



Telecom Decision CRTC 2022-288

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Facilities-based wholesale mobile virtual network operator (MVNO) access tariffs – Commission determinations on proposed terms and conditions

Summary

The Commission is making a number of determinations related to the implementation of the facilities-based wholesale mobile virtual network operator (MVNO) access service and associated tariff notices, pursuant to its findings in Telecom Regulatory Policy 2021-130.

The Commission's determinations in this decision are aimed at ensuring that wholesale MVNO access service is as effective as possible in achieving its purpose. Its purpose is to enable eligible regional wireless carriers to use the networks of Bell Mobility Inc. (Bell Mobility), Rogers Communications Canada Inc. (RCCI), TELUS Communications Inc. (TCI), and Saskatchewan Telecommunications (SaskTel) [collectively, the incumbents], where these four exercise market power, to serve new areas while they build out their networks.

With this in mind, in this decision, the Commission

- **denies** a number of provisions that would restrict eligibility based on minimum spectrum holdings, spectrum that has been subordinated to another wireless carrier, or is subject to an encumbrance;
- expands eligibility to include regional wireless carriers that hold Local Telephone (TEL) spectrum licences, which will benefit competition, mainly in rural areas;
- determines that to be eligible for the MVNO access service, a regional wireless carrier must be registered with the Commission as a wireless carrier, have a home public mobile network somewhere in Canada (including a radio access network [RAN] and core network), and be actively offering mobile wireless services commercially to retail customers;
- determines that the MVNO access coverage area is to be considered as an extension of a regional wireless carrier's home network, which eliminates the need for a regional wireless carrier to differentiate between its end-users who

reside in the MVNO access coverage area and those who do not. This determination simplifies the service and creates an incentive for its use;

- mandates seamless hand-off functionality for the MVNO access service to prevent dropped calls and data sessions when end-users move between the MVNO access coverage zone and a regional wireless carrier's home network;
- determines that MVNO access service is to be offered on all current and future Global System for Mobile communications (GSM)-based network generations (3G, 4G/long-term evolution, 5G, and beyond);
- determines that the available footprint of an incumbent's MVNO access service includes the RAN of its joint-network builds, as well as the RAN owned and operated by its network-sharing partners under RAN-sharing arrangements;
- **denies** provisions that would restrict the resale of the MVNO access service;
- **denies** provisions that would require regional wireless carriers to compensate incumbents for inaccurate traffic forecasts;
- **denies** provisions that impose a wind-down period towards the end of the wholesale MVNO access service mandate period;
- **denies** a number of provisions related to the suspension and termination of service;
- determines that negotiated MVNO access rates be open to renegotiation at least every two years from the date they are last established. Parties may agree to a different time frame if they so choose;
- **directs** the incumbents to begin accepting requests for wholesale MVNO access on the date this decision is issued and to enter into good-faith commercial negotiations with regional wireless carriers upon request to agree on a rate;
- **directs** the incumbents to have the service operational and ready for use no later than **30 days** following the date the tariffs are finalized, and seamless hand-off functionality must be in place within **90 days** following the date the tariffs are finalized;
- expects executed agreements to be in place within **90 days** of the date of the decision approving the final tariffs. If this time frame is not met, the Commission will consider adding time to the term of the seven-year mandate; and
- takes the preliminary view that it is highly likely that the market conditions in the enterprise and Internet of Things (IoT) and machine-to-machine (M2M) segments closely resemble those seen in the rest of the retail market—that is, highly concentrated with the incumbents exercising market power—and will initiate a proceeding regarding the inclusion of those segments in the MVNO access policy framework.

The Commission **directs** the incumbents to make changes, for Commission approval, to the proposed terms and conditions in their wholesale MVNO access tariffs according to these determinations and file revised tariffs within **30 days** of the date of this decision.

Background

1. In Telecom Regulatory Policy 2021-130, the Commission, among other things, mandated the provision of a wholesale facilities-based mobile virtual network operator (MVNO) access service to enable eligible regional wireless carriers (also referred to as wholesale customers and MVNO customers in this decision) to use the networks of Bell Mobility Inc. (Bell Mobility), Rogers Communications Canada Inc. (RCCI), TELUS Communications Inc. (TCI), and Saskatchewan Telecommunications (SaskTel) [collectively, the incumbents], where these four exercise market power, in the provision of retail mobile wireless services, to serve new areas while they build out their networks. The Commission indicated that the aim of that measure was to bring new competitive choice in wireless services to millions of Canadians, while also encouraging network expansion and sustainable competition over the longer term.
2. The Commission's determinations in Telecom Regulatory Policy 2021-130 regarding the characteristics of wholesale MVNO access service are summarized as follows:
 - In order to be eligible to use the service, a wireless carrier must possess a spectrum licence at the tier 4 level or higher¹ in a given tier 4 area. Bell Mobility, RCCI, and TCI (collectively, the national wireless carriers) and their affiliates are not eligible to use the service.
 - 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.
 - 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 three territories.
 - Terms and conditions for the service were to be set on an *ex ante* basis and set out in a tariff. Each of the incumbents were to file proposed terms and conditions within 90 days of the date of Telecom Regulatory Policy 2021-130, using the national wireless carriers' existing wholesale roaming service tariffs

¹ That is, spectrum at the tier 4, tier 3, tier 2, or tier 1 levels, [as defined by Innovation, Science and Economic Development Canada \(ISED\)](#). 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.

as the baseline and making any necessary modifications. As with wholesale roaming, these tariffs were to 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.

- Rates are to be commercially negotiated between parties, with final offer arbitration (FOA) by the Commission as a recourse if negotiations fail.
 - 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.
 - The service was 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.
 - The Commission indicated that it did 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 that decision, absent any significant developments in the market or otherwise.
 - Regional wireless carriers were not required to meet any specific investment targets. However, regional wireless carriers making use of the service were to file annual progress updates with the Commission. This reporting requirement was to commence one year after such a carrier subscribes to the service and continue until the end of the phase-out period.
3. The incumbents respectively filed their proposed tariffs in July 2021. The following parties filed interventions: Bragg Communications Incorporated, carrying on business as Eastlink (Eastlink); Cogeco Communications inc. (Cogeco); the Independent Telecommunications Providers Association (ITPA); Iristel Inc. (Iristel); the Manitoba Coalition; Quebecor Media Inc., on behalf of Videotron Ltd. (Videotron); Sogetel inc. (Sogetel); TerreStar Solutions Inc. (TerreStar); Vaxination Informatique; and Xplornet Communications Inc. (Xplornet).² On 7 October 2021, the incumbents filed replies to these interventions. Fibernetics Corporation (Fibernetics) was later added as an intervener through a Commission ruling.³ The record for these tariff proceedings closed on 27 January 2022 with the filing of responses to requests for information.

² On 15 July 2022, Xplornet announced that effective 31 August 2022, the structurally separate Xplore Mobile would be shutting down its operations.

³ [Telecom - Commission Letter addressed to the Distribution List](#), 8 December 2021

4. Because the record of the tariff notice proceedings for updates to the wholesale roaming service—which the Commission ruled on in Telecom Decision 2022-102—and the record of the tariff notice proceedings for the wholesale MVNO access service both arose from the policy determinations set out in Telecom Regulatory Policy 2021-130 and were filed at the same time, parties commented on both sets of tariff applications in the same submissions. As a result, in certain cases, parties' arguments applied to both wholesale roaming and wholesale MVNO access. The Commission has identified these instances at various points in this decision. The determinations herein do not relate to wholesale roaming tariffs.

Issues

5. For the purposes of this decision, the Commission has grouped the issues that have been raised on the record of these proceedings into four categories: (i) eligibility (i.e., who can use the service and where), (ii) restrictions (i.e., what the service can be used for and how), (iii) technical (i.e., how the service should be configured), and (iv) contractual (e.g., forecasting, notification, and liability).
6. The incumbents have proposed a number of provisions that would limit eligibility and make the service more restrictive, which they view as being necessary to ensure compliance with the Commission's regulatory framework and to safeguard the integrity and security of their networks.
7. Interveners, on the other hand, are generally seeking a more accessible service that is subject to as few restrictions as possible. They have taken issue with many of the proposed terms and conditions that they view as inappropriate, overly restrictive, punitive, or counter to the spirit of the Commission's determinations in Telecom Regulatory Policy 2021-130.
8. The Commission has identified the following issues to be addressed in this decision:

Eligibility

- Is it a prerequisite for a regional wireless carrier to have a home network somewhere in Canada?
- Should it be a prerequisite for a regional wireless carrier to hold a minimum amount of spectrum to be eligible to use the service?
- Can regional wireless carriers that hold subordinated spectrum licences use the service?
- Can regional wireless carriers that hold encumbered spectrum licences use the service?
- Is a regional wireless carrier with a spectrum licence covering a Local Telephone area eligible for the service?

Restrictions

- Should there be restrictions on enterprise customers and Internet of Things and machine-to-machine applications?
- Should there be restrictions on using the MVNO access service in combination with other technologies to provide Internet services to residences and small businesses?
- Should there be restrictions on the types of devices that can be used?
- Should there be restrictions related to resale of the MVNO access service?

Technical

- Should there be a general condition describing the tariffed MVNO access service?
- Should the MVNO access area be considered an extension of a regional wireless carrier's home network?
- Does the MVNO access service include all network generations (3G, 4G/long-term evolution, 5G)?
- Should the MVNO access service include seamless hand-off?
- What method of interconnection is appropriate?
- Should regional wireless carriers be required to demonstrate that they have deployed traffic-steering applications?
- Should incumbents be required to provide wholesale MVNO access in areas where they use another carrier's radio access network as part of a sharing agreement?

Contractual

- Are the incumbents' forecasting provisions appropriate in terms of frequency and level of detail?
- Should regional wireless carriers compensate the incumbent for inaccurate traffic forecasts?
- Are the incumbents' provisions relating to a wind-down period appropriate?
- When should the in-service date be?
- What provisions related to the suspension and termination of service are appropriate?
- Are provisions related to permanent roaming appropriate?
- What quality of service provisions are appropriate?
- Should there be provisions to allow for periodic rate reviews or renegotiation?
- What provisions are appropriate in relation to notification of network changes and technology turn-down?
- What trademark and/or trade name provisions are appropriate?
- What provisions regarding liability and indemnification are appropriate?

- Should there be a notification requirement when a regional wireless carrier adds a reseller?
- What fraud prevention and acceptable use provisions are appropriate?

Other issues

- TCI's definition of third-party reseller
- Multimedia messaging service
- Location area codes and tracking area codes
- Bell Mobility provision related to the design of its public mobile network

Eligibility

Is it a prerequisite for a regional wireless carrier to have a home network somewhere in Canada?

9. In Telecom Regulatory Policy 2021-130, the Commission mandated the wholesale MVNO access service for use by facilities-based regional wireless carriers that possess commercial mobile wireless spectrum holdings that cover a tier 4 area or higher. In this section, the Commission will consider whether entities should be eligible for the service if they possess spectrum but have not deployed a home public mobile network (PMN) or do not currently offer commercial mobile wireless services.

Positions of parties

10. The incumbents argued that the Commission's framework is intended for facilities-based regional wireless carriers and is therefore limited to regional wireless carriers that satisfy the spectrum requirements and have deployed a home PMN somewhere in Canada. They submitted that MVNO access is not intended for resellers that do not have a home PMN, and that regional wireless carriers must provide their own core network given that they are expected to be expanding their own networks for the duration of the mandate. Regional wireless carriers such as Eastlink and Videotron generally agreed with this interpretation. Further, a regional wireless carrier that does not actively provide wireless services in Canada cannot be considered a facilities-based regional wireless carrier and therefore should not be eligible for the mandated MVNO access service.
11. The incumbents also proposed conditions that limit acceptable end-user devices to those that are capable of operating on a wholesale customer's home PMN and radio frequencies.
12. Cogeco, Sogetel, and TerreStar argued that the MVNO access service should be made available to wireless carriers that possess wireless spectrum for a tier 4 or larger region, and that the Commission's framework does not require a potential wholesale customer to have already deployed its own home PMN as a prerequisite for eligibility.

Commission's analysis

13. In Telecom Regulatory Policy 2021-130, the Commission determined that mandating the provision of a broad-based wholesale MVNO access service available to all MVNOs would adversely impact regional wireless carriers' sustainability and incentives to invest. Instead, the Commission opted for a targeted approach by mandating the incumbents to make MVNO access services available only to facilities-based regional wireless carriers in tier 4 areas where they have a spectrum licence. It considered this to be a more surgical approach that would bring the benefits of sustainable retail competition and the availability of affordable retail prices.
14. The Commission considers that it would be against the spirit of its targeted wholesale policy to permit companies to use the MVNO access service if they have not made the necessary network investments to enter the retail market as a regional wireless carrier (in this case, investing in a home PMN). Doing so would run counter to the intent underlying the Commission's determinations in Telecom Regulatory Policy 2021-130 and put existing regional wireless carriers at a disadvantage relative to companies that have not incurred the same investment risk.
15. If eligibility did not require a regional wireless carrier to be operating using its own home PMN, any company could conceivably acquire any amount of spectrum through an auction process or through an arrangement with another carrier and use the MVNO access service with absolutely no intention to build a network. Such an outcome would not align with the Commission's framework, which is designed to encourage network deployment and accelerate sustainable competition to benefit Canadians.
16. Certain companies have held spectrum licences for many years, but for various reasons, have made the business decision not to enter the retail market as a regional wireless carrier and therefore have yet to invest in a home PMN. The opportunity to do so, use their spectrum, and enter the mobile wireless market as facilities-based competitors is still available to these companies, at which time they would be eligible for the MVNO access service. Similarly, entities that may not currently be eligible for the service may become eligible over the course of the mandate if they acquire spectrum rights, invest in a home PMN, and begin offering retail service.
17. The Commission therefore determines that the wholesale MVNO access service is available for use by regional wireless carriers that have deployed their own home PMN somewhere in Canada and are offering retail wireless services. More specifically, to be eligible for the MVNO access service, a regional wireless carrier must be registered with the Commission as a wireless carrier, must have a home PMN somewhere in Canada (including a radio access network [RAN] and core network), and must be actively offering mobile wireless services commercially to retail customers. The Commission **directs** the incumbents to modify their tariffs in accordance with this determination.

18. Regarding the device limitations proposed by the incumbents that limit acceptable end-user devices to those that are capable of operating on the regional wireless carrier's PMN and radio frequencies, the Commission considers that these limitations are consistent with the service being available only to facilities-based regional wireless carriers and with the direction above. Thus, the Commission determines that these device limitations are appropriate.

Should it be a prerequisite for a regional wireless carrier to hold a minimum amount of spectrum to be eligible to use the service?

19. In Telecom Regulatory Policy 2021-130, the Commission specified that the spectrum holdings of a regional wireless carrier had to be at the tier 4 level or higher to qualify for eligibility. Bell Mobility and TCI proposed a minimum spectrum requirement as a supplement to this criterion.

Positions of parties

20. Bell Mobility and TCI proposed that an eligible regional wireless carrier is one that has a minimum of 20 megahertz (MHz) of commercial mobile spectrum in aggregate in a given tier 4 area and is available to the regional wireless carrier to provide mobile wireless services. In their view, holding inconsequential amounts of spectrum would be insufficient to build out a viable network within a tier 4 area, which is the goal of the policy.
21. The interveners opposed this requirement, arguing that the limitations proposed by Bell Mobility and TCI are completely inappropriate and go beyond the Commission's determinations in Telecom Regulatory Policy 2021-130 concerning spectrum requirements.
22. Some interveners submitted that future spectrum auctions would provide opportunities for regional wireless carriers to grow their spectrum holdings and offer their own wireless services over the course of the mandate. Imposing a minimum spectrum requirement could prevent a regional wireless carrier that has the potential to augment its spectrum holdings in future auctions from benefitting from the MVNO access service until it acquires more spectrum.
23. Iristel and Videotron argued that wireless services can be launched with 10-MHz spectrum blocks, and that the 3rd Generation Partnership Project (3GPP) has defined 10-MHz channels as the baseline for 5G service, including in the 3500-MHz band. Iristel submitted that its affiliate Ice Wireless has deployed 10 MHz of spectrum in various areas of the North throughout the history of its mobile wireless operations.

Commission's analysis

24. In the Commission's view, the addition of tariff provisions that set out minimum spectrum requirements would constitute a change to the policy set out in Telecom Regulatory Policy 2021-130 and are not necessary or appropriate for the reasons set out below.
25. The Commission created the mandated MVNO access service to be available for regional wireless carriers that have already invested in their networks. These regional wireless carriers must continue to invest in spectrum and wireless networks to continue to serve their end-users once the mandate is over. Upcoming spectrum auctions, secondary market transactions, and sharing agreements are all available methods to augment spectrum holdings and increase coverage area.
26. Denying the MVNO access service to regional wireless carriers that do not meet a minimum spectrum holding requirement would be unduly restrictive because it could prevent a number of regional wireless carriers, which would otherwise be eligible, from using the service to grow their customer bases and expand their networks. Such an outcome would negatively impact competition and run counter to the spirit of Telecom Regulatory Policy 2021-130.
27. Furthermore, the minimum of 20 MHz proposed by Bell Mobility and TCI is arbitrary. Evidence has been submitted that 10 MHz of spectrum is sufficient to deploy wireless network services for end-users, and there is no compelling evidence on the record to suggest that a wireless carrier needs a minimum of 20 MHz to offer retail service in a given area.
28. Finally, the Commission notes that RCCI and SaskTel did not propose a similar requirement in their proposed tariffs, which further calls into question the necessity of such a provision.
29. The Commission therefore **directs** Bell Mobility and TCI to remove provisions related to minimum spectrum requirements from their tariffs.

Can regional wireless carriers that hold subordinated spectrum licences use the service?

30. Spectrum subordination occurs when an entity that has licensed spectrum from Innovation, Science and Economic Development Canada (ISED) leases or otherwise subordinates the right to use all or a portion of that licensed spectrum to another wireless carrier.

31. In Canada, there is widespread subordination of spectrum rights between incumbent carriers as well as between incumbents and regional wireless carriers. Subordination is done under the terms set out in ISED's [spectrum licence procedures](#).⁴
32. In this section, the Commission will consider whether there should be restrictions on eligibility for wholesale MVNO access if a regional wireless carrier (i) possesses a subordinated spectrum licence from another carrier; (ii) has subordinated its spectrum licence to another carrier; or (iii) has entered into a sharing agreement with another carrier in which both carriers have use of the spectrum.

Positions of parties

33. Certain incumbents included provisions in their proposed tariffs that would limit eligibility to primary spectrum licence holders only such that holders of subordinated spectrum would not be eligible.
34. Bell Mobility argued that these provisions are intended to give practical effect to the Commission's statement in Telecom Regulatory Policy 2021-130 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.
35. TCI submitted that because the ISED licence deployment requirements apply only to the primary licensee, the mandated MVNO access service should not be available to subordinate licensees that have no deployment requirements.
36. RCCI submitted that subordinated spectrum holders have no obligation to deploy networks and added that the subordinated licence can be withdrawn at any time. Further, allowing for subordinated spectrum licence holders to be eligible could result in both the primary licensee and the subordinated licensee claiming eligibility for MVNO access services in the same area.
37. Interveners were generally opposed to such restrictions.
38. Cogeco submitted that ISED approves subordination applications, and when these subordinated licences include subdivisions of a primary licence, ISED provides geographic maps for the subdivided part that make it possible to assess eligibility for the MVNO access service. Cogeco added that allowing subordinated licensees to use the service would provide additional competition in more markets.
39. Eastlink argued that it would not be appropriate for both the primary licensee and the subordinate licensee to be eligible for the MVNO access service at the same time based on the same spectrum licence.

⁴ See [Canada Gazette notice DGSO-002-13, Consultation on Considerations Relating to Transfers, Divisions and Subordinate Licensing of Spectrum Licences](#). When this document was published, ISED was known as Industry Canada.

40. Videotron was opposed to a blanket denial of service to subordinate licensees, arguing that spectrum subordination is a common industry practice and is a legitimate option for strengthening the ability of competitors to compete against the incumbents in the marketplace.
41. Xplornet submitted that the use of spectrum by a subordinate licensee should count towards the deployment conditions that apply to the primary licensee. It indicated that agreements that underlie subordinated licences generally provide for the long-term use of spectrum, and that it is common for wireless carriers to deploy network infrastructure using subordinated spectrum.

