is that Canada has different needs, given the different population density and diverse geographic needs across Canada.

10382 And so as a result, we propose a flexible framework that at its core has a shared core model for municipalities and provinces, so that they can essentially share on costs similar to a co-op model at a very broad and high level. And it allows municipalities to share those central costs for connectivity into the cores and allow them, in turn, to plug in RANs that they can, for example, monetize in the fashion that is most appropriate for their needs. And also, to solicit and procure equipment with P3 partners, public private partnerships.

10383 And for example, we have had interest from several venture capital institutions and institutional investors that would certainly provide billions of dollars for the build out of these networks that would be again, constructed to a higher level resiliency, reliability and cybersecurity than we currently have with the MNO networks.

10384 So the twist is that it is a model that is actually analogous to the approach that land mobile radio networks take in municipalities today. So municipalities in many of our jurisdictions have oversight and deploy these land mobile radio networks independent from mobile network operators.

10385 THE CHAIRPERSON: But they've built those networks for themselves, they're not using the networks of other providers, right?

10386 MR. CRNKO: There's inter operability and certainly coordination with network providers that do also have land mobile radio networks as well.

10387 THE CHAIRPERSON: But take a step back. Just what are the differences between your approach and FirstNet in the U.S.

10388 MR. CRNKO: So our approach provides the oversight into the hands of public safety communications.

10389 THE CHAIRPERSON: As opposed to the network operator?

10390 MR. CRNKO: Correct. Yeah, so it's the control which we feel is so important. Again, in times of need we've seen countless examples where, left to their own devices, commercial operators will build based on the motivation of profit, and not necessarily providing the overbuild required to handle those corner cases, where you have surges of traffic that overwhelm the networks.

10391 And so, we have countless examples of where we -- there is a different level of construction and engineering, for example. We could cite recent examples, such as hurricane Dorian, where networks were down for days, certainly, and we contrast that with the build of land mobile radio networks, which survived far better than the carrier networks in those particular examples. And there are many other examples that have occurred in recent history as well.

10392 THE CHAIRPERSON: You may have answered this question in part. But if the Commission were to go forward and mandate full MVNO access, under one of the other models that have been proposed to us, why is that not sufficient to meet your needs?

10393 MR. CRNKO: So again, it stems from the commercial motivations. We think that public safety needs to have a direct hand and involvement in establishing the criterion and standards, similar to how they have been directly involved in that land mobile radio networks. And we feel it's that

oversight that has allowed land mobile radio networks in large part to survive better in these crisis situations, in these surge conditions that occur.

10394 THE CHAIRPERSON: Is emergent -- the carriers work together through Emergency Preparedness Canada and do have a number of activities to coordinate among themselves in the case of emergencies. Why doesn't that respond to the public safety component of this?

10395 MR. CRNKO: So Anthony, if you wanted to ---

10396 SUPT. ODOARDI: As Phil has indicated, despite sitting on these committees and participating in these organizations, we've cited several examples throughout the presentation where the reliability factor just hasn't been there. And so, to leave it solely in the hands of the carriers in the greatest times in need, and we don't want to overstate that this is just about critical incidents and disasters.

10397 But this is about everyday, day to day uses or surges, and the reliability the network needs to come through. We don't feel right leaving that solely in the hands of the carriers. Our participation in making those rules and regulations, and standards, and policies, we think is critical and essential to delivering on our mission critical needs.

10398 MR. SLACK: If I may add as well, from a public safety communication standards point of view, we design our sites very differently from how a carrier would. For instance, so they're hardened sites with generators, they're monitored. We have multiple diverse routes, and service levels that we contract to for those sorts of things. And it's those disciplines that really make a very large difference in reliability and predictability of networks.

10399 THE CHAIRPERSON: And in your view, it's not possible to contract with commercial providers to obtain higher and necessary standard of service? I assume carriers have contractual arrangements with the Department of National Defense and other customers who demand particularly onerous conditions of service.

10400 MR. SLACK: In our experience it's been best effort, sort of the commercial approach to that sort of coverage. And it's very difficult to predict when and where an incident will happen, as you know, we've talked about in our presentation. It's the day to day use case, as well as the emergency, sort of disaster. And so, designing a network from the ground up that has that sort of resilience built in is, you know, not -- it's not an option not to do that in a public safety, sort of approach.

10401 THE CHAIRPERSON: And if you had such PVNO access, would you use the service to deploy handsets to personnel in the field?

10402 MR. SLACK: Yes, we would. In our initial tests -- sorry -- our initial tests today are on a mobile designed network, which is performing quite well. And it would be our plan to have a -- areas of coverage where it makes sense under band 14, under a private network, and then be able to use the PS-MVNO relationships to be able to ensure coverage in those worst case scenarios, where we either need to leave an area, or where there are other disasters affecting other pieces of infrastructure.

10403 THE CHAIRPERSON: And would this connect with and communicate with conventional smart devices?

10404 MR. SLACK: It would. It would, absolutely.

10405 THE CHAIRPERSON: And then I guess, the logical question is, if you're deploying handsets, would you be willing and able to comply with all of the typical obligations imposed by government and the Commission on carriers?

10406 MR. SLACK: Yes, we would. And certainly, elements such as next generation 9-1-1, which are new standards coming for -- for facilitating digital engagement with civilians during crisis situations. So new data, or digital driven elements, such as SMS text, video calls, and data file transmissions first responders in the course of 9-1-1 calls. So absolutely.

10407 THE CHAIRPERSON: Is the ---

10408 SUPT. ODOARDI: If I could -- sorry, sir. If I could ---

10409 THE CHAIRPERSON: Go ahead.

10410 SUPT. ODOARDI: --- also top up, and Mr. Shawn Slack could weigh in on this, we speak about this at length in our innovation alliance meetings as to audit standards in terms of regulations.

10411 MR. SLACK: Thank you, Anthony. And so, I think what we talked about was really the -- the requirements to be able to have a multi agency response with the inter operability for the everyday. So when you've got fire, EMS, transit, utilities, and traffic, all responding as a multi agency response to an incident, that's the everyday use case that drives the ROI for this type of solution. And I think that's really why you want to have the public safety aspect to have a hand on the implementation and operations of this MVNO model.

10412 THE CHAIRPERSON: Thank you. I'm struggling a little bit. Essentially what you've told me is that commercial networks provide reasonable reliability for everyday services, but not for the exceptional circumstances. But your proposal still relies on the very same networks.