Commission's analysis

42. Subordination of spectrum licences is a process in which ISED approves the leasing out of the spectrum rights by the primary licensee to another wireless carrier for its use in providing a service. The wireless carriers—both the primary licence holder and the carrier with the subordinated spectrum—separately must still meet all of ISED's obligations related to the leased spectrum. If the spectrum is subordinated, only the subordinated licensee can use the spectrum, and using spectrum to build out networks to encourage competition was the purpose of the mandated service. As a result, the Commission's view is that as a general rule, subordinated spectrum licences should count for the purposes of eligibility. However, there are three scenarios to consider in this regard:

- a) When a regional wireless carrier possesses a subordinated spectrum licence from another carrier

Based on Telecom Regulatory Policy 2021-130, regional wireless carriers must possess a mobile wireless spectrum licence at the tier 4 level or higher. The Commission did not stipulate that regional wireless carriers must possess a spectrum licence as the primary licensee. The Commission sees no valid reason, from either a policy or technical perspective, why such spectrum would need to be held as a primary licensee, and why subordinate licensees should be ineligible, particularly when spectrum subordination is a common and accepted practice among wireless carriers that is also tracked by ISED. If subordinated licence holders were excluded from eligibility, the competitive benefits of the wholesale MVNO access service could be denied in many tier 4 areas that could otherwise benefit from it, which would run counter to subparagraph 1(a)(v) of the 2019 Policy Direction⁵ to reduce barriers to competition for telecommunications service providers (TSPs) that are new, regional, or smaller than the incumbent national service providers. In the Commission's view, it is appropriate that any regional wireless carrier

⁵ *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

in possession of subordinated mobile wireless spectrum licence(s) covering one or more tier 4 areas be eligible for the MVNO access service.

- b) When a regional wireless carrier has wholly or partially subordinated its spectrum licence to another carrier

This scenario considers instances where a regional wireless carrier is the primary spectrum licensee and has subordinated its spectrum to another carrier. When this occurs, the subordinated spectrum cannot be used by the primary licensee to provide a wireless service because it no longer has access to the rights to use that spectrum frequency. In the Commission's view, spectrum rights that have been subordinated to another carrier (except in situations described in subparagraph c) below) are not eligible spectrum for the purpose of a primary licensee obtaining wholesale MVNO access in the geographic areas covered by those subordinated spectrum licences.

- c) When a regional wireless carrier has entered into a sharing agreement with another wireless carrier in which both carriers have use of the spectrum

This scenario considers situations where a regional wireless carrier is sharing access to licensed spectrum, potentially using subordination arrangements. This might occur when, for example, a regional wireless carrier enters into a joint network build or network-sharing agreement to efficiently expand networks and compete in the mobile wireless market. In the Commission's view, spectrum that has been used in this manner is eligible, given that the regional wireless carrier would have demonstrated a commitment to network investment and expansion and can use the spectrum.

- 43. Primary spectrum licences can be subordinated fully or subdivided by frequency blocks. Regarding concerns about the administrative challenges associated with determining geographic spectrum eligibility based on fully or partially subordinated licences, the Commission notes that all subordinated licences are approved by ISED, and that coverage areas are mapped and can be accessed through ISED's website. These maps can be used by the national carriers to ensure that a regional wireless carrier meets the spectrum eligibility requirements for the MVNO access service.
- 44. The incumbents expressed concern that regional wireless carriers that hold subordinated licences have no obligation to build, and hence should not be eligible for the MVNO access service. In the Commission's view, the likelihood of this occurring on a widespread basis is low, and even if it were to occur in certain areas, the impact would also be low. The MVNO access service mandate was designed to enable regional wireless carriers to enter select geographic markets as temporary resellers to support building out their own networks. The main users of the MVNO access service will be regional wireless carriers that have economic incentives to expand their networks to increase their coverage areas, expand their customer bases, and reduce their reliance on wholesale services. As the Commission found in

Telecom Regulatory Policy 2021-130, 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 and the lack of a network. The Commission's view is that the incentives of regional wireless carriers to build exist regardless of whether they are making use of spectrum as the primary licence holder or as a subordinated licensee.

45. In conclusion, the Commission **directs** the incumbents to modify their eligibility provisions regarding subordinated spectrum according to the following determinations and file revised tariff provisions:
- Regional wireless carriers with subordinate spectrum licences are eligible in the geographic areas covered by those licences.
 - Primary licence holders that have subordinated their spectrum are not eligible to use the service in the geographic areas covered by those subordinated spectrum licences (except in sharing agreements described below).
 - Regional wireless carriers that share or subordinate spectrum with another wireless carrier in a joint network build or network-sharing agreement are eligible in the geographic areas covered by those licences.

Can regional wireless carriers that hold encumbered spectrum licences use the service?

46. In certain situations, ISED issues spectrum licences that are partially encumbered. Usually, areas with encumbered spectrum are not available for public cellular use. Spectrum encumbrances are rare, sometimes temporary, and sometimes small, covering only a small percentage of the total population of a tier 4 area.

Positions of parties

47. In its proposed tariff, TCI's definition of "eligible spectrum" included the stipulation that the licence(s) at a tier 4 level or higher must be unencumbered and available to provide commercial retail wireless services. According to TCI, possession of a spectrum licence that is subject to an encumbrance should not qualify a regional wireless carrier for eligibility for MVNO access because the holder cannot use the licence to build wireless networks in the relevant tier 4 area. Bell Mobility, RCCI, and SaskTel did not exclude encumbered spectrum from eligibility in their respective tariffs.
48. Videotron and Xplornet argued that excluding competitors that hold encumbered spectrum would delay the expansion of regional wireless carriers' networks to serve more Canadians, especially if they are subjected to only a small degree of encumbrance. For example, numerous licences sold in the recent 3500 MHz auction

are permanently encumbered by small protected grid cells or area licences often encompassing less than a few percent of the total service area population.⁶

49. Sogetel submitted that it is not advisable to include encumbrance restrictions and added that such a requirement should be rejected.

Commission's analysis

50. The purpose of using spectrum licence holdings as an eligibility requirement for the MVNO access service is to encourage and enable regional wireless carriers to use their available spectrum to build out their networks in areas where they have not yet been able to extend their network coverage.
51. ISED restrictions prohibit spectrum from being used to provide commercial mobile wireless service in areas subject to an encumbrance. However, similar to the reason for which encumbrances were permitted in ISED's 3500 MHz auction, the existence of encumbrances within a tier 4 area does not block the ability for carriers to offer services in the parts of a tier 4 area that are not encumbered. After all, the purpose of the MVNO access service is to facilitate regional wireless carriers' expansion, and encumbrances in a tier 4 area should not prevent this from occurring in the rest of the tier 4 area. In other words, an entire tier 4 area should not be ineligible if only part of it is encumbered.
52. The Commission therefore determines that MVNO access should be provided in a tier 4 area where an eligible regional wireless carrier has any unencumbered spectrum, even if parts of the tier 4 area are subject to encumbered spectrum. As a result, the Commission **directs** TCI to remove this requirement from its tariff.

Is a regional wireless carrier with a spectrum licence covering a Local Telephone area eligible for the service?

53. Local Telephone (TEL) legacy spectrum licences were put in place by ISED many years ago to accommodate the transition of non-auctioned cellular and personal communications service (PCS) licences from apparatus-based licences to spectrum licences. TEL service areas generally correspond to the historic wireline service areas of telephone companies that were operating in British Columbia, Ontario, and Quebec at the time.
54. TEL licence areas vary in size and do not neatly follow the map of tier 4 areas. Some may partially cover a tier 4 area while others may be larger than a tier 4 area. There are 66 TEL licence areas compared to 172 tier 4 areas.

⁶ See Annex A of ISED's [Consultation on a Policy and Licensing Framework for Spectrum in the 3500 MHz Band](#).

55. Certain parties have argued that legacy licence areas (like TEL areas) should qualify as eligible spectrum holdings for the MVNO access service, while others disagreed. The Commission did not consider TEL areas when it made its determinations on geographic eligibility in Telecom Regulatory Policy 2021-130. As a result, the inclusion of these areas would constitute a modification to the existing policy.

Positions of parties

56. Fibernetics submitted that holders of TEL spectrum licences should be eligible for wholesale MVNO access in those geographic areas. It argued that it is straightforward for carriers to verify the possession of TEL spectrum, there would be no need for further processes to identify the presence and network boundaries of regional wireless carriers within TEL areas, and the addressable market would be significantly greater if the Commission were to include partially served TEL areas in the mandate.
57. Iristel argued that there is no valid policy basis for excluding licences assigned to TEL areas from meeting eligibility requirements for wholesale MVNO access service. While the Commission did decide to use tier 4 areas to determine geographic eligibility, it also explicitly stated that partial coverage at the tier 4 level or higher should count towards eligibility. In this regard, Iristel submitted as an example that it holds four PCS licences corresponding exactly to the TEL-082 area, which encompasses a population of nearly 500,000 people. TEL area licences therefore provide for coverage that is entirely consistent with the requirements set out in Telecom Regulatory Policy 2021-130.
58. Bell Mobility indicated that under its proposed tariff, the holder of a TEL licence would only be eligible in tier 4 areas that are fully covered by the TEL licence; they would not be eligible in areas that are only partially covered by the licence. It argued that this is a reasonable outcome, particularly given that the TEL licences were generally given away rather than acquired. As a result, the Commission's rationale for eligibility—that acquiring spectrum indicates a commitment to investment—does not apply to those licensees.
59. RCCI submitted that the Commission has already ruled that the use of tier 4 areas as the minimum required for eligibility is the right geographic area for the MVNO access service, and thus there is no need to include TEL areas. It argued that TEL areas licensed to regional wireless carriers are generally much smaller than tier 4 areas and will introduce unnecessary complexity to the implementation of the mandated MVNO access service.
60. TCI submitted that using TEL licences to determine MVNO eligibility and geographic service coverage would introduce uncertainty, considerable administrative burden, and additional challenges related to delineating MVNO access service area boundaries. It would be inefficient and problematic for the national wireless service providers (WSPs) to have to determine whether each

request for MVNO access based on a unique combination of full and/or subdivided licences is equivalent to, or larger than, a tier 4 licence, particularly because there is no typical tier 4 licence.

61. SaskTel responded that a competitor without spectrum covering an entire tier 4 area has no path to launching service in that area. The regional wireless carrier would not be able to build its network in the portions of the tier 4 area where it had no spectrum. Thus, end-users would be left without a provider at the end of the mandated period for the MVNO access service.
62. Videotron submitted that possession of a TEL spectrum licence should not be a sufficient condition for becoming eligible to use the service. It argued that because these licences were granted for free over 25 years ago, holding such a licence does not represent, on its own, a meaningful commitment to invest in a mobile wireless network.
63. Sogetel supported the inclusion of TEL licence areas. Regarding comments that TEL licences were given away for free and therefore not demonstrative of a commitment to invest, Sogetel submitted that this spectrum was not free given that ISED collects annual licence fees for it. It argued that investment in spectrum that does not fit within the borders of tier 4 areas should not be dismissed for the sake of simplicity, and that doing so would harm competitors and consumers in rural areas that still rely on TEL licences. Regarding administrative challenges, it submitted that the number of wholesale customers using MVNO access is likely limited and their geographic locations are likely easy to track. The ITPA supported Sogetel's position regarding TEL licence eligibility.
64. Iristel objected to comments that TEL-area licence holdings are not indicative of a commitment to investment because licence holders must pay ongoing fees to ISED. It also argued that the cost of a TEL licence is irrelevant given that a regional wireless carrier that is subject to a sunset clause on its MVNO activities in TEL areas will have just as much incentive to invest and transition to MVNO status prior to the expiry of the sunset period as a regional wireless carrier operating only in distinct tier 4 areas.

Commission's analysis

65. In Telecom Regulatory Policy 2021-130, the Commission selected the tier 4 area as the relevant geographic market because it is a reasonable proxy for local markets, has established boundaries, and is familiar to market participants. In that decision, the Commission did not reference the inclusion of TEL licence areas in the MVNO access framework. As a result, a determination on this matter is now required based on the record of these tariff proceedings to provide clarification to parties on the scope of eligibility.
66. The Commission considers that there is merit in expanding eligibility in order to permit TEL licence holders that are operating as regional wireless carriers to use the MVNO access service, provided they satisfy all other eligibility criteria. Doing so would reduce barriers to competition, particularly in more rural areas where TEL licences tend to be situated.
67. The Commission acknowledges that ISED gave away TEL licences for free many years ago. However, a number of carriers with TEL licences have since invested in wireless networks and provide mobile service to small rural communities, and their inclusion in this MVNO access framework has the potential to expand eligibility to more competitors. This will ultimately bring additional competitive choice to the retail market, especially to rural consumers.⁷ From an investment perspective, the Commission notes that TEL licence holders must pay ongoing licence fees to ISED for continued use of that spectrum.
68. In terms of the administrative burden on the part of the incumbents, the Commission considers that it would not be overly difficult to identify and track eligible TEL licence holders. Many TEL licences are held by national wireless carriers, which, per Telecom Regulatory Policy 2021-130, are not eligible for the service anyway. As a result, there are only a handful of regional wireless carriers with TEL licences that could potentially qualify for eligibility based on the other criteria in the MVNO access policy framework. TEL licence areas are also mapped by ISED, so it would be relatively straightforward for the incumbents to discern their geographic boundaries. The Commission's view is that the overall benefits of including TEL areas in its MVNO access framework in terms of fostering additional competition in rural areas outweighs the perceived administrative burden on the incumbents. Ensuring affordable access to wireless services in rural areas aligns with the achievement of paragraph 7(b) of the *Telecommunications Act* (the Act),⁸ the

⁷ Several TEL licence holders currently provide mobile service to rural communities. The combined population of these communities is roughly 200,000.

⁸ The cited objective of the Act is 7(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.

Commission's strategic objectives for its mobile wireless regulatory framework, and the 2019 Policy Direction.

69. In light of the above, the Commission determines that holders of TEL licences, regardless of whether they cover an entire tier 4 area, qualify for eligibility in the corresponding coverage area. To be clear, TEL licence holders must also satisfy all other eligibility requirements set out by the Commission in Telecom Regulatory Policy 2021-130 or as a determination in this decision. The Commission therefore **directs** the incumbents to modify their proposed tariffs in accordance with this determination.

Restrictions

Should there be restrictions on enterprise customers and Internet of Things and machine-to-machine applications?

70. The incumbents proposed tariff provisions that restrict MVNO access to retail customers and small business customers, to the exclusion of medium-to-large sized businesses, institutions, and other enterprise customers (collectively, enterprise customers). In addition, RCCI and TCI would prohibit the use of the wholesale service to enable Internet of Things (IoT) and machine-to-machine (M2M) devices, while Bell Mobility would only permit the use of the service for wireless phone, tablet, and consumer-connected IoT devices.

Positions of parties

71. All interveners that commented on the matter objected to the provisions. They generally submitted that (i) the national wireless carriers' existing wholesale roaming tariffs have no such restrictions; (ii) the Commission did not expressly limit mandated access to individuals and small businesses in Telecom Regulatory Policy 2021-130; (iii) there is no technical or policy justification for the restrictions, (iv) the restrictions will reduce potential competition and preserve the market power of incumbents; (v) the restrictions would impede innovation; (vi) the restrictions would be difficult to implement because it would be hard to determine whether a business is considered small; and (vii) the restrictions would have a detrimental impact on the business case of potential regional wireless carriers.
72. Some interveners, including Cogeco and Iristel, submitted that IoT and M2M services are among the fastest growing market segments in Canada. They added that by preventing the regional wireless carrier from competing in those segments, the provisions would confer an undue preference on the incumbents and an undue disadvantage on regional wireless carriers contrary to subsection 27(2) of the Act.
73. The incumbents submitted that they introduced the provisions in light of the Commission's market assessment in Telecom Regulatory Policy 2021-130, where it

found that the relevant product market consists of retail mobile wireless services offered to individuals and small businesses.

74. Bell Mobility submitted that the Commission did not consider evidence on or make any findings regarding enterprise and IoT/M2M markets in Telecom Regulatory Policy 2021-130, and added that those markets are highly competitive.
75. TCI submitted that it would be contrary to the Commission's findings to expand the remedy to include mandated access to enable wireless services for enterprise customers when the Commission specifically indicated that the problem it was trying to solve was a competition issue related to the retail mobile wireless marketplace.
76. RCCI submitted that there is no merit in opening up the product market outside of the original scope of Telecom Regulatory Policy 2021-130. SaskTel submitted that the Commission did not find that carriers displayed market power in the retail market for mobile wireless service to enterprise customers and the IoT/M2M market.
77. In terms of defining small businesses for the purpose of a restriction, parties generally disagreed on how it should be defined:
 - Bell Mobility proposed defining it as businesses whose wireless telecommunications service comprises 36 subscriber lines or less.
 - SaskTel and TCI supported using the Wireless Code's definition of a business with an average monthly telecommunications bill under \$2,500.
 - Cogeco, Iristel, and Sogetel proposed using the definition used by ISED, Statistics Canada, and Business Development Bank of Canada of a business with 1 to 99 paid employees.
 - RCCI proposed defining small businesses as those with 29 employees or less.

Commission's analysis

78. The Commission has largely forborne from regulating retail and wholesale markets for mobile wireless services. However, there are times when the Commission has adopted targeted wholesale regulatory measures to address competitive concerns in the retail market where necessary. One such occasion came in Telecom Regulatory Policy 2021-130, where the Commission analyzed the state of competition in the retail market for mobile wireless services, pursuant to the framework to assess competitiveness in a given market set out by the Commission in Telecom Decision 94-19. This led to the conclusions that, among other things, (i) the relevant product

market⁹ consists of retail mobile wireless services sold to individuals and small businesses, (ii) mobile wireless services sold to large businesses or institutional customers and for IoT/M2M communications were considered to be in a separate product market, and (iii) the incumbents exercise market power in the provision of retail mobile wireless services in specific geographic markets.

79. The finding of market power in the retail market was the basis for wholesale intervention. The Commission used the framework in Telecom Regulatory Policy 2015-326 (the Essentiality Test) to assess the appropriate measures to apply in the wholesale market to address retail market power. In that analysis, the Commission defined the product and geographic markets for the wholesale service, applied the essentiality analysis, and considered whether the service should be mandated for policy reasons. The Commission concluded, as a question of fact, that where a wireless carrier with upstream market power fails to provide meaningful access to a wholesale MVNO service, with respect to facilities-based carriers, it would be conferring upon itself an undue or unreasonable preference and subjecting those regional wireless carriers to an unreasonable disadvantage. In this exercise, the Commission did not consider wireless services used for enterprise customers and for IoT/M2M communications as part of the relevant downstream product market.
80. Overall, in Telecom Regulatory Policy 2021-130, the Commission did not contemplate regulatory intervention in respect of enterprise customers and IoT/M2M devices, other than to say that mobile wireless services sold to enterprise customers and for IoT/M2M communications are not substitutes for mobile wireless services offered and provided to individuals and small businesses. In other words, they are in different product markets. The Commission did not make any determinations with respect to whether the incumbents exercise market power in the provision of such services for such uses or whether subsection 27(2) of the Act is engaged in respect of these uses.
81. Mandating access for regional wireless carriers to serve enterprise and IoT/M2M communications, however, merits further and specific consideration. The Commission's general approach to such an issue would be to use the established frameworks for mandating a service to assess market power, including an assessment of the state of competition in those product markets. If that analysis demonstrates competitive concerns in those downstream markets, such as one or more firms exercising market power, the Commission may consider wholesale market intervention. The Commission did not make such a determination in Telecom Regulatory Policy 2021-130 for the enterprise and IoT/M2M market segments.

⁹ 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.

82. In the current tariff proceedings, there is insufficient information on the record to conduct such an analysis. For example, the Commission would need sufficient information with respect to market share, market concentration, substitutes, etc., to come to a conclusion as to whether the incumbents exercise market power in the retail markets for the enterprise and IoT/M2M segments. If there were a finding of market power, the Commission would then look to intervention measures, which could include wholesale access.
83. The focus of these tariff proceedings is the implementation of the regulatory policy that was set out in Telecom Regulatory Policy 2021-130, in which the Commission did not focus on enterprise and IoT/M2M market segments. Therefore, these are not the appropriate proceedings for the Commission to perform a market power assessment and gather related evidence or otherwise consider potentially applying wholesale remedies to additional retail market segments.
84. As a result, the Commission considers that the restrictions proposed by the incumbents with respect to the enterprise and IoT/M2M market segments are appropriate at this time.
85. However, given the state of the telecommunications industry in Canada overall and the Commission's findings on retail market power in Telecom Regulatory Policy 2021-130, the Commission takes the preliminary view that it is highly likely that the market conditions in the enterprise and IoT/M2M segments closely resemble those seen in the rest of the retail market (that is, highly concentrated with the incumbents exercising market power). In fact, the situation in these market segments may be even more concentrated given the larger scale and likely unique requirements of enterprise customers as well as the variety and complexity of potential applications in the IoT/M2M space.
86. With this in mind, the Commission is concerned that excluding these market segments from the MVNO access framework could result in customers being subject to an undue or unreasonable disadvantage under subsection 27(2) of the Act. Similarly, preventing regional wireless carriers from using wholesale MVNO access to serve the enterprise and IoT/M2M market segments raises concerns of undue preference and unjust discrimination on the part of the incumbents that serve these markets.
87. Given these concerns, the Commission will initiate a proceeding to consider the inclusion of the enterprise and IoT/M2M retail segments in its MVNO access policy framework.

Small business definition

88. In light of the determinations above, it is appropriate for the tariffs to include a definition of small business in order to identify which businesses can be served using the wholesale MVNO access service.

89. On this issue, the Commission considers that the definition for small business used by ISED, which is a business with 1 to 99 paid employees, is a good indicator of the relative size of a business and would allow parties to easily identify whether a small business falls within that definition. In addition, using the number of employees is a relatively stable indicator as opposed to other indicators that may fluctuate more frequently over time.
90. On a related matter, RCCI requested that the definition of small business be extended to end-users of resellers, and that the regional wireless carrier conform to the small business definition each time the contract is up for renewal. On this point, the Commission notes that at item 901.1.2 of its proposed tariff, RCCI would require that the regional wireless carrier ensure that access to RCCI's network on behalf of third-party MVNOs occurs on the same basis, and with the same limitations, as set out in the tariff. Consequently, any definition applied to regional wireless carriers would also apply to their resellers. Therefore, the additional provision is unnecessary.
91. In light of the above, the Commission determines that the proposed provisions that restrict MVNO access to individuals and small business customers and prohibit the use of the wholesale service to enable IoT and M2M devices are appropriate at this time. The Commission **directs** incumbents to define small businesses in their tariffs as businesses that have between 1 and 99 paid employees.

Should there be restrictions on using the MVNO access service in combination with other technologies to provide Internet services to residences and small businesses?

92. RCCI and TCI included provisions in their proposed tariffs that prohibit the use of the MVNO access service to be used in combination with fixed wireless, wireline, or Wi-Fi services.

Positions of parties

93. The majority of interveners were opposed to these provisions, arguing that they are inconsistent with the determinations made in Telecom Regulatory Policy 2021-130 and would restrict the services and level of innovation that wholesale customers can provide.
94. Eastlink did not support placing limitations on the eligibility and use of the MVNO access service beyond what the Commission determined was appropriate in Telecom Regulatory Policy 2021-130.
95. Iristel argued that there is no technical or operational basis for the restrictions, and that wholesale customers should not be precluded from offering differentiated services, such as subscriber identity module (SIM)-enabled home phone service devices, or core mobile device functionality, such as tethering.

96. The Manitoba Coalition submitted that the provisions would restrict the services that wholesale customers can offer their retail customers.
97. Sogetel submitted that the provisions are inconsistent with the intent of Telecom Regulatory Policy 2021-130 to include a broad range of services, would lessen competition for consumers, and would cause financial harm to regional wireless carriers.
98. Vaxination Informatique submitted that prohibiting Wi-Fi does not make sense because incumbents have no control over their own customers' use of Wi-Fi. It added that fixed wireless access and tethering should be permitted so long as the wholesale customer is willing to pay for the increased capacity.
99. Videotron submitted that there is no reason to prevent competitors from using MVNO access to provide Wi-Fi or fixed wireless access.
100. Cogeco submitted that the provisions are consistent with the Commission's determination that fixed wireless, wireline, and Wi-Fi services are not acceptable substitutes for retail mobile wireless services.
101. Xplornet argued that the provisions are intended to indicate that the MVNO service is meant to support mobile wireless services, not other wireless services such as fixed services.
102. RCCI submitted that MVNO access is a mobile service and not a substitute for wireline access. It submitted that mobile networks are not designed and do not have the capacity to support fixed wireless access service. It added that fixed wireless deployments can consume over 7.5 times more traffic during busy times than mobile users.
103. TCI submitted that there is no policy justification to mandate MVNO services because the Commission determined in Telecom Regulatory Policy 2021-130 that fixed wireless, wireline, and Wi-Fi services would not be acceptable substitutes for retail mobile wireless services.

Commission's analysis

104. The Commission considers that to the extent the provisions in question are aimed at preventing regional wireless carriers from using cellular networks to provide an Internet service to residences and small businesses in combination with fixed wireless, wireline, or Wi-Fi facilities, they are generally appropriate. The Commission views this as a reasonable measure to prevent traffic congestion given that cellular networks were not designed to provide Internet service to residences and small businesses.
105. The purpose of the mandated MVNO access service is to enable eligible regional wireless carriers to use the networks of the incumbents to serve new areas while the

regional wireless carriers build out their networks. The tariff provisions must align with and be in service of that policy objective. To that end, the MVNO access service must be aimed at enabling regional wireless carriers to provide mobile wireless services, which was the focus of Telecom Regulatory Policy 2021-130. The aim is not for regional wireless carriers to use the access service to provide residential Internet or small business Internet services in combination with other technologies, such as fixed wireless access, wireline, or Wi-Fi services. Furthermore, in Telecom Regulatory Policy 2021-130, the Commission found that fixed wireless, wireline, and Wi-Fi services would not be acceptable substitutes for retail mobile wireless services and were therefore not included in the relevant product market definition for the retail market power analysis.

106. A key consideration is that using cellular networks to provide residential Internet in combination with fixed wireless, wireline, or Wi-Fi facilities could result in a substantial increase in network traffic. To a certain extent, incumbents could account for such an increase in traffic by investing in additional network capacity if the regional wireless carrier includes such use in their traffic forecasts. However, the Commission did not consider such an increase in traffic when it established the framework in Telecom Regulatory Policy 2021-130.
107. A number of interveners submitted that the restriction would limit innovation and investment and prevent regional wireless carriers from leveraging their wireline and fixed wireless networks in combination with cellular networks to serve end-users. On this point, the Commission considers that regional wireless carriers will still be able to offer different combinations of services and technology platforms once they build out their own RANs, which is the goal of the policy. In fact, this would serve as an added incentive for regional wireless carriers to expand their networks.
108. However, the Commission is concerned that TCI's provision, as worded, could be interpreted as prohibiting subscribers from using their mobile devices for activities such as tethering or connecting their mobile devices to Wi-Fi. The primary cause of the issue is the word "enable" in TCI's provision, which has led to confusion about the scope of the provision. Conversely, RCCI's provision is clear in that it states that MVNO access does not include access for fixed wireless, wireline, or Wi-Fi facilities and avoids the use of the confusing term "enable."
109. In light of the above, the Commission determines that provisions preventing regional wireless carriers from using cellular networks to provide home or small business Internet services over fixed wireless, wireline, or Wi-Fi facilities are appropriate, and that RCCI's provision to this effect is appropriate. The Commission **directs** TCI to revise its provision to be similar to that of RCCI.

Should there be restrictions on the types of devices that can be used?

110. The incumbents proposed tariff provisions that prohibit certain devices, namely complex devices, and place restrictions on the devices that regional wireless carriers can sell or provide to their subscribers. The provisions generally prohibit devices that (i) have a distinct purpose from any devices offered by the incumbent to their own subscribers or (ii) could adversely affect the operation of the incumbent's network.

Positions of parties

111. The majority of interveners submitted that devices should be permitted so long as they have certification, such as PCS Type Certification Review Board (PTCRB) approval, or meet Global System for Mobile communications (GSM) specifications.
112. Sogetel submitted that non-PTCRB-approved devices should be permitted if the incumbent allows the use of such devices by their own retail subscribers. In response, Bell Mobility, TCI, and SaskTel submitted that they do not sell non-PTCRB-approved devices. However, TCI indicated that subscribers may choose to use their own device, and that it does not actively take steps to block those devices from its network.
113. Eastlink and Xplornet did not object to the proposed complex device provisions.
114. TCI submitted that device restrictions enable network operators to protect their network assets and investments. RCCI submitted the provision addresses the use of devices that have a very distinct purpose from any of the devices offered by the MVNO access customer to its own subscribers. RCCI provided an example of the introduction of a wireless remote server that constantly backs up terabytes of data, which would needlessly congest the RAN in the area.
115. Cogeco and Iristel argued that RCCI's example is conflating device and application, and that the issue is not with certification of the device but with the application of the device.

Commission's analysis

116. The Commission considers that it is generally reasonable for the incumbents to include restrictions to prevent the use of certain types of devices, including complex devices, which could compromise network integrity and security by causing network congestion.
117. The incumbents' proposed tariff provisions in this regard require that devices sold or provided by wholesale customers must be PTCRB-approved and that end-user devices must be capable of operating on the regional wireless carrier's own PMN.
118. However, there may be instances where end-users introduce their own devices into the incumbent's network, for example, with bring-your-own device plans. Because those devices are not necessarily sold or provided by the wholesale customer, they

may not be PTCRB-approved. This could result in a situation where a device is introduced by a regional wireless carrier's subscriber that causes disruption on the incumbent's network.

119. The complex device provisions would allow the incumbents to conduct testing of devices they suspect may compromise the integrity of their networks and prevent such disruptions, which, in the Commission's view, is reasonable. Further, there is no evidence on the record to suggest that the comparable complex device provisions in the existing wholesale roaming tariffs have resulted in devices being unnecessarily or unreasonably tested or prohibited.
120. In light of the above, the Commission considers that the proposed device provisions are generally appropriate. However, the Commission is concerned that the term "complex devices" may be interpreted in such a way as to prevent or limit regional wireless carriers from being able to offer new and innovative devices.
121. Although the tariff provisions indicate that the complex device provisions address the use of devices that have a distinct purpose from devices the incumbent offers its own subscribers, the provisions could be interpreted as preventing regional wireless carriers from offering new and innovative devices. The Commission considers that such devices should not be prohibited so long as they do not cause network security or integrity issues and meet all other device requirements (such as having PTCRB approval) set out in the incumbent's tariff.
122. On that point, one of the Canadian telecommunications policy objectives in the Act, at paragraph 7(g), is to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services. Unduly restricting innovation in devices by competitors would be counterproductive to implementing this policy objective of the Act.
123. In light of the above, the Commission **directs**
- RCCI to add the following underlined word to its proposed MVNO access tariff item 902.2.2(c): "In the event that Rogers reasonably believes that any equipment...";
 - RCCI to revise its proposed tariff item 902.2.2(c) to include that it provides written notice to customers prior to testing devices; and
 - RCCI and SaskTel to modify their proposed tariff language (RCCI item 902.2.2(c) and SaskTel item 650.36.4.4) such that the tariff provisions do not apply to devices similar in nature to the devices they offer their own subscribers.

Should there be restrictions related to resale of the MVNO access service?

124. Bell Mobility, TCI, and SaskTel included a number of provisions that restrict the ability of regional wireless carriers to resell MVNO access in various ways. Interveners generally opposed these provisions.

Positions of parties

Reseller approval

125. At item 235.3.8.c. and in its definition of “Third Party Reseller”, TCI included language such that the visited PMN operator (i.e., TCI) must approve of resellers of the MVNO wholesale access customer.

126. Cogeco and Videotron objected to TCI’s provision, which would provide it with the discretion to approve resellers.

Restrictions regarding the resale of resold service

127. TCI included a provision in its tariff that restricts third-party resellers from further reselling the MVNO access service, while SaskTel only permits resellers that have a direct relationship with the regional wireless carrier.

128. Several interveners, including Iristel, the ITPA, Sogetel, and TerreStar, generally objected to tariff provisions that restrict reselling. Iristel objected to restrictions to resale because it would confer an undue preference on MVNO providers and subject their wholesale customers to a corresponding undue disadvantage, contrary to subsection 27(2) of the Act. The ITPA submitted that restricting reselling would suppress downstream competitive market forces, limit customer choice, and limit potential innovation in the market. TerreStar submitted that resale restrictions are not part of the Commission’s mandated MVNO access framework.

129. TCI argued that allowing the resale of resold service would result in a broad-based MVNO mandate, contrary to the determinations in Telecom Regulatory Policy 2021-130.

Reseller eligibility restrictions

130. Bell Mobility’s proposed tariff restricts regional wireless carriers from reselling MVNO access to retail subscribers of foreign-owned MVNOs or MVNOs whose operators have annual revenues of \$50 billion or more. It also prohibits a regional wireless carrier from using mandated access in a tier 4 area in which it exclusively or predominantly serves the retail subscribers of MVNOs or resellers it hosts rather than its own retail subscribers.

131. Several interveners, including Cogeco, the ITPA, Sogetel, and Xplornet, objected to Bell Mobility’s proposed reseller restrictions. Cogeco submitted that there was no basis for the restrictions. According to the ITPA, Bell Mobility should file a Part 1

application if it wishes to add criteria beyond Telecom Regulatory Policy 2021-130. Xplornet submitted that Bell Mobility's provisions would set a standard that is higher than the criteria to be eligible to operate as a Canadian carrier, as set out in section 16 of the Act. Sogetel submitted that the provisions would impede the wholesale customer's ability to develop an MVNO business.

132. Videotron supported Bell Mobility's reseller provisions, arguing that they would ensure that parties that are ineligible to become wholesale customers directly do not gain access to the MVNO service indirectly.
133. Bell Mobility submitted that (i) foreign-owned MVNOs should not get access to wireless networks by regulatory mandate; (ii) a company with more than twice the revenues of Bell Mobility should be expected to invest in its own facilities or negotiate a commercial agreement with the MVNO provider; and (iii) restrictions on regional wireless carriers are consistent with the stated purpose of the MVNO tariffs.

Commission's analysis

Reseller approval

134. In the Commission's view, providing TCI with the discretion to approve resellers would give it the potential to approve or deny certain resellers over others, giving rise to potential anti-competitive results and unjust discrimination and undue preference, contrary to section 27(2) of the Act.
135. Accordingly, the Commission **directs** TCI to revise tariff item 235.3.8.c. and its definition of third-party resellers such that TCI's prior approval for customers to provide service to resellers is not required.

Restrictions regarding the resale of resold service

136. In Telecom Regulatory Policy 2021-130, the Commission indicated that a healthy competitive market would have a mix of facilities-based competitors and resellers. Allowing the resale of resold service would increase competition in the wireless market by allowing regional wireless carriers to optimize the use of their available networks and enable the regional wireless carriers to become more competitive.
137. To that end, regional wireless carriers must have the opportunity to resell the service in order to optimize their use of the tariffed service. This would further the development of a competitive wholesale market that has a healthy mix of facilities-based carriers and resellers, consistent with the Commission's vision in Telecom Regulatory Policy 2021-130.
138. The primary reason the Commission did not mandate a broad-based MVNO access service was because it considered that doing so would harm regional wireless carriers that would be competing for the same customers as other MVNOs. In the case of the resale of resold service, regional wireless carriers themselves would be

making the business decision to resell their wholesale access and permitting their own resellers to resell the service, and so on. Regional wireless carriers would therefore have control over the arrangement and be able to manage any risk to their own operations. Consequently, allowing the resale of resold service would not be contrary to the objectives set out in Telecom Regulatory Policy 2021-130.

139. The proposed resale-of-resale restrictions unfairly limit resale competition, which would not be consistent with the 2019 Policy Direction's call to encourage all forms of competition in subparagraph 1(a)(i).
140. In light of the above, the Commission **directs** TCI to remove its resale-of-resale provisions (tariff item 235.3.8.f.).
141. With respect to SaskTel, its proposed tariff only permits resellers with a direct relationship with the wholesale customer. SaskTel does not define "direct relationship" in its tariff but indicated that it should be permitted to institute conditions on resale. SaskTel's provision does not provide enough clarity to determine whether third-party resellers are permitted and in what circumstances. Therefore, the Commission **directs** SaskTel to remove tariff item 650.36.3.5.
142. In Telecom Decision 2017-56, the Commission required wholesale roaming customers to ensure that any access to the incumbent's network on behalf of its resellers, including MVNOs, occurs on the same basis, and with the same limitations, as set out in the relevant wholesale roaming tariff. The Commission **directs** SaskTel to include a similar provision in its MVNO access tariff.

Reseller eligibility restrictions

143. In Telecom Regulatory Policy 2021-130, with respect to permitting the resale of the MVNO access service, the Commission determined that doing so would give regional wireless carriers additional flexibility to enter into arrangements with other WSPs if they so choose, which was consistent with the objectives of the proceeding, including fostering competition.
144. In the Commission's view, Bell Mobility's proposed restriction would be contrary to the intent of that policy by making it more difficult for regional wireless carriers to enter into such arrangements given that they would not be able to use the MVNO access service in areas where they predominantly or exclusively have a resale arrangement.
145. To become an MVNO reseller, a WSP needs to be eligible to operate in Canada as a reseller under the Act, be registered as a reseller with the Commission, and meet all of the regulatory requirements of resellers. Adding eligibility requirements beyond those already contemplated by the regulatory framework would place unnecessary restrictions on the eligibility of potential resellers. Those restrictions would be anti-

competitive because they would pose a barrier to potential competitors that meet the requirements to register as a reseller.

146. Regarding Bell Mobility's restriction on reselling the service to large foreign-owned companies, there are laws, most notably in the Act, and rules that already exist concerning the entry of foreign telecommunications companies into Canada and their ownership. In the Commission's view, it is unnecessary and inappropriate to develop additional foreign entry rules as part of this tariff proceeding.
147. Regarding Bell Mobility's provision restricting regional wireless carriers from being eligible for wholesale MVNO access in tier 4 areas where it exclusively or predominantly hosts a reseller, the provision unnecessarily restricts both facilities-based regional wireless carriers and resellers, thus harming competition.
148. With respect to the 2019 Policy Direction, approving Bell Mobility's resale restrictions would be contrary to subparagraph 1(a)(i) because it would not foster all forms of competition and subparagraph 1(a)(v) because the restrictions could prevent entry into the market and competition for TSPs that are new, regional, or smaller than the incumbent national service providers.
149. In light of the above, the Commission **directs** Bell Mobility to remove item 101.19(a) from its tariff.

Technical

Should there be a general condition describing the tariffed MVNO access service?

150. Service descriptions provide regional wireless carriers with a high-level summary of the service being offered in the tariff. The specifics of the service are more fully described in the terms and conditions and the definition of terms in the tariff. RCCI, SaskTel, and TCI provided brief service descriptions in their tariffs. Bell Mobility did not include one. The Commission will consider the sufficiency of the service descriptions proposed by the incumbents and whether one is necessary at all.

Positions of parties

151. Cogeco submitted that the MVNO access tariffs should include a comprehensive service description that is clear and unambiguous, and proposed its own detailed service description for inclusion in the tariffs.
152. Eastlink and Iristel were in general agreement regarding the inclusion of a more detailed service description than what the incumbents proposed. However, Iristel submitted that the 3GPP interface table that Cogeco included should be removed because regional wireless carriers would not have access to new interfaces that are developed over time.
153. Videotron argued that differences between the service description and the operational wording in the tariff clauses could result in confusion. Instead, omissions

and other failings should be corrected directly in the corresponding tariff clauses, rather than have that information appear in a service description.

154. The incumbents were generally of the view that Cogeco's proposed service description was self-serving and an attempt to modify the Commission's framework in Telecom Regulatory Policy 2021-130 for its own purposes.
155. Bell Mobility argued that Cogeco's proposed service description section is not consistent with the Commission's determination that the MVNO access tariffs should be based on the existing domestic roaming tariffs. Through its proposed service description, Cogeco is contradicting the terms and conditions of the domestic roaming tariff and hence seeking to rewrite the Commission's determinations in Telecom Regulatory Policy 2021-130.
156. RCCI indicated that Cogeco's proposal included elements that were not particularly applicable to MVNO access, such as the delivery of public alerts in the context of the National Public Alerting System.
157. TCI rejected the need to include Cogeco's service description, arguing that it used its wholesale roaming tariff as the basis for its proposed MVNO access tariff and has already provided a brief service description.