10413 I'm just not adding two and two together to reach five.

10414 MR. CRNKO: So let me help you get to four. So essentially ---

10415 THE CHAIRPERSON: That would be a good start.

10416 MR. CRNKO: So essentially, it's the stacked reliability concept. So where the individual reliability of a single MNO may not be sufficient, when you have the ability to stack one on top of the other, so if -- let's say, for example, during the Ottawa tornado disaster that happened recently here in this region, individual MNOs might be impacted in a given jurisdiction with one, let's say, having an issue in terms of an outage. But another tower site nearby with a second MNO would provide coverage in that circumstance.

10417 So it's the overlapping coverages from the three MNOs, the major MNOs, and the additional regional incumbents that when you stack together provide the ability to bounce effectively to the best signal strength and the best network throughput given the circumstance. So it's the stacked reliabilities, when you add them all together, provide a superior net reliability.

10418 THE CHAIRPERSON: But my understanding is the carriers do work together through the Emergency Preparedness System to do just that.

10419 MR. CRNKO: So similar -- in a similar vein to how the Rail Association noted, you know, the stacked reliability concept provides the advantage, you know, for net superior reliability, and I believe the Canadian Electricity Association when they are before you later this week will also refer to this concept. You essentially, you do obtain a superior reliability when you combine the net availabilities of those individual networks.

10420 THE CHAIRPERSON: So a number of the parties that have appeared before us are certainly supportive of the public safety objectives and have indicated that some of these objectives are indeed being entertained at the moment, both with public safety and in some negotiations with the providers themselves. The suggestion is that it's premature and the Commission should wait until the PSBN model is agreed upon and adopted before we should be acting.

10421 Can you give me some comments on that view, please?

10422 SUPT. ODOARDI: Certainly and thank you. And just to address the first comment about the MNOs, perhaps, or the carriers working in that space with public safety. To date, there hasn't really been any dialogue in that. We have approached and we have asked to speak about this.

10423 THE CHAIRPERSON: Sorry. Dialogue with the service providers, or dialogue with public safety?

10424 SUPT. ODOARDI: Dialogue with service providers.

10425 THE CHAIRPERSON: Thank you.

10426 SUPT. ODOARDI: And so working in that space has been difficult and challenging to date, and I'm -- I won't say that there has been zero, but they have not been substantial or productive. Yet, we continue to see those very instances of which we've mentioned here today of outages, or the lack of reliability affecting our operations, and again, not just in crisis but on a day-to-day basis.

10427 So the urgency for us is now. It's to move now and to speak about this, and this is why we're here today is to really help solve that issue and hope that part of what comes out of -- from these hearings is a greater collaboration with those providers.

10428 THE CHAIRPERSON: Now, when -- oh. Go ahead.

10429 MR. CRNKO: Just one additional point is that in terms of the timing. The timing is actually right in that the decisions surrounding the spectrum, and again, which would permit us to act, in effect, as a facilities-based MVNO, which some of the suggestions have been related to the HMNO

and other models, those decisions are happening in 2020. And so the timing is essentially aligned with the timing of the decisions surrounding the MVNOs subject with the CRTC.

10430 THE CHAIRPERSON: Thank you. When Bell was in front of us, however, they expressed a concern, and I'd like to hear your view about it, that it wasn't entirely clear to them that there was internal alignment, I believe was the term they used. That whether -- and they didn't speak specifically to whether it was law enforcement agencies or electrical utilities, but they indicated that their experience was that sometimes the broader proposals were not consistent with the proposals or demands of individual members or subcomponents of the group.

10431 Could you comment on that?

10432 SUPT. ODOARDI: We have two comments. And first, I'll turn it over to the Executive Director of the Ontario Association of Chiefs of Police, and he will comment on that, and then I will top him up.

10433 THE CHAIRPERSON: Thank you.

10434 MR. McGUIRE: Thank you, Commissioner. My name's Jeff McGuire, and as Anthony indicated I'm the Executive Director of the OACP, and we have come onboard. We represent the police services across the province as a professional and leadership entity, and also advocacy to government issues on all public safety matters that impact all police services across the province.

10435 That said, we have 46 municipal police services in Ontario, 9 First Nations policing services, and the Ontario Provincial Police. All of those are members of our organization.

10436 We've been involved in presentations from the group before you here today over the past year, and a motion was put forward two years ago at our annual general meeting to support this issue, which was brought forward by then Deputy Chief Nishan Duraiappah, and then following that, the motion was adopted in September of last year by our executive board to sign on as an advisor group to this very alliance that is here before you.

10437 So (unintelligible), you may be correct that there would be times out of the 56 police services where there may be one or two that don't always have the exact agreement, but I can tell you that we do represent the totality of those police services, and that agency, that's why we are supporting this group moving forward.

10438 THE CHAIRPERSON: Thank you for that.

10439 SUPT. ODOARDI: Just to top up, I'd like to say that the information provided by Bell, perhaps, on that specific item, we would characterize as inaccurate. The PSBN invasion alliance grows by the day. Although at this point we cover 3 million Ontarians and Canadians, we know from even recently, Chief Duraiappah and I attended a conference in Vancouver just yesterday and spoke to hundreds of delegates and were approached afterwards in terms of those who are willing to sign our document, our memorandum of understanding to join the alliance from East Coast to West Coast.

10440 So to say that in fact that there is support is the truth and is more accurate than there is a -- there is not. We are a fast and very speedy, growing coalition of interested first responders who want to collaborate in this space.

10441 THE CHAIRPERSON: Thank you.

10442 SUPT. ODOARDI: Secondly, I also noted, sir, that Mr. Bibic, and I'll paraphrase here, also said that "If they come forward with a particular customer segment in a particular area of the country that could tackle better than we can, we're all ears". Well, we need to follow up on that. We are a particular segment in all areas of the country with particular needs, so we will be looking forward to talking to Bell, Mr. Bibic, further about what our needs are, and I think he clearly stated that before the Commission, and we look forward to doing so.

10443 THE CHAIRPERSON: And I encourage you to do so.

10444 I'll get into maybe a slightly more technical area in a second, but before I leave this, a little -- just back to the larger picture. You suggested that your model also would help bridging the urban rural divide through the use of the hybrid MVNO model for a PSBN. Can you tell me how that works? How -- again, how is that the case? Is it because, again, the over -- the stacking of the various providers? I'm just trying to figure out how you better serve rural areas if the rural area is underserved with facilities.

10445 SUPT. ODOARDI: Thank you. And I'm going to turn it over to our technical experts.

10446 Before we do that, we believe there is several fundamental tenets of that model, one of which we -- some exciting news that we just released yesterday was some work with Telesat, which we know will revolutionize the way we're able to use a PSBN and the spectrum to bridge that rural and remote, remote broadband divide. Because right now, we feel that where there are not people, where people are not in clusters, where there are not urban centres they are not greatly represented in terms of emergency response efforts via data, via our ability to use data and respond to them.