Commission's analysis

158. The terms and conditions contained within the MVNO access tariffs set out the binding and specific details of the Commission-approved service in terms of eligibility, geography, technical specifications, etc. The terms and conditions of the tariff are also what regional wireless carriers would look at to ensure that the MVNO access service being offered is consistent with the Commission's determinations in Telecom Regulatory Policy 2021-130. The terms and conditions would also inform any ancillary agreements between the incumbent and the regional wireless carrier that set out additional technical or service-level specifications.
159. The Commission considers that a high-level service description can be helpful to a prospective wholesale customer that may be unfamiliar with Telecom Regulatory Policy 2021-130 to help it understand the scope of the service, including eligibility and geographic availability.
160. Accordingly, to the extent that they do not already do so, the incumbents' MVNO access tariffs should include a brief, high-level service description that introduces the tariffed service and describes eligibility, geographic availability, and the key features of the service (e.g., includes seamless hand-off functionality, is available on all GSM-based networks, etc.).
161. However, these service descriptions should not duplicate the details described in the terms and conditions in the tariffs. In this regard, the Commission considers Cogeco's proposed service description to be overly detailed. For example, it contains a significant amount of functional and technical details, such as interconnection points, that are more appropriately captured in the terms and conditions of the tariff or in ancillary agreements.

162. The service description proposed by TCI captures a sufficient level of detail regarding eligibility. However, unlike RCCI and SaskTel, TCI's service description does not address the geographic footprint over which the service will be available.
163. Bell Mobility did not include a service description of any sort, and directing it to include one would be consistent with the tariffs proposed by the other incumbents.
164. The Commission therefore **directs** the incumbents to include a brief service description that includes, at a minimum, (i) who is eligible for the service, (ii) where the service will be made available, and (iii) what the key features of the service are pursuant to Telecom Regulatory Policy 2021-130 and the determinations in this decision.

Should the MVNO access area be considered an extension of a regional wireless carrier's home network?

165. Parties raised the issue of how wholesale MVNO access and wholesale roaming service will coexist with each other in an MVNO access coverage area. They considered the need to differentiate end-users in order to determine which service should apply and how they should be billed.
166. In practical terms, once wholesale MVNO access is implemented, regional wireless carriers will effectively have two sets of end-users. The first set consists of the end-users who reside in their eligible MVNO access service area but not within their own RAN coverage or home network area (resident end-users). The second set consists of all the other end-users of the regional wireless carrier when they visit the eligible MVNO access service area (visiting end-users¹⁰).
167. There is no dispute regarding resident end-users. The incumbents and competitors agree that the MVNO access service is intended to provide service to these end-users. The issue is with visiting end-users. In this section, the Commission will consider if those end-users should be considered to be roaming (and subject to the wholesale roaming service), or if they should be treated as MVNO access end-users (and subject to the MVNO access service).
168. Aside from the policy issue of whether end-users should be differentiated, parties also debated how such differentiation could occur from an operational perspective.

Positions of parties

169. Regional wireless carriers were generally of the view that wholesale MVNO access must be considered part of the wholesale customer's home network such that visiting end-users who enter that MVNO access coverage area are also provided network access through the MVNO access service and not the wholesale roaming service.

¹⁰ A visiting end-user in an eligible tier 4 area can be (i) an end-user who resides in an area served by the home PMN of the regional wireless carrier within the eligible tier 4 area or (ii) an end-user of the regional wireless carrier that resides outside the eligible tier 4 area.

170. Videotron submitted that in Telecom Regulatory Policy 2021-130, the Commission did not explicitly address how the MVNO access service and wholesale roaming service would coexist. The company argued that both the MVNO access service and the wholesale roaming service are founded on the same premise of serving wholesale end-users on the incumbent's RAN, and that the Commission should make it explicit that MVNO access for the regional wireless carrier in a given area includes service for their end-users who are roaming.
171. Eastlink submitted that the MVNO access service is an extension of the regional wireless carrier's home network. Any end-user of the regional wireless carrier in the eligible tier 4 area should be treated the same as if they were on the wholesale customer's home network and should automatically gain access to the MVNO access service. Eastlink argued that there is no reason to distinguish between an MVNO end-user and a non-MVNO end-user from the network perspective, given that all these end-users should be served by the MVNO access service in an eligible area. Requiring regional wireless carriers to treat these end-users differently would create additional complexity and add unnecessary costs to providing the service.
172. The incumbents argued that MVNO access end-users and roaming end-users must be distinguished for billing and traffic management purposes.
173. Bell Mobility submitted that the MVNO access tariff and negotiated rates should only apply to a wholesale customer's end-users in the eligible geographic area, and that those end-users must therefore be identified as being primarily served by either the wholesale customer's home network or Bell Mobility's. To accomplish this, end-users should be provided with SIM cards with distinct international mobile subscriber identity (IMSI) ranges. A physical SIM card swap would have to be done by the regional wireless carrier with the end-user who relocates from an area served by the regional wireless carrier's home network to Bell Mobility's network, and vice versa, within the eligible geographic area.
174. TCI's proposed tariff states that MVNO access is not available to roaming end-users in an eligible tier 4 area where the regional wireless carrier subscribes to the MVNO access service. TCI submitted that the regional wireless carrier is responsible for identifying roaming and MVNO end-users in the eligible geographic area for MVNO access service served by its PMN. TCI proposed maintaining distinct IMSI ranges to be implemented through physical SIM cards as the preferred method for the regional wireless carrier to accomplish this.
175. RCCI submitted that the MVNO access tariffs and wholesale roaming tariffs are independent. Regional wireless carriers should be allowed to negotiate with the incumbent for an appropriate MVNO end-user rate. RCCI submitted that distinct IMSI ranges are needed to identify regional wireless carriers' end-users on its network as well as to track network usage.
176. SaskTel submitted that there is a difference in usage between an MVNO access end-user and a roaming end-user. The former would consume network resources

continually, even when not in active use. SaskTel proposed a number of ways to track and compensate for network resource consumption, including using distinct IMSI ranges, annual attestations, and agreed-upon ratios and thresholds.

177. The interveners generally rejected an *ex ante* approach of tracking traffic or the use of incumbent RANs over a period of time to classify end-users as resident users or visiting users. They submitted that MVNO end-users should be served by the MVNO access service in all areas where the regional wireless carrier is eligible for the service and argued that any attempt to distinguish MVNO end-users within the eligible geographic area would introduce logistical challenges and poor customer experiences. For example, using distinct IMSI ranges for end-users within the eligible geographic area would require SIM swaps when end-users relocate or when the regional wireless carrier's home network is extended, and based on experience, this would present significant logistical challenges.
178. Xplornet submitted that, from its experience following Bell Mobility's acquisition of Manitoba Telecom Services, requiring end-users to change their SIM cards can be challenging and a barrier to service expansion.
179. Videotron submitted that one-time SIM-swap campaigns related to network upgrades have not gone well in the past. Further, it argued that in addition to operational and logistical challenges, the requirement to maintain distinct IMSI ranges for MVNO end-users and non-MVNO end-users would constrain regional wireless carriers' ability to introduce innovative distribution models, hampering the efficient functioning of the marketplace.
180. Eastlink submitted that the delay associated with timely SIM swaps will have a direct impact on end-user rates. Sogetel submitted that maintaining distinct IMSI ranges would create two classes of end-users resulting in customer churn, network performance issues at the network border, and billing errors.
181. Bell Mobility and TCI submitted that an alternate approach to avoid SIM swaps could be to (i) identify the incumbent's network as the primary or permanent network of the end-user through the Charging Characteristics (CC) field in the Home Subscriber Server (HSS) and (ii) change this identifier when the MVNO's PMN is expanded or when the end-user relocates.

Commission's analysis

182. In Telecom Regulatory Policy 2021-130, the Commission did not consider the issue of how MVNO access and wholesale roaming services would coexist in an eligible geographic area. That led to some confusion and disagreement among parties as to how a regional wireless carrier's end-users who are visiting the area where the MVNO access service is available should be treated.
183. In Telecom Decision 2017-56, in the context of wholesale roaming, the Commission determined it would not require wholesale roaming customers to be identified as

either visiting or resident. Specifically, the Commission determined that permanent roaming restrictions were not required in the wholesale roaming tariff, and that attempts to identify, *ex ante*, wholesale roaming customers as incidental or permanent roaming customers in the tariff, or tracking end-user usage, would be costly and problematic.

184. These same considerations are also pertinent in the context of MVNO access, given that there are administrative and technical issues associated with identifying and tracking these resident and visiting end-users.
185. One solution proposed by the incumbents to identify and track these different end-users is to maintain distinct IMSI ranges for each set of customers. This would result in MVNO access being offered to one set of end-users and wholesale roaming being offered to the other set of end-users. Each end-user would be identified by the network through their specific SIM card that is within a predetermined IMSI range.
186. While this proposal could potentially address the issue of differentiating end-users, it would place an administrative burden on regional wireless carriers, which would have to ensure that their end-users change SIM cards if they were to move from the regional wireless carrier's home network to an area under MVNO access coverage. SIM swapping could also frustrate and confuse end-users who switch residences. Regional wireless carriers such as Videotron and Xplornet have indicated that based on past experience, getting end-users to swap SIMs is a difficult and lengthy process that is not always successful.
187. While maintaining distinct IMSI ranges and SIM swapping seems like a simple and easy technical solution, this method transfers the logistical challenges to the regional wireless carrier and adds complication to end-users.
188. Regarding the other methods that were proposed as an approach to distinguishing resident end-users from visiting end-users with respect to the MVNO access service, the record is inconclusive as to their viability.
189. However, in the Commission's view, the most efficient and effective approach to addressing this issue is to consider the MVNO access coverage area as being an extension of the regional wireless carrier's home network. This would effectively eliminate the need to distinguish between different types of end-users because all end-users would be considered MVNO access end-users, thus making the service more attractive and accessible for regional wireless carriers. This approach would also eliminate the need for SIM swapping, which is likely to lead to frustration for consumers. The Commission considers that an MVNO access service that is difficult and complicated for regional wireless carriers to use, to the point where demand for the service is negatively impacted, would undermine its purpose. On the contrary, an MVNO access service that is simple and accessible will likely encourage regional wireless carriers to use it, which is the reason the Commission mandated its provision in the first place.

190. Regarding the potential impact of such an approach on the incumbents' wholesale roaming revenues, any decrease in such revenue would be offset by a corresponding increase in MVNO access revenues.
191. In the Commission's view, this approach would be consistent with the 2019 Policy Direction's call to reduce barriers to competition because it eliminates a potential barrier to regional wireless carriers offering their end-users a high-quality service when moving from one network to another. It is also a measure that is efficient and proportionate to its purpose, consistent with the 2006 Policy Direction.¹¹ A determination otherwise to require regional wireless carriers to take steps to differentiate their end-users would, for the reasons above, be inefficient and disproportionate to its purpose.
192. To conclude, the Commission determines that in an eligible geographic area, the MVNO access service is an extension of the regional wireless carrier's home network and should be available to all end-users of the regional wireless carrier, without distinction. As a result, the Commission **directs** the incumbents to modify their proposed tariffs accordingly.

Does the MVNO access service include all network generations (3G, 4G/long-term evolution, 5G)?

193. The incumbents' wireless networks are GSM-based networks that are being upgraded over time. At this point, the networks are primarily 4G/long-term evolution (LTE) and are being upgraded to 5G to support applications that require high bandwidth and low latency. However, the incumbents continue to also have 3G network technology, and their coverage footprint is therefore a mix of 3G universal terrestrial RANs, 4G/LTE (evolved universal terrestrial RANs), and 5G (next generation RANs).
194. In this section, the Commission will consider whether MVNO access service should be offered over all available network technologies and, in particular, whether legacy technologies such as 3G should be excluded, even though they may be still in use by incumbents.

Positions of parties

195. Bell Mobility defined its available footprint for MVNO access as its 3G, 4G, and 5G networks (owned and operated by itself or its affiliates). Bell Mobility defined an MVNO access customer as one that is a full member of the GSM Association (GSMA), operating a PMN (including 3G, 4G, and 5G networks), and serving end-user customers in Canada.
196. RCCI did not specify each network generation that would be available as part of its MVNO access service. Rather, it used generic language to identify its wireless

¹¹ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, SOR/2006-355, 14 December 2006

network as a “GSM-based network” as described by the GSMA. RCCI defined its available footprint for MVNO access customers as the tier 4 or larger area where that customer holds a commercial mobile spectrum licence issued by ISED.

197. TCI defined its available footprint for MVNO access as the 4G network that it owns or operates. It submitted that it does not currently offer 5G standalone (5G-SA) to its customers and is not yet in a position to offer 5G-SA for MVNO access because it is still determining its network architecture for this future mode of deployment. TCI added that it is therefore premature to mandate the inclusion of 5G-SA in the tariff. TCI further submitted that the Commission should not mandate the offering of new services such as wholesale MVNO access on networks that are discontinued or soon to be discontinued.
198. SaskTel submitted that its MVNO access service will be available to customers that have an eligible spectrum licence that falls within its GSM-based network.
199. Videotron submitted that the MVNO access service should be available on 3G, 4G, and 5G wireless technologies. To avoid confusion, all the incumbents should use explicit wording, similar to that used by Bell Mobility, specifying that wholesale MVNO access will include access to 3G, 4G, and 5G networks.
200. Several interveners submitted that tariff modifications are needed to support 5G services. Specifically, they argued that 5G implementation should not be limited to non-standalone 5G networks only, thereby preventing wholesale access to eventual 5G-SA networks, which will be necessary for effective competition.

Commission’s analysis

201. At any given point in time, the footprint of an incumbent wireless carrier includes all its available GSM-based networks (3G, 4G/LTE, 5G and any eventual future network generations). Excluding any of these network generations, or any future GSM-based network generations from the MVNO access service, prior to their decommissioning, would result in regional wireless carriers not having access to the entire GSM-based footprint of the incumbent. This would disadvantage the regional wireless carrier relative to the incumbent in terms of coverage. In Telecom Regulatory Policy 2021-130, the Commission concluded that the relevant product market was retail mobile wireless services, irrespective of the technology used. In addition, the wholesale roaming services tariffs of all the national wireless carriers, as approved by the Commission, include all available GSM-based technologies.
202. Aside from TCI, the incumbents generally indicated that wholesale MVNO access will include all available GSM-based networks, which include 3G, 4G/LTE, and 5G networks. In this regard, the language proposed by RCCI and SaskTel is not as precise as Bell Mobility’s, which specifies that MVNO access will include 3G, 4G/LTE, and 5G networks.
203. As to the question of whether MVNO access should be mandated on 3G networks that are expected to be decommissioned, the Commission considers that requiring

the service to include access to all available GSM-based networks will not prevent an incumbent from being able to decommission a legacy network. If and when a legacy network (i.e., 3G) is decommissioned, wholesale MVNO access will no longer be available on that network because the network will no longer be in service.

204. Accordingly, the Commission determines that wholesale MVNO access is to include access to all available GSM-based networks, including 3G, 4G/LTE, and 5G (and any eventual future GSM-based network generations) and **directs** RCCI, TCI, and Sasktel to revise their tariffs to reflect this determination.

Should the MVNO access service include seamless hand-off?

205. In any given eligible tier 4 area, a regional wireless carrier may have already implemented its own PMN in part of that area or may be planning to start building out its PMN over time. In the meantime, the regional wireless carrier will be able to offer retail services using mandated MVNO access.
206. As end-users move across the borders of the regional wireless carriers' networks and into the MVNO access coverage area of the incumbents' networks, in-progress calls would be dropped unless seamless hand-off is implemented between the incumbent and the regional wireless carrier.
207. In this section, the Commission will consider whether MVNO access should include seamless hand-off functionality, similar to how it was mandated for wholesale roaming.

Positions of parties

208. The proposed MVNO access tariffs filed by the incumbents did not include seamless hand-off functionality.
209. The interveners were generally of the view that the Commission should confirm that MVNO seamless hand-off is a feature of the MVNO access service. They argued that given the impact that dropped calls have on a regional wireless carrier's ability to compete, it would be impractical and contrary to the purpose of the framework for seamless hand-off not to be a feature of the MVNO access service.
210. Cogeco submitted that the regional wireless carrier's network will likely be inside the boundaries of an eligible tier 4 area and that the edge of the regional wireless carrier's network will evolve as it builds out its RAN. Cogeco argued that in keeping with the Commission's objective of investment and network deployment under the MVNO mandate, it makes sense that a wholesale customer will require access to MVNO seamless hand-off in tier 4. Further, interveners generally argued that the incumbents must be required to offer seamless hand-off in areas where there are coverage gaps within the regional wireless carriers' network and not merely on the periphery or edges where the regional wireless carriers' networks meet the incumbents' networks, similar to how in-footprint roaming is mandated as part of the wholesale roaming service.

211. Cogeco and Xplornet submitted that boundaries for seamless hand-off should be updated daily through an automated process. Iristel and Sogetel submitted that at least four updates per year should be permitted.
212. The incumbents opposed the inclusion of seamless hand-off as a functionality of MVNO access, arguing that seamless hand-off was not mandated for MVNO access service by the Commission in Telecom Regulatory Policy 2021-130, and that any change to this determination should be pursued through a review and vary process.
213. RCCI argued that seamless roaming was only intended for the wholesale roaming service and added that this was evident in the Commission's use of the term "seamless roaming" instead of "seamless hand-off" in Telecom Regulatory Policy 2021-130.
214. RCCI submitted that regional wireless carriers with a tier 4 spectrum licence are likely to implement a PMN to cover their whole licence area, and that it would be rare for an eligible regional wireless carrier to also possess spectrum for an adjacent tier 4 area where it has not deployed its own PMN. Even if this were the case, there is always the potential for off-tariff negotiations for MVNO seamless hand-off to be implemented. RCCI further submitted that should a regional wireless carrier be expanding its network in this adjacent tier 4 area, this ever-shifting border would cause massive coordination issues for seamless hand-off implementation.
215. Bell Mobility submitted that seamless hand-off should in theory be available when a user moves from a regional wireless carrier's PMN to the Bell Mobility network, regardless of whether the user is accessing the roaming service or the MVNO service. To give effect to this solution, Bell Mobility offered to include the provision of seamless hand-off in its tariff when an end-user moves from the coverage area of the regional wireless carrier's PMN to an area outside that coverage area and is picked up by Bell Mobility's RAN.
216. SaskTel submitted that the Commission's directive to update the wholesale roaming tariffs to support seamless roaming applied to the national wireless carriers, not SaskTel.

Commission's analysis

Should seamless hand-off be mandated for Bell Mobility, RCCI, and TCI?

217. In Telecom Regulatory Policy 2021-130, the Commission directed Bell Mobility, RCCI, and TCI to file updated wholesale roaming service tariffs with support for seamless roaming. However, the Commission did not provide similar direction for the inclusion of seamless hand-off as part of the MVNO access tariff. In its rationale for mandating seamless roaming, the Commission recognized the importance of seamless hand-off for regional wireless carriers to reduce dropped calls and data sessions to improve the quality of service for end-users. The Commission also concluded that mandated seamless hand-off would not be a disincentive for regional

wireless carrier network expansion because regional wireless carriers have financial incentives to expand their networks and reduce their reliance on roaming.

218. In the Commission's view, these same considerations are pertinent in the case of wholesale MVNO access. Without seamless hand-off, there would be incidents of dropped calls and data sessions as end-users cross the regional wireless carrier's network boundary into an eligible area where they are using the incumbent's MVNO access service. This would in turn have a significant impact on the regional wireless carriers' quality of service and their ability to compete with the incumbents.
219. As with wholesale roaming, seamless hand-off functionality in the context of MVNO access requires coordination of boundary information and updates, and would require administrative and technical work on the part of both the incumbents and regional wireless carriers to test and implement. However, given that the Commission already required the implementation of seamless hand-off functionality for wholesale roaming service in Telecom Decision 2021-130, the additional implementation of seamless hand-off for MVNO access service is not likely to impose an excessive additional burden for Bell Mobility, RCCI, and TCI. Accordingly, the Commission determines that seamless hand-off is to be included as a functionality of MVNO access and **directs** Bell Mobility, RCCI, and TCI to revise their tariffs accordingly.
220. Doing so would ensure the achievement of paragraph 7(b) of the Act to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada and be consistent with the 2019 Policy Direction's call to reduce barriers to entry and to competition.

Should seamless hand-off be required on all network generations (3G, 4G/LTE, 5G)?

221. In Telecom Decision 2022-102, the Commission determined that the obligation to provide seamless roaming would apply to 4G/LTE (i.e., Voice over LTE [VoLTE] calls) and 5G networks (i.e., Voice over 5G calls) and not to 3G networks. The Commission considers that it would be appropriate to apply a consistent approach and require the incumbents to implement the seamless hand-off feature for MVNO access for 4G/LTE and 5G networks only and not 3G networks.
222. The Commission determines that seamless hand-off for MVNO access service is not required to be implemented for 3G networks.

How should seamless hand-off be implemented (one-way versus two-way)?

223. In Telecom Decision 2022-102, the Commission mandated Bell Mobility, RCCI, and TCI to implement one-way seamless hand-off. Seamless hand-off is required when the regional wireless carriers' end-users, on a call or data session, cross from a regional wireless carrier's network to the incumbent's network. Going the other way—from the incumbent's network to the regional wireless carriers' network—the call will continue to be served by the incumbent until the call or data session is completed, with no hand-off occurring. The absence of two-way seamless hand-off does not result in the call being dropped because the call continues to be served by the incumbent until completion. In Telecom Decision 2022-102, in the context of

wholesale roaming service, the Commission noted the difficulty in implementing two-way seamless hand-off at that time and the relatively small cost benefit of the call continuing to be served by the incumbent until completion.

224. In the Commission's view, given that the MVNO access service is provided on the same network architecture as wholesale roaming service, it would be appropriate to apply a consistent approach and require the incumbents to implement one-way seamless hand-off for their MVNO access service as well.
225. The Commission therefore **directs** Bell Mobility, RCCI, and TCI to include support for one-way seamless hand-off in their MVNO access service tariffs and modify their tariffs to be in accordance with this determination.

Seamless hand-off for SaskTel

226. The mandate to offer wholesale roaming service pursuant to Telecom Regulatory Policy 2015-177 only applies to Bell Mobility, RCCI, and TCI. It did not extend to SaskTel given that SaskTel is not a national mobile network operator. Likewise, the obligation to provide seamless roaming in Telecom Regulatory Policy 2021-130 did not apply to SaskTel because it does not have a mandated wholesale roaming service. The Commission must consider if SaskTel should therefore be required to implement seamless hand-off for its wholesale MVNO access service even if it does not have to do so in the context of seamless roaming.
227. In Telecom Regulatory Policy 2021-130, the Commission concluded that SaskTel has sole upstream market power in the province of Saskatchewan over the provision of RAN access, and was subject to only limited retail competition in the tier 4 areas of that province. Accordingly, the Commission required SaskTel to introduce and offer an MVNO access service in the province of Saskatchewan, using the wholesale roaming tariffs of the national wireless providers as the basis.
228. Regardless of whether the mandate to provide seamless roaming applied to SaskTel, the risk of dropped calls and data sessions still exists with its wholesale MVNO access service, which would impact the quality of service of regional wireless carriers and have a negative impact on consumers. As a result, the same policy reasons for requiring the other incumbents to implement seamless hand-off for wholesale roaming and MVNO access also apply to SaskTel, namely that it would benefit (i) consumers because they would no longer experience the frustration of dropped calls when moving from one network to another and (ii) competition because regional wireless carriers would be able to market and offer their customers a higher quality of service.
229. Furthermore, if SaskTel did not have to provide the MVNO access service on the same general terms and conditions as the other carriers, then regional wireless carriers and their end-users, in turn, would be disadvantaged compared to those outside SaskTel's area, which raises concerns in relation to subsection 27(2) of the Act.
230. Consistent with the determinations in respect of one-way seamless roaming for the national wireless carriers, it is appropriate to require SaskTel to include one-way

seamless hand-off as part of its MVNO access service. This is in service of achieving paragraph 7(b) of the Act, is consistent with the 2019 Policy Direction's call to reduce barriers to competition, and is also in keeping with the 2006 Policy Direction, which states that regulatory measures should be applied in a symmetrical manner.

231. The Commission therefore **directs** SaskTel to include support for one-way seamless hand-off in its MVNO access service tariff and to update its tariff to be in accordance with this determination.

In-footprint coverage gaps

232. The footprint of a regional wireless carrier is the service area that is served by its own RAN. In-footprint coverage gaps refer to situations where there is a gap in service within a regional wireless carrier's network, which can arise, for instance, due to degradation of a regional wireless carrier's signal strength in certain geographic pockets.
233. In the Commission's view, the availability of wholesale roaming service in areas within the outer edges of the regional wireless carriers' network is substantially the same question, with the same arguments, as the availability of such with MVNO access service. Regarding wholesale roaming service set out in Telecom Decision 2022-102, the Commission determined that seamless roaming should be available for use by regional wireless carriers where they have in-footprint coverage gaps, consistent with its determination on in-footprint roaming in Telecom Decision 2017-56.
234. In the case of the MVNO access service, the boundary between the wireless network of the regional wireless carrier and the MVNO access service provider is unlikely to be stable, and it would take time for the regional wireless carrier to expand its network to fill gaps. Therefore, in-footprint coverage and traffic offloading are important for the quality of the MVNO access service in an eligible tier 4 area. Where these in-footprint coverage gaps exist, seamless hand-off should also be available for the end-users' active call or data session to be transferred to the incumbent's network. This would be consistent with the Commission's objective to minimize dropped calls and data sessions to the benefit of both consumers and competition.
235. Accordingly, the Commission **directs** the incumbents to revise their tariffs to clarify that seamless hand-off is available for use by regional wireless carriers where they have in-footprint coverage gaps within the eligible MVNO access service area.

Frequency of network border updates

236. As the regional wireless carrier rolls out its wireless network in eligible tier 4 areas, the network border with the incumbent will change. These network border changes are captured through the exchange of cell site information and tracked by the host carrier and regional wireless carrier. The Commission must consider how often the cell site information must be exchanged between the regional wireless carrier and the incumbent.

237. In Telecom Decision 2022-102, in the context of wholesale roaming, the Commission concluded that a monthly exchange of information is reasonable to strike a balance between imposing an administrative burden on the national wireless carriers while not being a disincentive for regional wireless carriers to expand their home networks. The Commission also determined that upon receiving updated regional wireless carrier cell site information, the incumbents are to make the necessary adjustments to their networks within 30 days and provide updated cell site information to a regional wireless carrier within 7 days of receiving a request.
238. In the Commission's view, these baseline time frames are also appropriate in the context of the MVNO access service. The information exchange and network adjustments for border changes are also required for wholesale roaming. As a result, the resources, processes, and systems needed to meet these time frames should have already been put in place by the incumbents. Therefore, the addition of border updates for the MVNO access service would be incremental to what is already required for wholesale roaming. Further, having the frequency of boundary updates for wholesale roaming and wholesale MVNO access be different would not be a regulatory measure that is efficient and proportionate to its purpose.
239. Accordingly, the Commission **directs** the incumbents to revise their tariffs to permit regional wireless carriers to provide updated cell site information to their MVNO access service providers no more than once per month in a standard format that is to be set out in the tariffs. Upon receiving updated regional wireless carrier cell site information, the incumbents are to make the necessary adjustments to their networks within **30 days**. The incumbents are to provide updated cell site information to a regional wireless carrier within **seven days** of receiving a request. Incumbents and regional wireless carriers are encouraged to work together and be flexible regarding these baseline time frames, and mutually agreed-upon extensions and alternate arrangements may be appropriate in some situations.

What method of interconnection is appropriate?

240. Wireless carriers exchange traffic with each other through interconnections in their core networks. This can be achieved through direct or indirect interconnections.
241. In this section, the Commission will consider whether it should mandate direct interconnection as part of the wholesale MVNO access service. The current standard interconnection method for wholesale roaming is indirect, pursuant to Telecom Decision 2017-56. The Commission considers that many of the arguments put forward by parties on the issue of interconnection were made in the context of both wholesale roaming and wholesale MVNO access.

Positions of parties

242. In their proposed MVNO access tariffs, the incumbents included indirect interconnection through a third party, which they argued is the industry standard and is consistent with what the Commission previously approved for wholesale roaming.

243. A number of interveners argued that for the MVNO access service to be effective, direct interconnection will be necessary to mitigate latency issues, and that the incumbents should be required to provide a direct interconnection option as part of the mandated service offering.
244. Videotron submitted that the indirect interconnection requirements found in the wholesale roaming tariffs are over four years old. To support seamless hand-off and 5G services, the incumbents must implement direct interconnection between 5G cores.
245. Sogetel submitted that by only offering indirect interconnection in the MVNO access tariffs, regional wireless carriers will be denied the full benefits of 5G even if they invest in their own 5G core networks.
246. Cogeco submitted that the incumbents should offer direct interconnection as an option upon request. It argued that direct interconnection could achieve lower operating costs and lower latency, which may be more appropriate depending on the services offered by a regional wireless carrier to its end-users.
247. Bell Mobility and TCI submitted that direct interconnection should not be mandated by the Commission; however, they were willing to implement direct interconnection on a negotiated basis where traffic volumes justify doing so.
248. RCCI submitted that its MVNO access tariff is intended to allow regional wireless carriers to use their existing indirect interconnection service for wholesale roaming service to seamlessly transition to the MVNO access service in eligible areas.
249. SaskTel indicated that it had not yet implemented a 5G core network, so including direct interconnection standards in the tariffs is inappropriate at this time.

Commission's analysis

250. In Telecom Decision 2017-56, the Commission required the provision of indirect interconnection for the wholesale roaming service offered by the national wireless carriers. Generally speaking, indirect interconnection remains a viable option for MVNO access because it could, in some cases, offer operational savings for regional wireless carriers by consolidating their MVNO access traffic and wholesale roaming traffic and delivering it to a single interconnection gateway.
251. A key feature of 5G networks is low latency, which is important for time-sensitive applications. Direct interconnections between carriers can reduce latency and improve the customer experience because network traffic travels a shorter distance. There is also the potential for a higher volume of regional traffic exchanged with regional wireless carriers given that they deploy 5G equipment and expand their networks and customer bases. Without direct interconnection, regional wireless carriers' 5G offerings would be of lower quality compared to those of the incumbents.

252. In Telecom Decision 2022-102, the Commission determined that direct interconnection offers important benefits for 5G networks that indirect interconnection does not. The Commission directed the national wireless carriers to offer direct interconnection to wholesale roaming customers, upon request, once the incumbent wireless carrier has implemented a 5G-SA core network.
253. In that decision, the Commission also noted its concern that national wireless carriers will have had a head start over regional wireless carriers when it comes to 5G deployment, and that denying direct interconnection between 5G core networks would harm competition. The Commission therefore took a preliminary view that failure by the national wireless carriers to provide regional wireless carriers with direct interconnection between 5G core networks, while the national wireless carriers are directly interconnecting among themselves, would raise concerns of undue preference/unreasonable disadvantage under subsection 27(2) of the Act. In the Commission's view, these concerns also apply to the MVNO access service.
254. The Commission considers that requiring direct interconnection for wholesale MVNO access when an incumbent has deployed a 5G-SA core network would be consistent with the 2019 Policy Direction, encourage all forms of competition and investment, and reduce barriers to entry into the market and to competition for TSPs that are new, regional, or smaller than the incumbent national service providers. Such a requirement would also be consistent with paragraph 7(c) of the Act to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications.
255. The Commission therefore **directs** the incumbents to notify regional wireless carriers that are customers of their MVNO access service **six months** prior to the launch of a 5G core network and begin working in good faith to implement direct connections upon request. If an incumbent has already launched its 5G core network, or plans to do so less than six months from the date of this decision, it must immediately notify regional wireless carriers that are customers of its MVNO access service. The Commission **directs** the incumbents to file tariff updates reflecting the availability of direct interconnection as an option at the time of notification.

Should regional wireless carriers be required to demonstrate that they have deployed traffic-steering applications?

256. Traffic steering is the process by which a wireless network operator steers traffic from end-users to a preferred network. In Telecom Decision 2017-56, the Commission did not mandate wholesale roaming customers to deploy traffic-steering applications to achieve this outcome. However, the Commission must consider the issue of traffic-steering requirements in the context of MVNO access.

Positions of parties

257. RCCI included a provision in its proposed tariff that would require its MVNO access customers to demonstrate that they have deployed traffic-steering applications in their core networks.¹²

258. Bell Mobility and TCI included wording in their proposed tariffs to the effect that that the regional wireless carrier must take reasonable steps to ensure that their end-users register on the regional wireless carrier's network in priority, over other available networks where MVNO access is permitted, to minimize in-footprint MVNO access and traffic offloading.

259. The interveners generally opposed RCCI's proposal. Videotron submitted that traffic steering would be a new, unnecessary, and potentially large expense for competitors. Eastlink expressed concern that a traffic-steering application could reject MVNO access for the end-user when the end-user crosses a pre-defined network border,¹³ resulting in service quality issues while the end-user is being registered on the network that is picking up the call or data session.

Commission's analysis

260. In the Commission's view, it is the regional wireless carrier's responsibility to ensure that its subscribers' traffic is handled on its own network where its network exists. This is in line with the Commission's determinations in Telecom Decision 2017-56 where it mandated that the wholesale roaming customer must take all reasonable steps to ensure that their end-users configure their devices to register on the wholesale roaming customer's network in priority, over all other available networks where roaming is permitted, to minimize in-footprint roaming and traffic offloading.

261. The implementation of traffic steering on regional wireless carrier networks has been successfully done in the past by ensuring that end-user devices are configured to register on their regional wireless carrier's network in priority, over other available networks. Therefore, requiring MVNO access customers to demonstrate the deployment of steering applications in their core networks, as RCCI proposed, is unnecessary and would be difficult to monitor in any event.

262. Instead, the inclusion of a traffic-steering clause similar to the one in Bell Mobility's proposed tariff, which is consistent with how traffic steering is treated in the context of wholesale roaming, is sufficient to make it a requirement for regional wireless carriers to steer end-user traffic to their own networks whenever possible.

¹² RCCI tariff item 901.1.7(g)

¹³ This rejection could occur between the incumbent's PMN and the regional wireless carrier's PMN or between the MVNO access service area and the wholesale roaming service area.

263. Accordingly, the Commission finds that mandated traffic-steering applications are not necessary and **directs** RCCI to revise its tariff item 901.1.7(g) accordingly.

Should incumbents be required to provide wholesale MVNO access in areas where they use another carrier's radio access network as part of a sharing agreement?

264. The MVNO access service provides permanent access to the RAN of the incumbents, but parties disagreed as to what the footprint of the RAN is, particularly when it comes to RAN sharing. The footprint of an incumbent consists of the RAN that the carrier solely owns and operates and the RAN that it jointly owns and operates with another carrier. However, there are also instances where a wireless carrier may enter into a network-sharing agreement, and this may affect the footprint of the carrier(s).

265. The Commission must consider what the footprint of the RAN is for any given incumbent for the purposes of this mandated service. Specifically, the Commission must examine whether the incumbents should be required to offer MVNO access service in areas where they do not own and operate the RAN but where they still provide wireless services to their customers through network-sharing agreements.

Positions of parties

266. Bell Mobility, TCI, and SaskTel stated that the available PMN, or footprint, for the MVNO access service is the wireless network they each own and operate, and that RAN-sharing agreements with other wireless carriers should not be included in the available footprint.

267. Bell Mobility argued that where it owns and operates a RAN, its MVNO access service tariff would apply, and in areas where SaskTel or TCI owns and operates the RAN, their respective proposed tariffs would apply. In Bell Mobility's view, there is no practical policy purpose for heavy-handed regulation that would interfere with highly complex, confidential, and competitively sensitive network-sharing agreements that are outside the jurisdiction of the Commission.

268. TCI submitted that it does not share ownership of any part of its network with a third party. Under the terms of its network reciprocity agreements, it is restricted in its ability to enter into MVNO access agreements where the MVNO would be obtaining access to RAN facilities that are owned and operated by a carrier other than TCI. It submitted that its network reciprocity agreements do not allow it to grant wholesale access to portions of the RAN that TCI does not own or operate. As a result, there are legal contractual limitations precluding it from providing wholesale MVNO access where it does not own and operate the RAN. Further, TCI indicated that in areas where it leases wholesale RAN capacity and access from Bell Mobility, it does not have upstream market power because it relies on negotiated access to Bell Mobility's facilities. TCI therefore argued that it should not be obliged to provide MVNO wholesale access in those areas.

269. Bell Mobility and TCI both submitted that requiring them to provide wholesale MVNO access where they do not own and operate the RAN is contrary to Telecom Regulatory Policy 2021-130, in which the Commission required them to provide access to their own RANs.
270. In its proposed tariff, RCCI described its available footprint as including a service area that is the product of a joint build, where RCCI and a third party share ownership and RCCI's customers have access.
271. RCCI submitted that if a carrier has access to an area through a joint network, the carrier should provide access to that area to both its MVNO and roaming customers. There is no technical or operational reason why the carrier itself can receive full access to its partner network and cannot provide the same to its own MVNO and roaming customers. The network will simply identify a wireless carrier's eligibility to use the network, and access should follow. In RCCI's view, the Commission should require access to the RANs of each carrier's network-sharing partners such that they must provide access to their joint network. This would enable regional wireless carriers to better negotiate with all three national carriers instead of only two at a time, which could potentially lead to more favourable and diverse outcomes for the customer.
272. SaskTel submitted that the Commission's directives to provide a full-MVNO service extend to all three national wireless providers and to SaskTel. Therefore, there is no major RAN in Canada that a customer could not reach by taking advantage of the mandated tariffs of all four providers.
273. Interveners were generally of the view that the available footprint for MVNO access should include areas that are part of a sharing arrangement, and they raised concerns about the challenge and impracticality of having to enter into multiple MVNO access service agreements to receive coverage in some tier 4 areas.
274. Cogeco argued that if the Bell Mobility-TCI sharing agreement was excluded from the MVNO access service, it would have to negotiate MVNO access agreements with both incumbents to serve the footprint that is available to the subscribers of any one incumbent in that area. This would diminish the negotiating power of the competitor and increase the market power of the incumbents.
275. Cogeco also submitted that the RAN facilities owned and operated separately by Bell Mobility and TCI are not limited to their territories of incumbency. As an example, Cogeco mentioned the city of Quebec area where the RAN is owned and operated by TCI, while Bell Mobility owns RAN areas in and around the city of Quebec tier 4 area as well. Therefore, a regional wireless carrier's end-users served by the MVNO access service offered by Bell Mobility or TCI in the city of Quebec

tier 4 area¹⁴ would experience dropped calls as they travel between these networks. Service would not be affected for Bell Mobility and TCI's own subscribers that transition from towers owned by one to towers owned by the other because of the multi-operator core network implementation, where the mobile network codes of both Bell Mobility and TCI are broadcast by the towers presenting as one national home network to the subscribers of each incumbent.

276. Eastlink expressed concern that having to enter into multiple MVNO access service agreements in the same tier 4 area could result in dropped calls when end-users move between the coverage areas of these different MVNO access service providers.
277. Xplornet submitted that in Manitoba, the national service providers have all leveraged network-sharing arrangements. No single national service provider has coverage of any full tier-4-serving area in the province.

Commission's analysis

278. Bell Mobility and TCI have what they generally refer to as a network reciprocity agreement with each other. It is a type of network-sharing agreement. The Bell Mobility-TCI network-sharing agreement allows for the efficient joint build-out of a single national network for use by both carriers. This was referred to in Telecom Regulatory Policy 2021-130 as the Bell Mobility-TCI shared network. Bell Mobility and TCI also have a network reciprocity agreement with SaskTel in Saskatchewan. This agreement allows Bell Mobility and TCI to use SaskTel's RAN facilities in Saskatchewan as if it were their home network.
279. In Telecom Regulatory Policy 2015-177, the Commission concluded that the three national wireless carriers collectively possess market power in the GSM-based wholesale MVNO access market. Further, in Telecom Regulatory Policy 2021-130, the Commission confirmed that this upstream market power finding was true in most tier 4 areas of Canada, where MVNOs seeking RAN access are generally limited to either RCCI's network or the Bell Mobility-TCI shared network. The upstream market power of the incumbents is based in part on the wide, nearly ubiquitous extent of their respective available footprints where they offer service. These footprints include a combination of RANs that are solely owned and operated by the incumbent, RANs that are jointly owned and operated by the incumbent and another wireless carrier, and RANs that the incumbent has access to pursuant to a sharing agreement.
280. Bell Mobility, TCI, and SaskTel have argued that competitors are able to serve all the tier 4 areas of Canada by using the mandated tariffs of all four carriers. However, the Bell Mobility-TCI network-sharing agreement is quite extensive and almost national in scope. Using this shared national footprint, Bell Mobility and TCI provide retail services to their end-users and wholesale roaming services to third

¹⁴ Pursuant to the regional wireless carrier having entered into separate MVNO access service agreements with Bell Mobility and TCI.

parties. Further, affiliates and resellers are also supported on the entire national footprint.