10447 And so that is where we partner with critical infrastructure agencies like rail, electricity, where they have existing infrastructures to run through those routes and add on to them and pave the way for other investment opportunities by MNOs.

10448 And I will admit a little deficiency in that, so I will turn that over to Mr. Crnko to explain. However, we feel that we've established a good model far superior to what has been put out there to date perhaps, which is not a lot in terms of public safety, in terms of our niche in public safety.

10449 MR. CRNKO: Thank you, Anthony.

10450 And, Commissioner, certainly in terms of areas where there is a lack of MNO investment today, that exists because the MNOs are motivated by commercial profit reasons and margins, and hence, they have not invested in those regions today.

10451 Nevertheless, notwithstanding that the infrastructure's not there, our members, our first responders, emergency responders still need to respond to 911 calls. There are being inquests in scenarios in, for example, Northern Ontario, I believe in Sudbury area, where lack of MNO access

has resulted in deaths. And there are other examples we could cite historically.

10452 And so in those regions where the MNOs have simply refused to invest because of commercial motivations, we would suggest that our partnership, which brings, for example, the Canadian Electricity Association assets from their members -- we had one of our charts that indicated the fibre assets in Northern Ontario as an example, and there are similar cases in the other provinces, where those fibre assets would be a significant baseline of investment that already exists that we could leverage to lower the cost of bringing access to those rural and remote regions.

10453 And in turn, with our public/private partnerships, and as noted, we have received indications of significant interest in terms of investment, we would bring those partnerships to bear, to pave the way, to bring down the commercial cost, and in turn, allow MNOs to collocate on our infrastructure that we would build in these remote locations.

10454 And in terms of that trifecta benefit that my colleague, the CIO of Mississauga, Shawn Slack, noted, it also brings besides public safety access in those areas for 911 response, it also brings the resiliency that members of the Canadian Electricity Association need for their purposes, the Rail Association members need for their particular needs, as well as provides a potential mutual host infrastructure, or a method of monetisation with, for example, First Nations' communities, who can also coinvest and reap the benefits for their communities, which would, in effect, provide a lower cost of entry for commercial entrants to come and collocate and collaborate.

10455 So, it's that P3 angle. It's the public/private partnership that brings those multiple sources to reduce the net cost that's inhibiting the carriers for deploying today.

10456 THE CHAIRPERSON: And to perhaps more of a question for the electrical distribution representatives, but if they have fibre extending into rural areas and there's a lack of service by the existing MNOs, I just wonder why there isn't a win/win available there and why perhaps they're not working together to build out facilities that are mutually beneficial. But I don't expect you to answer that. We can raise that with the representatives of the CEA.

10457 So, your proposal also seems to suggest that the Commission should set a different and preferential rate for Public Safety MVNOs than any other general rate it might set. Others have, not surprisingly, suggested otherwise.

10458 Could you comment on that, and then perhaps we'll talk a little bit about how a rate would be reached?

10459 SUPT. ODOARDI: I won't speak to how a rate would be reached perhaps, and then I'll turn that over to my colleagues.

10460 And it's tough for me as an executive in the police department to sit before you and always lean on the fact that Public Safety agencies should come first and foremost in terms of not only financial and economics when it comes to data, but just really in all courses of response to emergencies. And, again, this isn't just about emergencies. It's about day-to-day use.

10461 But that is a reality. And the demands from the community to meet expectations on public safety suggests that we have to use all the tools and resources available to us. And we've talked about in the near future what those resources are, and it will be, as my friend, Mr. Crnko alludes to it, is a tsunami of data available to Public Service and Public Safety agencies to utilise in life-saving, mission-critical response.

10462 And so, the consumption of that data is a burden on not only police, fire and EMS, but also agencies that assist us, critical infrastructure agencies. And to provide that level of service to the community in a cost-effective way that minimises the impacts to budgets, we feel that it is important to negotiate rates specifically for public safety to protect all of us.

10463 And I know it's a motherhood and apple pie statement, but, in fact, that is exactly why we're here today.

10464 THE CHAIRPERSON: We share in some of those motherhood and apple pie objectives. I mean, we serve the public interest as well, so I appreciate it, and I'll let your colleagues answer the other part of the question. But before we leave that, but if the Commission sets different rates for different types of entities, you've made the case for why Public Safety should qualify. What do we do about the others who will make a similar case, medical services, hospitals? I mean, we can go and make a list of entities or sectors that contribute importantly to society and to the general wealth, health and safety of Canadians. And, you know, to use a tired expression, is this not a slippery slope?

10465 SUPT. ODOARDI: Thank you, sir, and I do agree with you it is a slippery slope in some instances, and I -- ultimately, I don't have the answer for you in terms of some of those other organisations or facets of society that require the same critical usage of data as emergency responders.

10466 However, in our model, we do indicate that not only critical infrastructures, but our partners in health are also -- have been provided by legislation access to the spectrum through Public Safety agencies. And so, we feel that there would be a benefit to them with our endorsement of a PS MVNO and they can capitalise on that.

10467 THE CHAIRPERSON: Thank you.

10468 And the other part of the question?

10469 MR. CRNKO: Certainly, Commissioner, and we would be certainly accepting of whatever the CRTC felt was fair in light of the societal life-saving role of tri-services emergencies responders and also secondary and tertiary responders, such as rails, transits, utilities. And so, we don't necessarily ask for more than that, which is going to be granted, if it were granted, to any other particular MVNO. So, first of all, we would be accepting of an equal standing with other MVNOs.

10470 We are simply suggesting as an option for the CRTC to further consider that perhaps an additional discount, given the societal life-saving role and the fact that all of us do benefit as Canadians from those 911 emergency services. So, for that reason, we would suggest that a further

reduction could be considered, but it's certainly not necessary and is not a requirement in our recommendation.

10471 THE CHAIRPERSON: Thank you.

10472 Do you have any views, and I know it's not your traditional area of expertise, but we'd be interested in hearing any advice you might share, on, for example, with commercial negotiation, backstop by a binding arbitration process, in your view, would that be the best approach, or a preferred approach to reaching a rate, or do you see an alternative approach you -- if you've been following the hearing, you might have heard discussion about either doing a retail minus approach or relying on our traditional bottom-up costing approach. Do you have any views on that?

10473 MR. CRNKO: Certainly. First of all, we would -- we'd certainly prefer to have the CRTC backstopping those negotiations because of the market power position of the carriers. And as was noted I believe by representatives of Rogers and the other carriers, you know, they certainly don't have an interest, as they've clearly stated many times, in enabling MVNOs. It's not their current position.

10474 So, from a stance of negotiation, you have to have parties that have equal motivations to come to an agreement. And when one party is clearly indicating on public record that they have no interest, it's difficult to have those fair negotiations. And for that reason, we'd suggest it would be preferred that the CRTC act as that mutual intermediary and provide fair rates.

10475 Furthermore, the CRTC has visibility and confidentiality with respect to costing and true cost, EBIDTA and other numbers, and so we think the CRTC would be best positioned to backstop those negotiations.

10476 And I think furthermore, with respect to the model, our MVNO model really works because we do have access to Bank Class 14 spectrum as part of what is sort of the intention of Public Safety Canada and ISED in terms of providing access to that spectrum in one way or another, ultimately, to Public Safety.

10477 So it's our hope that that spectrum be provided to the hands of Public Safety to deploy as they see best for their particular municipal and provincial needs.

10478 And so we would be able to work along the full spectrum of, essentially, all thus far the MVNO scenarios that have been presented to the CRTC. So just noting the flexibility of that as well.

10479 THE CHAIRPERSON: In the same vein, in your view should any of the regional carriers be required to provide wholesale MVNO access?

10480 MR. CRNKO: So one of the options, again, it's because of the stack reliability. The ability to have a digital right-of-way, so sirens and lights for data; the ability to get access in those times of crisis where minutes and seconds count to save lives.

10481 We would rely upon the CRTC for perhaps a staggered or a prorated -- just as one idea, a prorated rate that could be differentiated between major incumbents and regional players to allow, you know, perhaps a further facility for the regional players so that we don't overburden them.

10482 So we would defer to the CRTC for ---

10483 THE CHAIRPERSON: There you're talking about a rate. I'm talking -- I guess my initial question is; should they be obligated? So we've discussed -- most of the discussion in this proceeding has been about requiring the three national players to provide MVNO access. My question is, under your proposal, would it be necessary to obligate the regional players to provide MVNO access?

10484 MR. CRNKO: We would propose to negotiate with them, in terms of a fair market value. And, again, backstopped by the CRTC.

10485 THE CHAIRPERSON: Sorry; I don't know if we're -- we're just at cross-purposes.

10486 MR. CRNKO: Okay.

10487 THE CHAIRPERSON: You're talking about rate; I'm talking about an obligation.

10488 MR. CRNKO: Right. Well, certainly I think that is part and parcel with, I guess, a secondary question which is are the regional operators going to be granted, by the CRTC, some sort of special status; a five-year period -- grace period, and so forth?

10489 It depends on the model -- the particular MVNO model that is ultimately selected, if it in fact is selected.

10490 THE CHAIRPERSON: Let me give you a more concrete example. In SaskTel territory in Saskatchewan both Telus and Bell ride on the network of SaskTel. If the Commission were not -- were to oblige Bell and Telus to do something but not SaskTel, does this hold up for your model in other parts of Canada?

10491 MR. CRNKO: Again, we are flexible in terms of our model, in, you know, the spectrum of MVNO scenarios. We would ideally ask to have access on all networks because, again, emergencies have no -- you know, they don't have no distinction as to where they occur. So they could occur on a regional player's territory.

10492 But, again, the rate could be prorated by the CRTC to provide an appropriate rate for the regional players.

10493 THE CHAIRPERSON: Thank you.

10494 So I have one last question, it's kind of a -- it's a very broad one, and you probably won't like it but I'll ask it anyways.

10495 The Industry Department set aside spectrum in the last auction for Public Safety. We have a department, a Ministry of Public Safety, that is focused on these issues. One way of characterizing your request is you want to leverage all of these assets of a variety -- you want us to oblige or mandate a number of providers to give you, if you will, pieces of a network that would then allow you to assemble a higher quality, more robust, reliable network for your purposes. And there is no suggestion that that is not an appropriate and laudable objective. But could I ask you if you don't

think, then, that it's the role for other parts of government to assign to you or make available to you the necessary spectrum and for you to work with your proposed partners, whether they be hydro utilities or railways, and put together that network for public safety purposes for yourselves?

10496 MR. CRNKO: No, we certainly are all about a collaboration, both with our secondary and tertiary responders as well as the MNOs. We feel, in light of the lifesaving service that Public Safety, paramedics, medical professionals, firefighters, and policing, and again, those secondary and tertiaries provide, it's all about collaboration with the MNOs. So we would want to leverage their participation in a collaborative, cooperative fashion.

10497 So, again, we're all about a win/win. We certainly want fair rates and we would look to the CRTC to establish those rates.

10498 In terms of Public Safety Canada's involvement, perhaps if you just clarify that part of the question.

10499 THE CHAIRPERSON: I'm just saying is it -- to put it in the most basic terms; is this a problem for the CRTC to solve, or should you be out there building a network, getting the necessary spectrum, working with your partners, and building the network you desperately need and deserve?

10500 CHIEF DuraiappaH: Thank you, Commissioner.

10501 I think just to preface it, we have been, for the last year or two, concurrently working with Public Safety Canada and ISED in direct collaborations. We're regularly here and across the bridge in Ottawa with Public Safety Canada and we have proposed to them a very collaborative hybrid model of utilities, everybody.

10502 So we see that as a concurrent activity to, you know, this discussion with you. I think the totality of our model that we're proposing, the outcomes of whatever the CRTC decides, along with the work we've done with Public Safety Canada to date on a PSBN model will be the most fulsome, reliable backbone for emergency services in Canada.

10503 So I think we haven't had the opportunity to give you full line of sight of what we've been doing to date with PSE and other elements of the Federal government, but I can assure you that there are concurrent, really fulsome activities that are occurring.

10504 I'll just turn to my colleagues if they want to elaborate.

10505 SUPT. ODOARDI: Our presence here before the CRTC is in fact to espouse one fundamental tenet of those concurrent working relationships that we have had with ISED and PSE, just in particular those two government agencies.

10506 There are other pillars, I won't call them silos because they, in fact, are pillars of the model, but this is one key pillar of the model and it speaks to the resiliency and reliability of -- not to mention the cost-effectiveness, absolutely, of what we aim to achieve.

10507 THE CHAIRPERSON: Thank you.

10508 MR. SLACK: If I could just add ---

10509 THE CHAIRPERSON: Oh, yes.

10510 MR. SLACK: --- to participation with PSBN.

10511 So I had the opportunity to participate as a Federation of Canadian Municipalities representative on the consultation around the principles and use case for PSBN, and I can tell you the alignment in here, as far as reliability and resilience as being principles for PSBN, is very strong in this model here as well. And we continue to work with and collaborate with all of the agencies that have been involved in that consultation, so the alignment is quite strong.