281. In effect, the Bell Mobility-TCI shared network is one national network for the purposes of providing services to their retail customers or other customers. This network qualifies Bell Mobility and TCI as national wireless carriers with market power in the provision of retail mobile wireless services in all provinces, except Saskatchewan, and in the three territories, where Bell Mobility has sole market power.
282. In the Commission's view, not including RAN coverage that is part of network-sharing agreements, and not owned and operated by the incumbent, as part of the available footprint of any given national wireless carrier's MVNO access service is not aligned with the Commission's findings in Telecom Regulatory Policy 2021-130. In that decision, it found that the national wireless carriers possessed upstream market power for most tier 4 areas in the country given that RAN access was limited to either the Bell Mobility-TCI shared network or the RCCI network.
283. Failure to require MVNO access to the full Bell Mobility-TCI shared network through either of the network partners for the purpose of MVNO access would leave MVNOs with only two options for access: RCCI and either Bell Mobility or TCI, depending on which of the two has RAN facilities in a given area. Further reducing the available upstream options would be disadvantageous for regional wireless carriers attempting to enter into MVNO access arrangements and negotiate rates. Traffic volume for MVNO access could, out of necessity, be split between two incumbents, which would diminish regional wireless carriers' negotiating power and also increase interconnection costs for traffic exchange.
284. Having a regional wireless carrier gain network access separately from both Bell Mobility and TCI where they each own and operate their RAN, rather than as a single point of access through the Bell Mobility-TCI shared network, would also disadvantage end-users. In such a scenario, the regional wireless carriers' end-users are more likely to experience dropped calls when they move from an area served by Bell Mobility's RAN to an area served by TCI's RAN within the same tier 4 area. This disadvantage would be experienced only by the regional wireless carriers' end-users. Bell Mobility's and TCI's subscribers would not experience dropped calls because their shared RAN sends traffic directly to the respective core networks of each incumbent such that there is no hand-off.
285. As a result of these disadvantages, regional wireless carriers would likely turn to RCCI as the most viable choice for MVNO access, given that it has one single network and has indicated that its joint build and shared networks would be accessible through the MVNO access service. In other words, if the Bell Mobility-TCI shared RAN were excluded, regional wireless carriers would have one realistic option for MVNO access instead of three. The effect of failing to include the Bell Mobility-TCI shared network for RAN access would be to the detriment of MVNOs and their customers and be inconsistent with the determinations in Telecom Regulatory Policy 2021-130.

286. The Bell Mobility-TCI sharing agreement can be described as a RAN-sharing arrangement, which facilitates the joint build-out of a national network for Bell Mobility and TCI. Parties submitted that RCCI has also engaged in a joint network build-out with Bell Mobility in Manitoba and Videotron in Quebec. In both these situations, RCCI's subscribers have access to these joint builds as part of RCCI's home network.
287. In addition, in its proposed tariffs, RCCI included joint builds in its available footprint for wholesale MVNO access. In Manitoba, Bell Mobility is also part of the joint network build with RCCI. However, Bell Mobility has not expressly included joint builds in its available footprint for MVNO access.
288. In the Commission's view, to not give themselves preference relative to regional wireless carriers, and to not limit the number of realistic options for regional wireless carriers seeking MVNO access, incumbents must be required to include joint-network builds as part of the available footprint for mandated MVNO access. In this respect, the Commission considers that Bell Mobility and TCI's shared agreement is effectively a joint build of a national network, even if ownership and operation of the RAN assets is split. Therefore, Bell Mobility and TCI's shared network should also be included in the available footprint for the mandated MVNO access services of both Bell Mobility and TCI.
289. Bell Mobility and TCI have a similar network-sharing agreement that gives them access to RAN facilities operated by SaskTel in Saskatchewan. However, this situation differs from the Bell Mobility-TCI RAN-sharing agreement discussed above. The reason is that pursuant to Telecom Regulatory Policy 2021-130, the obligation to provide MVNO access service in Saskatchewan applies solely to SaskTel because it was found to have sole retail and wholesale market power. Bell Mobility and TCI were not found to have either retail (downstream) or wholesale (upstream) market power in Saskatchewan. Therefore, it would be inconsistent with the Commission's market power findings in Telecom Regulatory Policy 2021-130 to place a regulatory obligation on Bell Mobility and TCI to provide MVNO access through their sharing agreement with SaskTel in a province where neither Bell Mobility nor TCI have upstream or downstream market power.
290. Finally, in the Commission's view, these determinations are consistent with the policy objectives of the Act and the 2019 Policy Direction. Specifically, as described previously, they will ensure greater competition for the MVNO access service, which will in turn benefit regional wireless carriers and their end-users in areas where incumbents have market power, consistent with paragraphs 7(a), 7(b), and 7(c) of the Act,¹⁵ and subparagraphs 1(a)(i), 1(a)(ii), 1(a)(iii), and 1(a)(v) of the 2019

¹⁵ The cited policy 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; 7(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; and 7(c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications.

Policy Direction. In particular, including RANs subject to network-sharing agreements as part of MVNO access would reduce a significant barrier to entry and competition for regional wireless carriers by providing them with three viable upstream options instead of one.

291. The Commission acknowledges the argument that there are contractual and jurisdictional limitations to requiring access to a RAN not owned or operated by the carrier but otherwise subject to network-sharing agreements. The Commission considers that the argument raised no specific jurisdictional limitation, was unsubstantiated by evidence or authority, and merely asserted. It has not been demonstrated that the Commission lacks the authority to mandate that any carrier, including Bell Mobility and TCI, provide MVNO access to the wireless network that is owned and operated by the other and that is subject to a network-sharing agreement.
292. Contractual agreements between regulated entities cannot displace the Commission's authority under the Act. This authority includes section 24 of the Act: the jurisdiction to impose or include in a tariff any conditions on Canadian carriers offering and providing a telecommunications service. The Commission's authority extends to regulation of carriers' services offered and provided to their end-users irrespective of whether the services are provided on a RAN owned or operated by the carrier. This is the case, for instance, with respect to the application of the Wireless Code. The terms and conditions under which MVNO access is provided is not different.
293. Furthermore, the failure to provide MVNO access using RANs owned and operated by another carrier subject to the network-sharing agreement raises concerns of unjust discrimination or undue preference contrary to subsection 27(2) of the Act. If carriers serve their own customers using the facilities of another through a network-sharing agreement, then regional wireless carriers and their end-users may be unjustly discriminated against, and the carriers may be conferring upon themselves an undue preference.
294. Accordingly, the Commission **directs** Bell Mobility, TCI, and SaskTel to include joint-network builds as part of their available footprint for MVNO access service as a condition in the tariffs under section 24 of the Act. The Commission further **directs** Bell Mobility and TCI to modify their tariff provisions to clarify that their available footprint for MVNO access service includes the RAN owned and operated by the other carrier under their shared network agreement.

Contractual

Are the incumbents' forecasting provisions appropriate in terms of frequency and level of detail?

295. The incumbents proposed tariff provisions that require regional wireless carriers to provide forecasts of the mobile traffic used by the regional wireless carrier's subscribers. These forecasting requirements varied in a number of ways, including

frequency and level of detail, and an overview of them can be found in the Appendix to this decision.

Positions of parties

296. Several interveners, including the ITPA, the Manitoba Coalition, and Sogetel, objected to the requirement to submit traffic forecasts altogether. They objected because the majority of mobile traffic that will be generated by MVNO subscribers is already carried by incumbents on their networks, and such a requirement would result in regional wireless carriers sharing insight into their business practices and planning.
297. Other interveners, including Cogeco, Eastlink, and Xplornet, did not object to the overall requirement to provide forecasts to assist with network planning and managing capacity and traffic volumes.
298. With respect to the specific forecasting provisions put forward by the incumbents, interveners proposed a number of modifications. Some interveners submitted that forecasts should align with the existing wholesale roaming provisions, while others proposed various modifications, such as forecasting on a provincial/territorial level or the entire area of the wholesale customer.
299. Videotron proposed that it would be more efficient for the Commission to approve uniform requirements among all incumbents and generally supported Bell Mobility's proposals regarding the duration of forecasts (covering one year), the frequency of forecasts (once per quarter) and the lead time for the submission of forecasts (three months in advance of the covered period). Videotron objected to providing a separate VoLTE forecast, as proposed by TCI.
300. In reply, Bell Mobility, TCI, and SaskTel argued that traffic forecasting is appropriate as a normal network planning practice. Bell Mobility submitted that the MVNO access service is likely to be much more localized and intensive compared to wholesale roaming. TCI submitted that it needs forecasting information to determine the overall impact of wholesale MVNO access on its network capacity.
301. Several interveners, including Iristel, the Manitoba Coalition, and Sogetel, objected to tariff provisions that would involve disclosing events or promotions, which they viewed as competitively sensitive information. In reply, TCI and SaskTel outlined measures they have in place to ensure such information is not used for competitively advantageous purposes.

Commission's analysis

302. In Telecom Decision 2017-56, the Commission considered the matter of traffic forecasting with respect to wholesale roaming. The Commission found that while traffic forecasts may create extra administrative burden for wholesale roaming customers, they are necessary for planning purposes. The Commission found that

forecasts covering a one-year period would balance the administrative burden on wholesale roaming customers with the incumbents' network-planning needs.

303. The Commission considers that forecasting of mobile traffic for wholesale MVNO access is necessary for network-planning purposes in the same way it is for wholesale roaming. Moreover, traffic forecasting may be more important for MVNO access because end-users will be using more capacity—and potentially be causing a greater impact on the incumbent's network—than with wholesale roaming.

304. With respect to the specific forecast requirements, the Commission considers that it would be advantageous for regional wireless carriers to have uniform requirements among the incumbents. Below, the Commission sets out the forecasting elements that must be included in the incumbents' tariffs.

Forecast area

305. The incumbents all require forecast information by tier 4 area (not by TEL licence area or other). The Commission views this as reasonable for traffic management purposes. Forecast information at a higher level of aggregation would not be meaningful because traffic and capacity management is typically performed on a more localized basis than on a provincial or national level.

First forecast deadline

306. The first forecast deadline (i) must take into account that regional wireless carriers will need sufficient time to develop their forecasts prior to submitting them to the incumbent, (ii) should be provided to incumbents far enough in advance so that incumbents can use that information for planning purposes, and (iii) should not be required so far in advance that the commercial start date of the MVNO access service would be delayed by a long forecast lead time. In the Commission's view, a period of 30 days prior to the commercial start date is reasonable in this regard.

Lead time for subsequent forecasts

307. The lead time for subsequent forecasts must account for impacts on forecast accuracy and should be provided to incumbents far enough in advance so that they can use that information for planning purposes. The Commission considers that RCCI's proposal is reasonable in that it requires forecasts be provided 30 days prior to the beginning of each year. This time frame strikes a balance between the ability of regional wireless carriers to provide accurate forecasts and allowing sufficient time for incumbents to use that information for planning purposes.

Forecast duration

308. The forecast duration must strike a balance between the administrative burden imposed on regional wireless carriers and the granularity of information that incumbents require for planning purposes. SaskTel's proposal, which requires a one-

year forecast, strikes a balance in providing sufficient information to incumbents while minimizing administrative burden on regional wireless carriers. In addition, an annual forecast is consistent with the national wireless carriers' existing wholesale roaming tariffs.

Traffic forecast breakdown

309. The Commission considers that it would be sufficient for regional wireless carriers to provide an aggregated traffic forecast, represented in gigabytes (GB) of data, comprising all voice, text, and data forecasted to be used by their end-users over the forecast period. This aggregation level avoids requiring regional wireless carriers to provide granular data that may be competitively sensitive, including VoLTE traffic volumes.

Lead time for submission of revised forecasts

310. Revised forecasts provide regional wireless carriers with the ability to amend their forecasts to account for promotions, the addition of resellers, or unexpected events, thereby increasing forecast accuracy. From a network planning perspective, the requirement to provide revised forecasts is important so that incumbents have sufficient information to ensure network quality.

311. However, the Commission is concerned by forecasting provisions that would require regional wireless carriers to disclose specific information about upcoming events or promotions. Such information could be considered competitively sensitive information about the regional wireless carrier's business plans.

312. Consequently, the Commission considers that it would be appropriate to require regional wireless carriers, on a good-faith basis, to notify the MVNO provider of any significant changes to their traffic forecasts, as soon as the regional wireless carrier becomes aware of such a change.

Summary

313. In light of the above, the Commission **directs** the incumbents to revise their tariffs in accordance with the following determinations:

- The regional wireless carrier must provide a traffic forecast of the expected service volume anticipated to be used by end-users in each tier 4 area in which they subscribe to the service.
- The forecast must be submitted **30 days** prior to the commercial start date of the MVNO access service and then **30 days** prior to the beginning of each subsequent calendar year.
- The forecast must cover the subsequent 12-month period.

- The forecast must be aggregated as volume of data, represented in GB of data, comprising all voice, text, and data anticipated to be used by end-users over the forecast period.
- On a good-faith basis, regional wireless carriers must notify the incumbent of any significant changes to their traffic forecasts as soon as the regional wireless carrier becomes aware of such a change.

Should regional wireless carriers compensate the incumbent for inaccurate traffic forecasts?

314. Bell Mobility and TCI proposed tariff provisions that require regional wireless carriers to compensate the incumbent if the regional wireless carrier's traffic deviates from the companies' forecasts by a certain amount. Bell Mobility referred to its provision as a "Network Planning Compensation Payment" while TCI described its provision as an "Accuracy Fee." Neither RCCI nor SaskTel proposed similar provisions.

Positions of parties

315. All interveners that commented on the matter were opposed to the provisions. Most were of the view that forecasting should be on a best-effort or good-faith basis.

316. Intervenors argued, among other things, that the proposed provisions are anti-competitive and punitive, may have financial impacts on the financial viability of wholesale customers, are not proportional to the impact on incumbents' networks, and are unnecessary because there is no evidence the traffic would have any impact on the incumbents' wireless networks.

317. Several interveners argued that wholesale customers already have sufficient incentives to provide accurate forecasts, and that wholesale customers have no reason to inflate or diminish their forecasts. In addition, they submitted that forecasting is most difficult where there is no historical data, such as a new market launch.

318. RCCI submitted that penalties are not needed to encourage accurate traffic forecasting. It submitted that in its experience, regional wireless carriers can be trusted to provide accurate forecast data given that any major variance would negatively affect their bargaining position in subsequent rate/term negotiations.

319. Bell Mobility submitted that its provisions are critical to network planning. It submitted that its provisions (i) create an appropriate incentive for regional wireless carriers to provide accurate forecasts and (ii) provide some compensation to network operators for the additional cost associated with changing their deployment plans and deploying additional capital to address inaccurate forecasts.

320. TCI submitted that its provisions are designed to create an incentive for wholesale customers to provide accurate forecasts. TCI added that inaccurate forecasts could lead to inefficient deployment of network resources and degraded network performance and would impact the quality of service for subscribers. TCI also submitted that there is a cost associated with incorrect forecasts, including the quality of service impact on end-users and the cost of deploying allocated capital to support unnecessary capacity increases.

Commission's analysis

321. In Telecom Regulatory Policy 2021-130, the Commission directed the national wireless carriers to use their existing wholesale roaming service tariffs as the baseline for proposed terms and conditions for their wholesale MVNO access tariffs. None of the national wireless carriers have provisions in their existing wholesale roaming tariffs for inaccurate forecast compensation. Rather, RCCI requires a good-faith estimate, Bell Mobility requires a nonbinding forecast, and TCI requires a best effort forecast.

322. For the reasons set out below, the Commission considers that the compensation provisions proposed by Bell Mobility and TCI are inappropriate and akin to financial penalties in that they require that the regional wireless carrier provide payment to the incumbent for missed forecasts.

323. First, in Telecom Regulatory Policy 2021-130, the Commission addressed network capacity concerns and found that MVNO access would likely have a low impact on incumbents' network capacity. Neither Bell Mobility nor TCI have provided sufficient evidence to suggest that contrary to the Commission's findings on the matter in Telecom Regulatory Policy 2021-130, mandated wholesale MVNO access would have a significant impact on wireless carriers' network capacity. Without such a finding, there is little justification to include the provisions given that the impact of any missed forecasts would not likely have a significant impact on overall network capacity.

324. Second, the record of these tariff proceedings has not demonstrated that the forecasting provisions in the national wireless carriers' wholesale roaming tariffs are insufficient or ineffective, much less to an extent where financial penalties would be required to ensure accuracy. It is also noteworthy that RCCI indicated that penalties are not needed for encouraging accurate traffic forecasting.

325. Third, the use of financial penalties to create an incentive for accurate traffic forecasting is not justified because regional wireless carriers already have an incentive to provide accurate forecasts. Traffic forecasting is an important activity because it helps to ensure that network operators have sufficient capacity, for both their own subscribers and those of the regional wireless carrier, to provide a high quality of service. After all, the regional wireless carrier is using the same network

as the incumbent, so congestion resulting from inaccurate forecasting will negatively impact the regional wireless carrier as well, in terms of quality of service and customer satisfaction.

326. Lastly, if the provisions were included, they would need to account for certain force majeure events, such as impacts on mobile wireless traffic as a result of the COVID-19 pandemic, or other events that globally impact mobile wireless traffic. For example, force majeure provisions could provide the ability for regional wireless carriers to submit revised forecasts in such events, or for the incumbent to waive penalties if certain forecast deviations were unavoidable. Neither Bell Mobility nor TCI accounted for such events as part of their provisions.
327. In light of the above, the Commission **directs** Bell Mobility and TCI to remove all forecasting penalty provisions from their proposed tariffs.

Are the incumbents' provisions relating to a wind-down period appropriate?

328. The incumbents proposed various wind-down provisions leading up to the end of the mandated MVNO access period. Those provisions place restrictions on marketing and promotions, limit subscriber growth during certain periods, and require regional wireless carriers to send information about their subscribers to the MVNO provider prior to the end of the phase-out period.

Positions of parties

329. All interveners that commented on the matter were opposed to a wind-down period. They argued that a wind-down period would effectively reduce the term of the mandate, be anti-competitive, and limit growth opportunities for regional wireless carriers during the transition period. They further submitted that regional wireless carriers themselves should be responsible for transitioning their customers at the end of the mandate period and have incentives to do so.
330. The national wireless carriers were generally of the view that the provisions are necessary to transition wholesale customers off the MVNO access service prior to the end of the seven-year period.
331. Bell Mobility submitted that the tariff provisions are required to ensure all parties respect the seven-year end date and prevent a situation where a regional wireless carrier has made no effort or inadequate efforts to prepare to end mandated MVNO access.
332. RCCI's view was that wind-down provisions would ensure a smooth transition and prevent delays from its wholesale customers migrating end-users to their own networks.
333. TCI submitted that its provisions support the Commission's intent to ensure that parties migrate from reliance on MVNO access and their own network facilities. Its

provisions are needed to prevent wholesale customers from transferring customers to a competing WSP, ceasing to serve such customers, or seeking additional time to build out their wireless networks.

Commission's analysis

334. In Telecom Regulatory Policy 2021-130, the Commission considered the amount of time that would be appropriate to mandate wholesale MVNO access and found that a fixed phase-out period of seven years from the date the tariffed terms and conditions are finalized would be appropriate. The Commission considered that this time period 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. However, the Commission indicated that 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. The Commission did not consider the matter of a wind-down period leading up to the phase-out date; therefore, this proposal would constitute a new policy or change in policy.
335. Placing restrictions on marketing activities and customer acquisition would effectively shorten the mandate period by six months under RCCI's proposal, by one year under Bell Mobility's proposal, and by up to two years under TCI's proposal. This would run counter to the spirit of Telecom Regulatory Policy 2021-130, which is to allow regional wireless carriers to acquire a customer base while they build out their networks.
336. In Telecom Regulatory Policy 2021-130, the Commission found that regional wireless carriers have sufficient incentives to build out their networks. The Commission considers that there is insufficient evidence to contradict this finding.
337. While it is likely that there will eventually be a need for some degree of coordination between the incumbents and regional wireless carriers to transition end-users at the end of the phase-out period, setting out the details of such a transition before the service is operational is premature.
338. Finally, pursuant to Telecom Regulatory Policy 2021-130, regional wireless carriers using the wholesale MVNO access service must file annual reports with the Commission detailing their expansion progress, including new tower and site deployments, communities served, and customers acquired. The Commission can use this information to track investment and expansion progress over the course of the mandate and consider taking action if necessary based on this evidence.
339. In light of the above, the Commission **directs** Bell Mobility, RCCI, and TCI to remove their proposed wind-down provisions.