10512 SUPT. ODOARDI: One more thing and I probably should turn it over to Mr. Crnko who has written the academic papers, and a total of seven so far that are peer-reviewed and looking to be published, is that this isn't something where we've decided to appear here before you today to ask for a discount. And if it came across that way, that's absolutely not our intent.

10513 Our intent is to put forth, really, the fact that PSMVNOs provide us a level, sir, of resiliency and reliability; certainly we think so. And that the cost-effectiveness would be a benefit. In collaboration with Public Safety Canada and ISED and the Temporary National Coordinating Office, a group of 30 people who made up across Canada, we anticipate their final recommendations. In fact, that was supposed to happen last week and may have a little delay. We anticipate their final recommendations on the use of the spectrum.

10514 In anticipation of that, we're here before you today looking for that support.

10515 THE CHAIRPERSON: Thank you.

10516 MR. CRNKO: And the last part of your question with respect to dialogue with ISED, in terms of spectrum licensing; we are strong proponents of building those facilities and infrastructure. And, again, it's two sides to the coin in terms of the model. One piece is that resilient, ruggedized infrastructure that can withstand those example cases such as Hurricane Dorian, providing, again, those skeletons of coverage that will be resilient, for example, when the big quake hits Vancouver, again, wildfires that we saw in Alberta where we had cell outages, and the cases go on and on. And so, for that reason, we'd want to work collaboratively with the MNOs, have fair rates, deploy our spectrum, to build facilities and infrastructure that also, again, win for the municipalities that could be monetized in a mutual host infrastructure manner, provides also facilities-based infrastructure that helps foster competition, which is one of the aspects of this committee here.

10517 And the other aspect, the other side of the coin is the MVNO piece, which is all about the reliability and resiliency angle, more so than the cost. The cost is a benefit, again, to society, because it liberates resources for infrastructure and equipment such as fire trucks and frontline staff, but we're not really focussed on the cost aspect as much as the reliability and resiliency piece.

10518 So, there's two sides of the coin. We're firm believers in building facilities-based infrastructure. And, again, the MVNO piece is the other side, which allows some of those advantages on reliability and resiliency.

10519 THE CHAIRPERSON: Well, thank you. We have a much better understanding of your proposal.

10520 Commissioner Levy?

10521 COMMISSIONER LEVY: Good afternoon. Just a couple of questions to follow up on the discussions that you have -- that you've already had.

10522 You just talked a little bit about, you know, this isn't about the savings, although they -- there are going to be savings. Can you give us any kind of sense of what kind of savings you are looking at in this kind of proposal?

10523 MR. CRNKO: So, certainly, Commissioner. We've undertaken studies, again, that we feel conservatively estimate, just as an example, for the Province of Ontario over a 20-year operational period, something on the order of between 2 and \$4 billion, which we've included in our submission to you, the original submission. We feel ---

10524 COMMISSIONER LEVY: Is that the one that's over 20 years?

10525 MR. CRNKO: Correct, yes. And we feel those numbers are actually conservative in terms of all the parameters that we used in the model. We always took -- gave the benefit of the doubt to carriers. And also, it depends on the exponential growth that is anticipated in terms of Internet of things and the societal use of data.

10526 As noted, there's some significant changes in how the public will be engaging with Public Safety. To date, we're essentially limited to land -- or, well, there was a period where we were limited to landline phones, but now we are entering into a digital age where you'll be able to share video messages, you'll be able to share data files, SMS texts, and that's fast approaching over the next three years.

10527 In terms of that explosion, as 5G grows, societal use of data in turn increases the amount of data that Public Safety will need to manage and deal with. In terms of that load of data, it would be anticipated it will be so significant that certainly there'll be additional amounts of data heading downstream to field based first responders that are actually out there in the real world, as opposed to just at dispatching facilities. So, we think that there is significant upside to those savings, again, depending on which side of the spectrum of growth that you anticipate for 5G use.

10528 COMMISSIONER LEVY: And my second question has to do with you've talked from time-to-time about this being monetised and giving municipalities new tools and things like that. Could you give me some sense of what that might look like?

10529 MR. CRNKO: Certainly, I'll give you a few, and perhaps Shawn, Mr. Slack from the City of Mississauga can also elaborate.

10530 In terms of the monetisation for municipalities, there's a concept, a mutual host infrastructure, which I think was alluded to earlier in one of the proceedings today, in terms of building a single set of 5G infrastructure to municipality. Again, for cost savings, but also because of the space constraints on the municipal infrastructure in terms of mounting on lampposts, on other municipal-

held infrastructure. So, building one set of 5G infrastructure that's perhaps held by the municipality, provides them this mutual host infrastructure approach that could be monetised by reselling access to the MNOs. And so, in that regard -- and we're talking about fostering competition. We're talking about building infrastructure. And so, there's an opportunity for the municipalities to benefit from that as well.

10531 And I'll let Mr. Slack comment further.

10532 MR. SLACK: Thanks, Phil. And so, 5G is probably the example I would have used where we see a lot of downward pressure on the built environment, the right-of-way as it is today, the infrastructure that's going to support 5G. And we think there's a real opportunity to collaborate with the proponents around the placement of 5G, looking at different infrastructure to facilitate the radio equipment, electrical requirements, the backhaul, smart pole-type technology.

10533 Because the challenge with the right-of-way is the amount of radio equipment that will be placed along the poles and the site lines within the city, so beautification is actually a factor. So, we want to make sure that we're able to look at an infrastructure, and smart pole technology, and the right power, and the right backhaul that could support a resilient infrastructure, but also create opportunity by having a shared infrastructure within the right-of-ways in cities.

10534 But I can give you a specific example of savings. So, with in the Region of Peel, and actually, many of the partners at the table here, we have built out over the last 20 years the public sector network, which is a fibre infrastructure, which supports fire, police, the Region of Peel, the three municipalities within the Region, we connect the hospitals and post-secondary. And the annual savings -- this is annual from within the Region of Peel is \$10 billion a year -- 10 million in operating costs. So, over the life of the last 20 years of building a fibre infrastructure we save over a hundred million dollars in operating.

10535 So, these types of models can work. And so, that's a shared infrastructure model, and it really does demonstrate, you know, building a resilient infrastructure and collaborating with partners can save money.

10536 COMMISSIONER LEVY: Thank you.

10537 THE CHAIRPERSON: Commissioner Laizner?

10538 THE VICE-CHAIRPERSON: Good afternoon. And may I start by thanking you for the excellent work you do in keeping our communities safe.

10539 When we had CN Rail before us earlier this week, they mentioned that one of their concerns was the inability to get service level agreements with the MNOs, that they were only operating service level objectives. And I think I heard you talk about in discussions with MNOs, just getting agreement on a best efforts level in terms of agreements with them.

10540 Is that an accurate assessment?

10541 SUPT. ODOARDI: No, go on.

10542 MR. PAYNE: I think that's an accurate assessment, and so to compare that paradigm to how we operate our other critical communications infrastructure, such as our land/mobile radio system, and including our test-bed PSBN, which is throughout our region, we're contracted for, like, five nines above time basically, which is unheard of in the commercial world of commercial broadband.

10543 THE VICE-CHAIRPERSON: So, why is it that you can't get service level agreements with the national carriers? What is the reason that they give you?

10544 MR. PAYNE: My understanding that it comes down to designing networks to meet certain coverage and loading and backhaul demands. And there are differences in doing that, so you might design a network to meet a certain purpose of reaching into an area, but not necessarily for peaks and things like that, or investing in generators and that sort of infrastructure.

10545 The way that we look at it within the Halton Region is -- and we use our voice radio system as a parallel to that is that we enjoy 99.96 per cent coverage outside anywhere within Halton Region on a portable on the hip of our police officers and firefighters. And that sort of coverage, combined with that reliability, is -- we have not had the ability to contract that with a commercial carrier.

10546 MR. SLACK: Oh, sorry, I just want to add one more example with the Region of Peel. Caledon is a partner in our fibre infrastructure. You only have to drive two minutes south of Caledon to get no coverage, zero coverage, so that's within the GTA, within a, you know, fairly large urban centre, and it's because there's no commercial incentive to put that kind of coverage there.

10547 So, these are the types of issues. If you are first responder, no coverage is not good enough.

10548 MR. CRNKO: And, sorry, one last thing, Commissioner, it really boils down to the design principles, the engineering principles that are used. And certainly, the MNOs are motivated by commercial interests and want to deploy where, as was noted by Rogers this morning and other -- the other carriers equally, they desire to build where they can maximise profits.

10549 We, however, have to operate wherever emergencies occur, and they can occur in areas where infrastructure is not overbuilt. There are areas of Canada where the MNOS have overbuilt capacity, but as they noted today as well, they rapidly exhaust those resources, so they rapidly fill them up. And when those resources are either filled up or they're inadequately provisioned in areas, because it simply doesn't make economic sense to overbuild everywhere, it's in those circumstances that we have surge conditions.

10550 So if you think about it, for example, on the TransCanada Highway, you'll have a set of infrastructure, but you won't necessarily have sufficient capacity to handle the surges that could occur when there's a multi-car, a hundred car, you know, pile-up of vehicles in let's say a winter crash where those individuals then are trying to access a single cell site that could be in a remote location.

10551 So in our case, in those examples, which also exist in urban areas, so again, as noted by Mr. Slack, there are areas even surprisingly in Southern Ontario in the densest area of Canada for population where we do not have sufficient coverage in terms of signal strength or where

emergencies can rapidly provide surges in terms of commercial use that overwhelm the capacity of those sites. So we need the ability to deploy an overlay of ultra resilient reliable capacity that we have the ability to access in those places.

10552 And again, we are not motivated by profit but rather by being able to deploy where we need access in those societal lifesaving moments. So that's the difference in engineering design philosophy.

10553 THE VICE-CHAIRPERSON: Thank you.

10554 THE CHAIRPERSON: Thank you.

10555 I believe those are all our questions. I will -- I was going to thank you for taking the time and for sharing with us. We certainly share your public service objective and understand it. You'll need to leave the rest to us, but there is no doubt about what your objectives are.

10556 I appreciate it, and as the Vice-Chair indicated, we also appreciate what you do for Canadians every day. Thank you for taking the time.

10557 And with that, we'll adjourn. As the Hearing Secretary mentioned, we will start 30 minutes later, 9:30 tomorrow, given the weather circumstances.

10558 THE SECRETARY: Exactly. Thank you very much, Mr. Chairman.

10559 THE CHAIRPERSON: Thank you.

--- Upon adjourning at 5:08 p.m.

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Date modified:

2020-02-26

TAB 3

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, RSC 1985, c C-34, as amended;

AND IN THE MATTER OF the proposed acquisition by Rogers Communications Inc. of Shaw Communications Inc.;

AND IN THE MATTER OF an application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*.

BETWEEN:

COMMISSIONER OF COMPETITION

Applicant

and

**ROGERS COMMUNICATIONS INC.
SHAW COMMUNICATIONS INC.**

Respondents

and

**ATTORNEY GENERAL OF ALBERTA
VIDEOTRON LTD.**

Intervenors

**COMMISSIONER'S MEMORANDUM OF FACT AND LAW
(for Commissioner's Motion on Rogers' Examination for Discovery Refusals)**

PART I – OVERVIEW

1. The Applicant, the Commissioner of Competition (“**Commissioner**”), moves for an order requiring the Respondent, Rogers Communications Inc. (“**Rogers**”), to answer questions that were improperly refused during the examination of Rogers’ representative, Dean Prevost. The Commissioner also seeks the costs of this motion.

PART II – FACTS

A. The Application

2. On May 9, 2022, the Commissioner applied to the Competition Tribunal (“**Tribunal**”) to remedy the substantial prevention or lessening of competition likely to be caused by Rogers’ proposed merger with Shaw Communications Inc. (“**Shaw**”) (the “**Proposed Transaction**”).
3. In his Notice of Application, at paragraphs 50-104 of the Statement of Grounds and Material Facts, the Commissioner has alleged that the Proposed Transaction is likely to substantially prevent or lessen competition in the provision of wireless services to each of consumers and businesses in British Columbia, Alberta and Ontario.
4. In its Fresh As Amended Response at paragraph 7, Rogers has raised the efficiencies defence by claiming that the efficiencies likely to be generated by the Proposed Transaction, together with the divestiture of Freedom Mobile to Videotron Ltd. (“**Videotron**”), would outweigh any substantial lessening of competition.
5. In his Fresh As Amended Reply to Rogers at paragraphs 18-24, the Commissioner denies that the cognizable efficiencies claimed by Rogers will be greater than and offset the anti-competitive effects.

6. Given the foregoing, the Commissioner's alleged anti-competitive effects and Rogers' alleged efficiencies are live issues for the Tribunal to determine in this litigation.

B. Questions improperly refused by Rogers

7. The examination of Rogers' representative, Dean Prevost, took place on August 25 and 26, 2022. During the examination, certain questions were refused or taken under advisement.
8. Pursuant to the Scheduling Order of the Tribunal dated June 17, 2022, Rogers delivered its answers to undertakings on September 6, 2022.
9. Rogers has refused to answer certain questions. Of those, the Commissioner seeks an Order from the Tribunal in respect of six categories of questions listed in Appendix "A" to his Notice of Motion.