When should the in-service date be?

Positions of parties

340. Videotron objected to TCI's proposed in-service date of 15 April 2022, which was roughly nine months after the date of the tariff filing. It argued that the effect of such a long period would be to impede competitors from using TCI's MVNO access service for a prolonged period. It indicated that in contrast, RCCI's service was effective as of the date of the tariff filing, and Bell Mobility's was set at 30 days from the date of the filing. Videotron added that either of those approaches can be viewed as being consistent with the Commission's directives in Telecom Regulatory Policy 2021-130. Videotron submitted that the Commission should order that all three incumbents' tariffs take effect immediately on the date of Commission approval.
341. TerreStar submitted that the Commission was clear in Telecom Regulatory Policy 2021-130 that the tariffs will become effective and the seven-year mandated MVNO access period will begin on the date the tariffed terms and conditions are finalized. This date should be clearly specified by the Commission and should apply consistently to all of the incumbents' terms and conditions.

Commission's analysis

342. The implementation of wholesale MVNO access is important for competition in the retail wireless sector, and the Commission is interested in having the service operationalized and in use as soon as possible. The incumbents have had over a year to prepare for providing wholesale MVNO access, and there is therefore no valid reason why a long implementation period would be needed. Accordingly, the Commission considers it appropriate that incumbents begin accepting requests for wholesale MVNO access on the date this decision is issued and enter into good-faith commercial negotiations with regional wireless carriers upon request to agree on a rate.
343. The Commission also considers that it is reasonable for the incumbents to have the service operational and ready for use no later than 30 days following the date the tariffs are finalized, and that seamless hand-off functionality must be in place within 90 days following the date the tariffs are finalized.
344. Furthermore, with a view to having the service operationalized and in use as soon as possible, the Commission expects the parties to have executed agreements in place within **90 days** of the date of the decision approving the final tariffs, assuming the incumbents receive requests from regional wireless carriers. If this time frame is not met, the Commission will consider adding time to the term of the seven-year mandate. Such action is consistent with Telecom Regulatory Policy 2021-130, where the Commission gave notice to the incumbents that 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.

345. The Commission therefore **directs** the incumbents to begin accepting requests for wholesale MVNO access on the date this decision is issued and to enter into good-faith commercial negotiations with regional wireless carriers upon request to agree on a rate. The Commission also **directs** the incumbents to have the service operational and ready for use no later than **30 days** following the date the tariffs are finalized and **directs** the incumbents to have the seamless hand-off functionality in place within **90 days** following the date the tariffs are finalized.

What provisions related to the suspension and termination of service are appropriate?

Positions of parties

346. A number of interveners objected to various provisions related to the suspension or termination of the MVNO access service, arguing that such termination clauses are anti-competitive, vague, and inappropriate. The provisions in question are set out below.

Bell Mobility tariff item 101.21(f)

347. Videotron argued that tariff item 101.21(f) is anti-competitive, and that if it had been present in Bell Mobility's wholesale roaming tariff over the past two years, Bell Mobility would have long ago suspended Videotron's access to its wholesale roaming service despite the unfounded nature of its permanent roaming allegations against Videotron.

348. Bell Mobility submitted that Videotron appears to be the only party that has objected to these provisions, and it has not provided any explanation why it believes it should be entitled to continue receiving mandated access to Bell Mobility's network despite being in an ongoing uncured material breach of the tariff. It appears clear that Videotron does not intend to comply with the terms of the tariff that will be established by the Commission and is seeking to eliminate any possible mechanism that could be used to make it comply or to impose consequences for non-compliance.

RCCI tariff item 902.3.5(d)

349. Videotron submitted that in tariff item 902.3.5(d), RCCI is proposing to grant itself a sweeping right to refuse to offer or provide any functionality or technology for which no standards or industry guidelines have been developed. Videotron indicated that this item should be removed.¹⁶

¹⁶ In its submission, Videotron referred to this tariff item as 902.3.4(d). However, the tariff item was moved to 902.3.5(d) in RCCI's revised tariff pages filed with its reply.

RCCI tariff item 902.10.1

350. Xplornet submitted that as drafted, the termination language set out in tariff item 902.10.1 can allow for RCCI to engage in harsh practices to terminate a wholesale customer for an inadvertent breach of the tariff conditions. The wholesale customer should be given the opportunity to cure any breach before termination can occur.
351. RCCI submitted that this provision was added in response to interveners' plans to use MVNO access outside its intended use. For example, certain interventions have exposed interveners' plans to subordinate a spectrum licence they may be using for MVNO access, offering fixed wireless access, wireline, IoT, or M2M. Without this provision, RCCI's "recourse to an MVNO Customer breach of the tariff would be severely limited."

TCI tariff item 235.3.24

352. Videotron submitted that TCI inappropriately dropped from its proposed MVNO access tariff a crucial sentence found at item 233.3.20.k. of its existing wholesale roaming tariff: "The VPMN [Visited Public Mobile Network] Operator must follow an incremental approach to suspending and terminating the Roaming Service provided to the Wholesale Roaming Customer, with reasonable advance notice."
353. According to Videotron, this sentence, which is a vital safeguard against anti-competitive abuse, must be restored in item 235.3.24 of TCI's MVNO access tariff.¹⁷
354. Xplornet argued that as drafted, the termination language in tariff item 235.3.24.a.iii can allow TCI to engage in harsh practices to terminate a regional wireless carrier for an inadvertent breach of the tariff conditions. The regional wireless carrier should be given the opportunity to cure any breach before termination can occur.

TCI tariff item 235.3.25

355. Videotron argued that in tariff item 235.3.25, TCI proposes a brutal termination provision that would give it the right to put an immediate end to a competitor's MVNO operations on the sole basis that TCI has decided that the competitor is no longer eligible for MVNO access service and must be rejected.
356. The ITPA submitted that the Commission should reject proposals such as these and any similar proposals that either explicitly or implicitly permit immediate suspension or termination without the opportunity to correct the situation within a reasonable period of time. The Commission should also reject any proposal to permanently deny access to the service after the suspension or termination has been implemented.

¹⁷ In its submission, Videotron referred to this tariff item as 253.3.24. However, on the basis of TCI's tariff, Videotron appears to have been referring to tariff item 235.3.24.

357. Sogetel and Terrestar argued that this clause should be modified to give a regional wireless carrier a fair opportunity to rectify the situation and specify what constitutes a reasonable time frame to do so. In appropriate cases, the regional wireless carrier should also have recourse to the Commission for a determination of eligibility before service may be suspended by the incumbent.

Commission's analysis

358. In general, the Commission considers that it is reasonable for the incumbents' tariffs to have provisions concerning suspension or termination in the event the MVNO access service is misused or a regional wireless carrier no longer satisfies the eligibility criteria. This is particularly important given the Commission's specific intent in mandating the service, which is to allow a regional wireless carrier to acquire retail customers using an incumbent's RAN while it builds out its own network. If the MVNO access service were to be used for a different purpose by a regional wireless carrier, or a regional wireless carrier were to no longer qualify for eligibility under the Commission's framework, then the framework itself could be undermined.

359. The Commission approved provisions related to suspension and termination of service for wholesale roaming in instances of, for example, payment defaults and misuse of the service, and the incumbents have generally proposed similar provisions for MVNO access. However, in certain cases, the incumbents have added suspension and termination provisions that (i) go beyond what is necessary to address misuse or ineligibility, (ii) are unilateral and immediate with no possibility for a cure, (iii) are nebulous, or (iv) appear targeted at a particular company.

360. Below, the Commission sets out its determinations regarding the suspension and termination provisions in question.

361. The Commission **directs** Bell Mobility to remove item 101.21(f) from its proposed tariff. This provision is unnecessary given that the proposed tariff already contains a similar termination provision at item 101.21(a)(3).

362. The Commission **directs** RCCI to remove item 902.3.5(d) from its proposed tariff. This provision is unnecessary because it is unclear what specific circumstances it is meant to protect against.

363. The Commission determines that RCCI's item 902.10.1 may be retained in its proposed tariff. It is a reasonable provision that was carried over from its wholesale roaming tariff.

364. The Commission **directs** TCI to add item 233.3.20.k. from its wholesale roaming tariff to its wholesale MVNO tariff. It is reasonable for TCI to follow an incremental approach by providing notification prior to potential suspension or termination of service.

365. The Commission **directs** TCI to remove item 235.3.25 from its proposed tariff given that such a provision would grant TCI the unilateral ability to immediately suspend or terminate service based on its own interpretation of the Commission's framework. The proposed tariff already has sufficient provisions regarding suspension and termination.
366. The Commission determines that TCI's item 235.3.24.a.iii may be retained in the tariff. It is a reasonable provision that was carried over from its wholesale roaming tariff.

Are provisions related to permanent roaming appropriate?

Positions of parties

367. Videotron took issue with Bell Mobility's tariff items 101.7(a) and 101.7(d) regarding the identification of end-users who access Bell Mobility's network on a permanent basis outside the MVNO access coverage area. Videotron argued that these additions are an attempt to circumvent the Commission's directive in Telecom Decision 2017-56 for the national wireless carriers to remove restrictions on permanent roaming from their wholesale roaming tariffs. These additions are both unjustified and out of scope of the current proceeding and must be rejected.
368. Sogetel submitted that while the wholesale customer should not be providing wireless service to retail customers outside of eligible areas on a permanent basis, unilateral termination should not be permitted unless Bell Mobility has provided its wholesale customer with the opportunity to rectify the situation.
369. Xplornet submitted that it is inappropriate for Bell Mobility to terminate the service of a wholesale customer without giving any opportunity to address such issues. As drafted, Bell Mobility's item 101.7(d) could enable the company to engage in harsh practices aimed at limiting access to its MVNO service.
370. Bell Mobility replied that item 101.7(a) requires the regional wireless carrier to take the required steps to ensure that MVNO access is not used outside of eligible areas and to provide Bell Mobility with information it reasonably requests in that regard. Bell Mobility argued that Videotron did not provide a sufficient explanation why it should have no responsibility whatsoever for ensuring the terms of the tariff are respected.
371. Regarding item 101.7(d), Bell Mobility indicated that there must be consequences, such as termination provisions, for active misuse of the tariff. Otherwise, regional wireless carriers can continually contravene its terms. Bell Mobility submitted that it does not anticipate terminating MVNO access for a regional wireless carrier based on a single inadvertent breach of this kind, but ongoing indifference to the terms of the tariff must be prevented.

Commission's analysis

372. On the matter of determining whether network access is incidental or permanent, the Commission has repeatedly ruled against using an *ex ante* approach¹⁸ and has urged parties to work in good faith to overcome disputes. Furthermore, in Telecom Decision 2017-56, the Commission indicated that if disputes were to arise between carriers with respect to whether roaming is surpassing an acceptable level, these parties may request that the Commission determine whether a wholesale roaming customer is making improper use of the service or has permitted an MVNO to do so. The Commission provided a list of indicators to help it determine whether the wholesale roaming customer has misused or allowed end-users to misuse the service.
373. In the Commission's view, Bell Mobility's provisions are a step towards effectively establishing an *ex ante* process to identify incidents of permanent roaming, which runs counter to the Commission's well-established policy against doing so. In addition, Bell Mobility's proposed MVNO access tariff already includes a provision covering the suspension and termination for inappropriate use of the service. Therefore, item 101.7(d) would be redundant in any event.
374. In light of the above, the Commission **directs** Bell Mobility to remove items 101.7(a) and 101.7(d) from its tariff.

What quality of service provisions are appropriate?

375. The incumbents proposed various tariff provisions related to the quality of service that regional wireless carriers would receive in terms of speed, latency, etc., as well as the level of service in terms of network technology (e.g., 3G, 4G/LTE, or 5G) over which the MVNO access service would be provided, as seen in the following paragraphs.
376. Bell Mobility, RCCI, and SaskTel proposed provisions¹⁹ that guarantee the quality of service that end-subscribers would receive, such as speed and latency. Specifically, they proposed that the regional wireless carriers' subscribers would receive a quality of service that is comparable to that offered for services similar to the incumbent's subscribers.
377. Bell Mobility, RCCI, and SaskTel also proposed provisions²⁰ that indicate which generation of technology will be offered by the incumbent. Specifically, the provisions indicate that the MVNO provider would not be obligated to provide a quality, functionality, technology, service, or level of service that is in excess of the lesser of (i) that offered by the regional wireless carrier to its own end-users on the

¹⁸ See Telecom Decision 2017-56, Telecom Decision 2020-48, and [Telecom - Commission Letter addressed to the Distribution List](#).

¹⁹ See Bell Mobility item 101.6(a)(3), RCCI items 902.3.5(a) and 902.3.5(b), and SaskTel item 650.36.4.5.

²⁰ See Bell Mobility item 101.6(a)(1), RCCI item 902.3.5(c), and SaskTel item 650.36.4.6.

regional wireless carrier's PMN or (ii) that offered by the incumbent to its own end-users.

378. TCI proposed a combined level of service and quality of service provision.²¹

Specifically, TCI proposed that it not be obligated to provide wholesale customers with the ability to access voice, short messaging service (SMS), and data services at a level of quality, functionality, technology, service or level of service, or generation of GSM technology in excess of that generally offered for similar services to the wholesale customer's own subscribers on its own home PMN.

Positions of parties

379. Several parties objected to the incumbents' quality of service provisions. Cogeco argued that the proposed provisions would enable discrimination between the regional wireless carriers' subscribers and the wholesale providers' subscribers, impede competition between the incumbents and regional wireless carriers, and discourage investment. Cogeco added that the incumbent should provide the regional wireless carrier's subscribers with the same user experience (i.e., quality, coverage, and mobile technologies) as the incumbent's own subscribers.

380. Sogetel argued that incumbents should provide regional wireless carriers with the same services that incumbents offer their own retail customers. Xplornet submitted that the level of service should be consistent with what the incumbent provides its own subscribers.

381. TerreStar generally supported the quality of service provisions proposed by RCCI and SaskTel but proposed replacing the word "comparable" with the word "equivalent." Iristel proposed that the Commission should require carriers to offer the same quality of service to regional wireless carriers' subscribers as the incumbent offers its own subscribers.

382. With respect to TCI's provisions, Videotron objected to the removal of the following provision (item 233.3.2.a.) from TCI's wholesale roaming tariff given that it was updated for its MVNO access service: "The VPMN Operator shall provide the Roaming Service such that the Roaming End-Customers will have access to the voice, SMS, and data services at a level of quality comparable to that generally offered for similar services to the VPMN Operator's own customers." Videotron argued that this provision constitutes a baseline protection against unjust discrimination of competitors' end-users.

383. Several interveners argued for other changes to the proposed quality of service provisions.

²¹ See TCI item 235.3.9.a.

384. TerreStar proposed that wholesale customers be subject to the same data usage policies as the incumbents' best available plan, such as those related to data caps, data throttling, and network management practices during times of network congestion.
385. Cogeco proposed the removal of RCCI's item 901.1.5 in which RCCI does not guarantee any transmission speed for MVNO access because it is redundant with the provisions at item 902.3.4. In reply, RCCI argued that the provision was an extract of the same quality of service provisions from its wholesale roaming tariff.
386. Bell Mobility argued that proposals to provide regional wireless carriers with a higher quality of service than they deliver in areas where they have deployed their own network would be inconsistent with the Commission's decision and objectives. Among other things, Bell Mobility submitted that
- no party alleged that anti-competitive conduct has resulted from the inclusion of the provision in the wholesale roaming tariffs;
 - it would create an incentive for MVNOs to offer service over the networks of the national carriers rather than their own even in areas where they have built those networks; and
 - allowing regional wireless carriers to access a quality of service that they do not offer on their own network will create a disincentive for them to invest and expand their networks because expanding their network would also mean delivering a lower quality of service in the community where it was already delivering service.
387. With respect to level of service, SaskTel submitted that incumbents should not be forced to improve service or change development plans solely for the competitors' benefit. With respect to quality of service, SaskTel submitted that it cannot guarantee an identical quality of service given that the wholesale customer must provide its own core network, its own devices, its own back-office services, and potentially its own transport, where necessary. However, the company submitted that the RAN access provided to wholesale customers will be as similar as is reasonably possible to that used for its own subscribers.
388. TCI submitted that customers expect a consistent network and service experience from the regional wireless carrier, and that its proposal would encourage investment because it creates an incentive for regional wireless carriers to match the network service levels of the incumbents.

Commission's analysis

389. In Telecom Regulatory Policy 2021-130, the Commission indicated that 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, including, among other things, a high quality of service.

390. In this regard, the Commission considers that Bell Mobility's, RCCI's, and SaskTel's quality of service and level of service provisions are generally appropriate for the reasons in the paragraphs below.
391. In Telecom Regulatory Policy 2021-130, the Commission directed the national wireless carriers to use their existing wholesale roaming service tariffs as the baseline for proposed terms and conditions for their wholesale MVNO access tariffs. The quality of service and level of service provisions that Bell Mobility and RCCI proposed in their MVNO access tariffs are materially the same as those provided in their wholesale roaming tariffs, and SaskTel's are similar to those of Bell Mobility and RCCI.
392. The provisions are consistent with the determinations made in Telecom Decision 2017-56 in that they guarantee that the service be offered at a quality comparable to that generally offered for similar services to the incumbents' own customers.
393. Several interveners proposed that the incumbents should also provide an equivalent quality of service to the regional wireless carriers as the incumbents provide to their own subscribers. However, the Commission considers the provisions appropriate because they require the incumbent to offer a comparable quality of service but allow some flexibility. For example, there may be technical reasons why the incumbent cannot provide an equivalent quality of service to the best of its ability.
394. Some interveners argued that the quality of service provisions are anti-competitive in that they could be used to discriminate between the incumbent's subscribers and regional wireless carriers' subscribers. However, the Commission considers that the provisions are reasonable because they guarantee a comparable quality of service and do not provide that incumbents can provide a lower quality of service. Consequently, the incumbents are not permitted to discriminate between subscribers because the quality of service must be comparable.
395. The provisions create an incentive for regional wireless carriers to invest and develop their mobile wireless networks. Requiring incumbents to offer a higher level of service than the regional wireless carrier provides to its own end-users would serve as a disincentive for regional wireless carriers to upgrade or expand their networks. This is because it would allow the regional wireless carrier to offer a higher level of service on the incumbent's network than its own. The proposed quality of service provisions would not impede competition given that regional wireless carriers would be further motivated to build out high-quality networks to compete with the incumbents.
396. While the provisions are generally appropriate, the Commission is concerned that they do not outline the level and quality of service offered in the scenario where an

incumbent does not offer the same generation of technology (e.g., a 3G network) as that offered by the regional wireless carrier on its home PMN. In such a scenario, an incumbent may decide to throttle a regional wireless carrier down from a higher network generation to what the incumbent deems to be the equivalent of 3G network speeds.

397. Given that there is some ambiguity about the level and quality of service that is to be offered under such a scenario, it is appropriate for the Commission to provide clarity on this matter. In the event that an incumbent has decommissioned a network generation that is still in use by a regional wireless carrier (for instance, 3G), the incumbent must provide that regional wireless carrier with the next highest available level of service (such as 4G/LTE in the absence of a 3G network) without throttling the speed of the MVNO access service down to what the incumbent deems to be the equivalent of the regional wireless carrier's home network speed.

398. In light of the above, the Commission determines that Bell Mobility's, RCCI's, and SaskTel's quality of service and level of service provisions are appropriate and can remain in their respective tariffs. However, the Commission **directs** Bell Mobility, RCCI, and SaskTel to amend their tariffs to make it clear that in the event that Bell Mobility, RCCI, or SaskTel has decommissioned a network generation that is still in use by a regional wireless carrier (for instance, 3G), they must provide that regional wireless carrier with the next highest available network generation (such as 4G/LTE in the absence of a 3G network) without throttling the speed of the MVNO access service down to what Bell Mobility, RCCI, or SaskTel deems to be the equivalent of the regional wireless carrier's home network speed.

399. As for TCI, the Commission considers that its proposed wording, which avoids the term "comparable" in terms of quality of service in favour of more restrictive terminology, would not guarantee that regional wireless carriers' subscribers would receive a comparable quality of service to that of the incumbent.