PART III – ISSUE

10. The sole issue to be decided by the Tribunal is whether the questions listed in Appendix "A" to the Commissioner's Notice of Motion are proper questions that must be answered by Rogers.

PART IV – SUBMISSIONS

11. Rule 240 of the *Federal Courts Rules*¹ requires that a person being examined for discovery answer, to the best of that person's knowledge, information, and belief, any question that is relevant to any unadmitted allegation of fact in a pleading filed by the party being examined or by the examining party. Rule 242² lists the permissible reasons for objecting to answer, namely because the answer is privileged, the question is not relevant, unreasonable or unnecessary, or it would be unduly onerous to make the inquiries required in order to respond.

¹ *Federal Courts Rules*, SOR/98-106, rule 240.

² *Ibid*, rule 242.

12. Whether a question is relevant will depend on the pleadings in the proceeding.³ The Federal Court of Appeal in *Lehigh* set out the test for relevance as follows:
- [...]a question is relevant when there is a reasonable likelihood that it might elicit information which may directly or indirectly enable the party seeking the answer to advance its case or to damage the case of its adversary, or which fairly might lead to a train of inquiry that may either advance the questioning party's case or damage the case of its adversary. Whether this test is met will depend on the allegations the questioning party seeks to establish or refute.
13. The Tribunal in *Commissioner of Competition v Live Nation Entertainment, Inc et al* cited *Lehigh* and described relevance as a “generous and flexible” standard at the discovery stage. The Tribunal decided that “[d]oubts on the issue of relevance are to be resolved in favour of disclosure, and questions will typically need to be answered unless they are clearly improper.”⁴
14. This low bar stems from the principle that the objective of discovery is to permit “a level of disclosure sufficient to allow each side to proceed fairly, efficiently, effectively and expeditiously towards a hearing, with sufficient knowledge of the case each party has to meet”.⁵
15. Where relevance is established, the Tribunal may still exercise its discretion to disallow a question. This will be a balancing exercise between the potential value of the answer against the risk that a party is abusing the discovery process. Factors considered in deciding whether to exercise this discretion include whether answering the question would create undue hardship, where there are other means of obtaining the information sought, or where the question is part of a fishing expedition.
16. The Commissioner has identified six categories of questions where Rogers has failed to provide answers to relevant questions. The headings below correspond to

³ *R v Lehigh Cement Limited*, 2011 FCA 20.

⁴ *The Commissioner of Competition v Live Nation Entertainment, Inc et al*, 2019 Comp Trib 3 [**Live Nation**] at paras 7-9.

⁵ *The Commissioner of Competition v Vancouver Airport Authority*, 2017 Comp Trib 16 at para 46, as cited by in *Live Nation*, *supra* note 1, at para 6.

the six categories set out in Appendix “A” to the Notice of Motion. Below, the relevance of each category is set out, as well as why there are no grounds for refusals even though the questions are relevant.

Category 1: Wealth Transfer

17. The first category of questions relates to the shareholdings of Rogers family members in the corporation, as well as to postpaid, low-cost plans offered by Rogers.
18. In response to the defence raised by Rogers under section 96 of the *Competition Act*, the Commissioner alleges that (i) the increase in prices or qualitative effects resulting from the Merger will result in a transfer of wealth from low- and moderate-income groups in society to the Respondents, whose shareholders include ultra-rich members of the family ownership groups of these companies; and (ii) increased profits will also be paid to non-Canadian investors. These facts have not been admitted by Rogers.
19. The pleading of these allegations has not been challenged by Rogers, nor have they been otherwise struck from the Commissioner’s Reply. As such, these facts are in dispute. And they are directly relevant to the efficiencies defence raised by Rogers.
20. The Federal Court of Appeal, in *Superior Propane*, approved of the balancing weights approach for determining whether a wealth transfer from consumers to producers should count against efficiencies in determining whether efficiencies are greater than, and offset, the anti-competitive effects of a merger.⁶ In the *Superior Propane* redetermination decision, the Tribunal adopted the balancing weights approach and found that socially adverse redistributive effects count against efficiencies.⁷

⁶ *Canada (Commissioner of Competition) v Superior Propane Inc*, 2001 FCA 104 at paras 37-57 and 159-162.

⁷ *Canada (Commissioner of Competition) v Superior Propane Inc*, 2002 Comp Trib 16 at paras 333-338 and 365-371 aff’d 2003 FCA 53.

21. The Commissioner's questions are not disproportionate and they should be answered by Rogers. Rogers is controlled by the Rogers family; the information sought is readily available to Rogers.
22. With respect to questions 816-817, counsel for Rogers undertook to answer these questions. However, they were not answered in Rogers' answers to undertakings. They ought to be answered fully, including the number of customers for each plan on a monthly basis since each plan was introduced.

Category 2: Rogers' Network Outages

23. The second category of questions relates to Rogers' four network outages since January 1, 2019 that lasted at least four hours and impacted at least 100,000 subscribers.
24. In his Order dated August 26, 2022 regarding refusals, Chief Justice Crampton ordered that "[q]uestions related to network outages are relevant pursuant to the pleadings in this proceeding." This information informs Rogers' network quality, an important consideration in assessing the effects of the Proposed Transaction. Both the Commissioner's and Rogers' pleadings reference this issue.
25. Both the Commissioner's Notice of Application and the Commissioner's Reply to Rogers' Response allege a deterioration to the quality of wireless services offered by Rogers. Rogers' Fresh As Amended Response conversely alleges quality improvements will arise from combining the Respondents' wireline networks, and from combining Videotron's and Freedom's wireless networks.
26. Having established relevance, the Commissioner's questions are not disproportionate. The Commissioner's questions request information that Rogers has provided to governmental authorities, such as the CRTC, and internal analysis on this topic that Rogers has undertaken apart from this litigation.

Category 3: Rogers' Pricing Decisions

27. The third category of questions relates to the implementation and scope of business decisions relating to wireless pricing considered by Rogers. The

relevance of pricing in a market in which the Commissioner alleges a likely substantial prevention or lessening of competition is evident.⁸

28. The Commissioner's questions relate to a limited number of specific documents in Rogers' documentary production or specific promotional offers within a defined time period. As such, the Commissioner's requests are not disproportionate.

Category 4: Rogers' Draft Cost Estimates for the Proposed Freedom Divestiture

29. The fourth category of questions relates to Rogers' draft estimates of its costs to implement its proposed Freedom Mobile divestiture, including services to be provided post-closing. Rogers' undertook to provide completed estimates, but not drafts. These estimates, including drafts, are relevant to determining the implementation costs of the efficiencies claimed by Rogers. As mentioned above, Rogers' pleadings make clear that Rogers intends to rely on the efficiencies defence.
30. One of the Commissioner's rebuttal's to Rogers' claimed efficiencies, among several others, relates ignoring the costs to implement them, as pled in subparagraph 19(d) of the Commissioner's Fresh As Amended Reply to Rogers.
31. In *Superior Propane*, the Tribunal found that the value of cognizable efficiencies only counts net of the cost to implement them: "... I am of the view that efficiencies should be measured net of the implementation costs that would be incurred in obtaining them."⁹
32. Therefore, Rogers' costs related to its proposed divestiture of Freedom Mobile to Videotron are relevant to assessing the value of Rogers' claimed efficiencies.
33. Having demonstrated relevance, the Commissioner's questions should be answered, because they are not disproportionate. Given that Rogers already had

⁸ See for example, *Competition Act*, RSC 1985, c C-34, s 93(g.3): "In determining, for the purpose of section 92, whether or not a merger or proposed merger prevents or lessens, or is likely to prevent or lessen, competition substantially, the Tribunal may have regard to the following factors:... (g.3) **any effect of the merger or proposed merger on price** or non-price competition, including quality, choice or consumer privacy;" [emphasis added]

⁹ *Canada (Commissioner of Competition) v Superior Propane Inc*, 2000 Comp Trib 15 at para 484.

to produce its final estimates, identifying the draft estimates thereof is a limited amount of additional work.

Category 5: Rogers' Synergies or Efficiencies Analyses

34. The fifth category of questions related to Rogers' internal analysis of synergies or efficiencies. Rogers' representative testified at discovery as to the integration management office and the value capture office analyzing synergies and efficiencies, which, since approximately January has been done internally.¹⁰
35. Any internal analysis is clearly relevant to Rogers' efficiencies defence: it is the factual underpinning of same.
36. There is also evidence that internal analysis exists to be produced:
 - (a) Rogers representative testified that Rogers or its contractors, other than testifying experts, carried out further analysis or calculation of the efficiencies claimed in this case since the ETA examinations in April 2022;¹¹
 - (b) Rogers' representative testified that his belief was that work was under way to analyse and calculate any efficiencies/synergies claimed in respect of the proposed Videotron divestiture by Rogers or its contractors, other than testifying experts;¹²
 - (c) Rogers' representative testified that there would be "periodic roll-ups", aggregating information from different workstreams, that would permit the "summation of sources of synergies cost to achieve";¹³
37. In response to several of the Commissioners' questions, Rogers refused by advising it "will comply with its continuing production obligations" and that the

¹⁰ Transcripts from the Examination for Discovery of Dean Prevost August 25, 2022, pp 42-51 [Exhibit A to Affidavit]

¹¹ Ibid, question 40 p 25.

¹² Ibid, question 47 pp 29-30 and question 52, p 31.

¹³ Ibid, question 107, pp 56-57.

“complete set of documents on which it intends to rely for its efficiencies claims will be included in its expert report” or some variation thereof.¹⁴

38. With respect, Rogers is required to produce all facts and factual documents that are prepared for the purpose of planning its integration or other business purposes such as reporting to stakeholders on its anticipated synergies. Such internal business analyses are not privileged.
39. Solicitor-client privilege will only attach to those communications that fall along the continuum of communications in which a solicitor tenders advice.¹⁵ Preparing analyses of efficiencies or synergies, which is required for operational purposes (i.e., integration planning for the Proposed Transaction and proposed divestiture), is not part of the “necessary exchange of information of which the object is the giving of legal advice.”¹⁶ The Federal Court of Appeal has made clear that operational documents, even those prepared pursuant to legal advice, are not privileged, except in very limited circumstances:

Similarly, an organization might receive plenty of legal advice about how to draft a policy against sexual harassment in the workplace. But the operational implementation of that advice – the policy and its circulation to personnel within the organization for the purpose of ensuring the organization functions in an acceptable, professional and business-like manner – is not privileged, except to the extent that the policy communicates the very legal advice given by counsel.¹⁷

40. Although legal counsel may be involved in the preparation of analyses of efficiencies or synergies carried out by Shaw or its contractors (putting aside those undertaken by experts), such analyses are financial in nature and do not contain any legal advice. As such, they are not solicitor-client privileged.

¹⁴ See Appendix A.

¹⁵ *Samson Indian Nation and Band v Canada*, [1995] 2 FC 762 (FCA), at para 8.

¹⁶ *Canada (Public Safety and Emergency Preparedness) v Canada (Information Commissioner)*, 2013 FCA 104 at para 28.

¹⁷ *Canada (Public Safety and Emergency Preparedness) v Canada (Information Commissioner)*, 2013 FCA 104 at para 31.

41. Litigation privilege can only attach to “documents whose dominant purpose is preparation for litigation”.¹⁸ While preparation for litigation may be a purpose behind the creation of analyses of efficiencies or synergies by Rogers or its contractors (as opposed to those created by experts), it is not the dominant purpose. Undoubtedly, the dominant purpose for the preparation of such analyses of efficiencies or synergies is integration planning. To argue otherwise means taking the position that efficiencies are sought primarily for the efficiencies defence, rather than maximizing the value of the transaction.
42. In short, it is clear that there is no reasonable basis for Rogers to withhold the requested analyses of efficiencies or synergies on privilege grounds.

Category 6: Miscellaneous

43. Questions 169-175 relate to a document that is clearly relevant but which has not been produced in final form, which involves a search of two individuals within Rogers. The Commissioner is entitled to the final or most recent draft.
44. Questions 799-801 are clearly relevant as they speak to barriers to entry, both in terms of the capital and efforts required. It is not disproportionate. Given the importance of spectrum to Rogers’ business, it would be expected to have record-keeping in regard to its acquisition of spectrum.

PART V – ORDER SOUGHT

45. The Commissioner respectfully requests that the Tribunal order Rogers to answer the questions listed in Appendix “A” of the Commissioner’s Notice of Motion.

DATED AT OTTAWA, ONTARIO, this 7th day of September, 2022.

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¹⁸ *Lizotte c Aviva Cie d'assurance du Canada*, 2016 SCC 52 at para 1.

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THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c. C-34;

AND IN THE MATTER OF the proposed acquisition by Rogers Communications Inc. of Shaw Communications Inc.;

AND IN THE MATTER OF an Application by the Commissioner of Competition for an order pursuant to section 92 of the *Competition Act*;

B E T W E E N :

COMMISSIONER OF COMPETITION

Applicant

- and -

**ROGERS COMMUNICATIONS INC. AND SHAW
COMMUNICATIONS INC.**

Respondents

- and -

**ATTORNEY GENERAL OF ALBERTA AND
VIDÉOTRON LTD.**

Intervenors

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