400. TCI's provision is problematic in that the wording "generally offered" is ambiguous and subjective and could be used by TCI to discriminate and favour its own end-users over the end-users of its wholesale customers. Consequently, TCI's provision should be modified to be consistent with the direction provided in Telecom Decision 2017-56 such that the MVNO access service "shall provide [the wholesale customer] with the ability to access voice and data services at a level of quality comparable to that offered for similar services to the Company's own customers."

401. Furthermore, in the Commission's view, it is appropriate for TCI to include a provision similar to the other incumbents such that TCI is not obligated to provide a quality, functionality, technology, service, or level of service that is in excess of the lesser of (i) that offered by the regional wireless carrier to its own end-users on the regional wireless carrier's PMN or (ii) that offered by the incumbent to its own end-users. This ensures that its regional wireless carriers receive the same network

technology that TCI provides its own customers on its own network and ensures consistency among the incumbents.

402. In light of the above, the Commission **directs** TCI to modify its quality of service provision such that (i) the MVNO access service shall provide the regional wireless carrier with the ability to access voice and data services at a quality comparable to that offered for similar services to TCI's own customers; and (ii) TCI is not obligated to provide a quality, functionality, technology, service, or level of service that is in excess of the lesser of that offered by the regional wireless carrier to its own end-users on the regional wireless carrier's PMN or that offered by the incumbent to its own end-users.

403. However, as with the other incumbents, the Commission **directs** TCI to amend its tariff to make it clear that in the event that it has decommissioned a network generation that is still in use by a regional wireless carrier (for instance, 3G), it must provide that regional wireless carrier with the next highest available network generation (such as 4G/LTE in the absence of a 3G network) without throttling the speed of the MVNO access service down to what TCI deems to be the equivalent of the regional wireless carrier's home network speed.

Other quality of service issues

404. TerreStar proposed that wholesale customers be subject to the same data usage policies as the incumbents' best available plan, such as data caps, data throttling, and network management practices during times of network congestion.

405. In the Commission's view, this proposal is not reasonable in an MVNO context because the plans that regional wireless carriers will offer their own mobile wireless subscribers may not align with an incumbent's best available plan.

406. At item 901.1.5, RCCI does not guarantee any transmission speed for the MVNO access service. Cogeco proposed that this provision be removed because it is redundant with another provision.

407. The Commission considers that RCCI item 901.1.5 is redundant with item 902.3.5, which indicates that RCCI will provide an end-user with the ability to access voice and data services at a level of quality comparable to that offered for similar services to RCCI's own customers. Consequently, the Commission **directs** RCCI to remove item 901.1.5 from its tariff.

Should there be provisions to allow for periodic rate reviews or renegotiation?

Positions of parties

408. Several parties, including Cogeco, Iristel, TerreStar, and Videotron, proposed that the Commission impose rate-setting provisions.

409. Cogeco and Iristel submitted that tariff conditions should include the right to periodically renegotiate rates to account for changes in costs and market conditions during the seven-year period. Specifically, Iristel proposed that regional wireless carriers be provided with an opportunity to initiate rate negotiations every two years, while Cogeco proposed that the rates should be reviewed annually.
410. TerreStar proposed that pricing of the MVNO access service should include mandatory price adjustment tables and other mechanisms to reflect the impact of technological change and volume service increase over time. Similarly, Videotron proposed that the Commission set expectations for future FOA proceedings by sending a message to parties that they are expected to develop rate structures that accommodate traffic growth in a financially viable manner.
411. The incumbents were opposed to such proposals, arguing that the Commission should not limit or interfere in the rate negotiations between parties.

Commission's analysis

412. In Telecom Regulatory Policy 2021-130, the Commission considered the process for establishing wholesale MVNO access rates and considered it appropriate to establish *ex ante* terms and conditions for the service while leaving the rates to be commercially negotiated between parties, with FOA by the Commission as a recourse if negotiations were to fail. The Commission noted that such an approach would avoid a lengthy cost-based rate-setting process, which parties generally opposed in the proceeding.
413. In Telecom Regulatory Policy 2021-130, the Commission did not consider the matter of rate renegotiation over the course of the mandate period. In this regard, the Commission considers that it is appropriate for parties to periodically renegotiate rates throughout the mandate period to ensure that the rates charged for the service reflect impacts on the rates of the service over time. Those impacts may include technology changes, consumer habits, the cost of service delivery, and other factors.
414. With respect to the frequency, renegotiations must not be so frequent that they impose a significant administrative burden on parties and not so intermittent that negotiated rates become outdated. In light of those considerations, the Commission considers that it is appropriate that rates be renegotiated at least every two years, unless parties agree otherwise.
415. With respect to proposals to include price adjustment tables or other rate-setting mechanisms in the MVNO access tariffs, the Commission's view is that it is inconsistent with Telecom Regulatory Policy 2021-130 to include such elements in the incumbents' tariffs given that the Commission elected not to engage in a rate-setting exercise.

416. Notwithstanding the above, in Telecom Regulatory Policy 2021-130, the Commission did not set limitations on the rates or rate mechanisms that are to be commercially negotiated between parties. Consequently, should parties wish to propose rate adjustment tables or other rate mechanisms as part of their commercial rate negotiations, parties are free to do so without the need for the Commission to require specific tariff provisions.

417. In light of the above, the Commission determines that negotiated MVNO access rates be open to renegotiation at least every two years from the date they are last established. The Commission **directs** the incumbents to incorporate wording in their tariffs in accordance with this determination. Parties may agree to a different time frame if they so choose.

What provisions are appropriate in relation to notification of network changes and technology turn-down?

Positions of parties

Notification of network changes

418. At item 101.9(a)(1)(a), Bell Mobility proposed notification provisions, including, among other things, that Bell Mobility will “use commercially reasonable efforts to, where practical, give the MVNO Customer at least ninety (90) days’ prior written notice” of changes to its network.

419. Certain parties, including Cogeco and Videotron, objected to the use of the words “where practical” in this provision. Cogeco submitted that Bell Mobility should provide the wholesale customer with as much written notice as it provides its own subscribers and no less than 90 days of written notice before changes.

420. In reply, Bell Mobility submitted that there may be cases where notification cannot be provided 90 days in advance of a change, for example, if network changes are required to protect quality of service. However, Bell Mobility submitted that the addition of “where practical” could be removed without changing the meaning of the provision.

421. At item 101.9(a)(1)(a)(i), Bell Mobility also proposed that changes would be limited to network changes only and would not include modifications to the mandated MVNO access service that do not result from network changes.

422. Videotron objected to this provision on the basis that it would weaken the protections afforded to wholesale customers regarding changes to the MVNO access service.

423. Bell Mobility replied that the language is consistent with its existing wholesale roaming tariff and that the item clarifies the types of changes that can be made unilaterally by Bell Mobility.

Notification of technology turn-down

424. Bell Mobility, RCCI, and SaskTel included tariff provisions that would permit them to turn down an existing service or technology, provided they give notice to the regional wireless carrier. Specifically, Bell Mobility proposed providing 18 months of notice, RCCI proposed 90 days, and SaskTel proposed 60 days.
425. Sogetel and Xplornet submitted that a 60-day notification period would be insufficient, and that advance notice of 18 months is typically required to ensure subscribers have enough time to adapt their procurement policies and update private networks.
426. SaskTel indicated that it would be willing to align its tariff with the national wireless providers in giving 90 days' notice.

Commission's analysis

Notification of network changes

427. In Telecom Decision 2017-56, in the context of providing notification in relation to wholesale roaming, the Commission acknowledged that there might be situations where incumbents need to make network changes on short notice. However, in many cases, network changes are planned and reasonably predictable, and in those cases, sufficient notice should be given to wholesale roaming customers to enable them to make network adjustments in a timely manner.
428. In the Commission's view, Bell Mobility's addition of the qualifier "where practical" to item 101.9(a)(1)(a) is unnecessary given that the provision already has a qualifier that indicates that Bell Mobility will use "commercially reasonable efforts" to give 90 days' notice of network changes.
429. Regarding proposals to require incumbents to provide more than commercially reasonable efforts to notify regional wireless carriers of network changes, the Commission does not consider such a measure to be necessary for two reasons. First, the use of "commercially reasonable efforts" is consistent with the determinations made in Telecom Decision 2017-56 in the context of wholesale roaming, in which the Commission acknowledged that there might be situations in which the need to make network changes can arise on short notice. The Commission considers that those determinations also apply in the context of MVNO access. Second, placing a firm requirement on incumbents to provide a minimum of 90 days' notice could result in unnecessary delays of network changes that could impact the quality of the incumbent's network, which would not be reasonable. Consequently, using "commercially reasonable efforts" to provide 90 days' notice is appropriate to ensure network quality.
430. Notwithstanding the above, the Commission considers that it is appropriate for an incumbent to provide its wholesale customers with more than 90 days' notice in the event that an incumbent provides its own subscribers with more than 90 days' notice

of a network change. Consequently, the Commission expects that if an incumbent provides more than 90 days' notice to its own subscribers, that it also notify its wholesale customers at the same time.

431. The Commission considers that it is appropriate for Bell Mobility to retain item 101.9(a)(1)(a)(i) because it is aligned with the fact that incumbents should not make network changes that affect the MVNO access services set out in the terms and conditions of the tariff without Commission approval. The item is also consistent with the Commission's determinations in Telecom Decision 2017-56 pertaining to notification requirements related to wholesale roaming.

432. Lastly, SaskTel did not include a provision regarding network changes and associated notification requirements, similar to what is contained in the national wireless carriers' wholesale roaming tariffs. The Commission considers it appropriate for SaskTel to include a tariff provision to this effect.

433. In light of the above, the Commission

- determines that using commercially reasonable efforts to provide 90 days' notice of network changes is appropriate for notification purposes;
- **directs** Bell Mobility to remove "where practical" from item 101.9(a)(1)(a);
- **directs** SaskTel to include a tariff provision regarding network changes and associated notification requirements, similar to that of the other incumbents; and
- **directs** the incumbents to add a provision to the effect that if they provide more than 90 days' notice of network changes to their own subscribers, that they must notify their wholesale customers at the same time.

Notification of technology turn-down

434. In the Commission's view, the incumbents must provide sufficient notice when they intend to turn down a technology so that regional wireless carriers can make the appropriate changes to their networks in preparation and end-users can upgrade their devices, if required. Turning down a technology is usually planned well in advance and is generally not competitively sensitive information. Therefore, in the Commission's view, there is no compelling reason why regional wireless carriers are only given short notice of such events.

435. Consequently, the Commission considers that incumbents must provide 18 months' notice to their wholesale customers prior to the turn-down of a technology, as proposed by Bell Mobility. In addition, because TCI did not include a technology turn-down provision in its proposed tariff, it must add such a tariff provision, similar to the other incumbents.

436. In light of the above, the Commission **directs**

- Bell Mobility, RCCI, and SaskTel to modify their tariff provisions to provide 18 months' notification in advance of a technology turn-down; and
- TCI to add a technology turn-down tariff provision, similar to those of the other incumbents.

What trademark and/or trade name provisions are appropriate?

437. Bell Mobility, TCI, and SaskTel proposed tariff provisions that prohibit wholesale customers from using their trademarks and trade names. In addition, Bell Mobility proposed provisions that would prohibit wholesale customers from displaying the trademark or trade name of Bell Mobility on end-users' devices.

438. RCCI proposed that regional wireless carriers may make it known to current and potential subscribers that RCCI is providing MVNO access by referencing "Rogers Communications" in their marketing material.

Positions of parties

439. Bell Mobility argued that use of its trademarks and trade names by wholesale customers could damage its reputation and mislead customers. TCI submitted that its proposed provisions limit the possibility that end-users are given the false impression that TCI is directly providing the service.

440. At item 101.12(b)(1) of its tariff, Bell Mobility proposed, "[t]he MVNO Customer shall not use in its marketing and promotional materials, on its website, or in training and support materials provided to its customer service representatives, the trade names, trademarks, or branding of the Company in relation to the network access provided by the MVNO Customer."

441. Videotron submitted that the provision would contravene Telecom Regulatory Policy 2015-177.²² Xplornet submitted that wholesale customers should not be prevented from disclosing the identity of the incumbent.

442. At item 101.12(b)(2) of its tariff, Bell Mobility proposed, "[t]he MVNO Customer shall not allow to be displayed on the Devices of its End-users in relation to their network connection the trade names or trademarks of the Company."

443. Xplornet objected to the provision, arguing that certain legacy devices cannot support masking. In reply, Bell Mobility submitted that it would be appropriate to

²² Specifically, the provision would contravene paragraph 148 of Telecom Regulatory Policy 2015-177.

provide an exemption where masking is not possible due to inherent device limitations.

444. At item 235.3.26.j. of its tariff, TCI proposed, “[t]he MVNO Wholesale Access Customer shall not use the Company’s service marks, trademarks and/or trade names (the ‘Marks’) without the express prior written consent of the Company. Furthermore, the MVNO Wholesale Access Customer shall not refer to the Company in its marketing and sales material.”
445. Cogeco objected to TCI’s provision and proposed that neither party should use the other party’s service marks without mutual consent.

Commission’s analysis

446. In Telecom Regulatory Policy 2015-177, the Commission imposed a condition on wholesale roaming providers, pursuant to section 24 of the Act, which prohibited them from preventing wireless carriers from disclosing the identities of their wholesale roaming providers to their current or potential customers (hereafter, the section 24 condition). This condition applies to all wireless carriers that provide wholesale roaming, regardless of the network technology being used. The intention of the section 24 condition was to ensure that Canadians have the information they need to make informed choices about their wireless services.
447. In Telecom Decision 2017-56, the Commission considered the matter of whether wholesale roaming customers should be able to disclose to their end-users which incumbent’s network they use for roaming. In the Commission’s view, there was very little potential for harm to the national wireless carriers if wholesale roaming customers are permitted to point to this publicly available information when providing information to their own end-users. The Commission also noted that the provisions proposed by Bell Mobility and RCCI at that time were overly broad, insofar as they target behaviours that are generally outside the scope of the Act and are subject to other legal remedies that would remain available irrespective of the section 24 condition. As a result, the Commission directed Bell Mobility and RCCI to remove from their tariffs their proposed provisions regarding the use of trademarks and trade names and directed the national wireless carriers to include a new tariff provision that replicated the section 24 condition set out in Telecom Regulatory Policy 2015-177.
448. Bell Mobility, TCI, and SaskTel have proposed similar restrictions to those that were rejected in Telecom Decision 2017-56. The Commission considers that its findings in that decision with respect to the use of trademarks and trade names in the context of wholesale roaming are also relevant and valid in the context of wholesale MVNO access. Specifically, Bell Mobility’s, TCI’s, and SaskTel’s proposed provisions are overly broad, insofar as they target behaviours that are generally outside the scope of the Act and are subject to other legal remedies that would remain available irrespective of the section 24 condition.

449. In light of the above, the Commission **directs** Bell Mobility, TCI, and SaskTel to revise their trademark or trade name provisions with wording that conforms to the following section 24 condition, modified to the appropriate circumstances of the MVNO access tariff: “Pursuant to section 24 of the Act, the Commission, as a condition of offering and providing wholesale MVNO access service, prohibits wholesale MVNO access providers from preventing regional wireless carriers from disclosing the identity of their wholesale MVNO access provider(s) to their current or potential end-users. This condition applies to all wireless carriers, regardless of the network technology being used.”
450. With respect to Bell Mobility’s proposal to prohibit regional wireless carriers from displaying the trademark or trade name of Bell Mobility on end-users’ devices, Bell Mobility has no such provision in its wholesale roaming tariffs. The Commission considers that such a provision adds unnecessary complexity to the tariff in that it may conflict with the section 24 condition and would be difficult to enforce because certain legacy devices may or may not support masking.
451. The Commission therefore **directs** Bell Mobility to remove provisions prohibiting the display of its trademark or trade name on end-users’ devices.

What provisions regarding liability and indemnification are appropriate?

452. Bell Mobility and TCI’s proposed tariffs include various provisions regarding limitation of liability and indemnification that differ from those in their existing wholesale roaming tariffs. Below, the Commission addresses the provisions that have been challenged by interveners. RCCI’s proposed provisions regarding liability and indemnification were substantively the same as those found in its wholesale roaming tariff.

Positions of parties

Bell Mobility tariff item 101.20(a)

453. Iristel proposed removing “that are the fault of the company” from item 101.20(a) of Bell Mobility’s tariff, arguing that Bell Mobility should be strictly liable for outages with a corresponding obligation to compensate its wholesale customers for rates, fees, and charges paid for services that were not provisioned during outages. Iristel submitted that as worded, the provision would permit Bell Mobility to refuse to compensate wholesale customers for outages caused by, for example, third parties conducting work on Bell Mobility structures.
454. Bell Mobility submitted that item 101.20(a) is substantively the same as item 100.17(a) in its existing wholesale roaming tariff such that its liability is limited to refunding the rates, fees, and charges paid in connection with the MVNO service that was not delivered as required, proportionate to the amount of time the problem existed.

Bell Mobility tariff item 101.20(b)(5)

455. Cogeco submitted that tariff item 101.20(b)(5) is not included in Bell Mobility's wholesale roaming tariff, that the provision of MVNO services is no more risky to the incumbent than the provision of wholesale roaming services, and that there is no justification for requiring indemnity in either case.
456. Xplornet submitted that wholesale customers should not be responsible in situations where they are not at fault, and that they should have to indemnify only when the damages result from a wholesale customer's willful misconduct or negligence. Sogetel submitted that the limitations of liability in the MVNO tariff should not be more restrictive than those found in the existing roaming tariff.
457. Iristel submitted that "resulting from or in relation to any act or omission of the MVNO Customer" is too broad and proposed to narrow the indemnification to circumstances enumerated under Bell Mobility item 101.20(b)(2).
458. Bell Mobility submitted that item 101.20(b)(5) is a new indemnification term that is typical to a wide range of commercial agreements. It indicated that such a provision is particularly important in the MVNO access tariffs given the commercial and legal risks in the MVNO context, in which the use of Bell Mobility's network is intensive and a key feature of the regional wireless carrier's service to its end-users.

TCI tariff item 235.3.8.g.

459. Regarding TCI's tariff item 235.3.8.g., Sogetel submitted that the wholesale customer's liability for end-users should be equivalent to, and not exceed, the terms and conditions of TCI's liability for its own end-users' use of its services.
460. On the other hand, Xplornet supported TCI's provision, pointing out that it is reasonable for a wholesale customer to be responsible for the use of the service by third parties to which it resells its MVNO access.
461. In reply, TCI submitted that it has no contractual relationship with resellers, and that if a wholesale customer wishes to limit its liability in respect of its resellers, it can do so through a contractual agreement with its resellers.

Commission's analysis

Bell Mobility tariff item 101.20(a)

462. In item 101.20(a), Bell Mobility modified its existing wholesale roaming tariff item 100.17(a) in two ways. First, Bell Mobility limits its liability in cases where it is at fault for any failures or defect in transmission or facilities. Second, it limits its liability to a refund of rates, fees, or other charges for the services not delivered to the regional wireless carrier.

463. In the Commission's view, Bell Mobility has not provided a compelling reason why the proposed modification regarding fault is necessary. Therefore, to maintain consistency with the wholesale roaming tariff, and in light of the concerns regarding liability for fault that suggest that this precision is unnecessary and anti-competitive, the Commission **directs** Bell Mobility to remove reference to "that are the fault of the Company" in item 101.20(a).

464. The Commission considers that Bell Mobility's second change to limit its liability to a refund of rates, fees, or other charges for the services not delivered to the regional wireless carrier is administrative in nature and appropriate for inclusion in the tariff.

Bell Mobility tariff item 101.20(b)(5) and TCI tariff item 235.3.8.g.

465. In the Commission's view, Bell Mobility tariff item 101.20(b)(5) and TCI tariff item 235.3.8.g. raise issues of whether it is appropriate for the carrier to demand indemnity from the regional wireless carrier, its resellers, the end-users, or the resellers and end-users, and in what situations the indemnity should apply.

466. Bell Mobility provides itself with the benefit of broad indemnification from the regional wireless carrier for any act or omission. The indemnification provision is broader than the situations in which Bell Mobility has limited its own liability at item 101.20(b)(2). Further, it is broader than the indemnification that the Commission has approved (and is currently included) in SaskTel's and TCI's general tariffs. In those general tariffs,²³ the customers must indemnify the companies from actions, claims, and lawsuits for a variety of causes for which the companies themselves have limited liability as well.

467. The obligation of the regional wireless carrier to indemnify a carrier should not be broader in scope than the instances in which the carrier has limited its own liability. Regional wireless carriers should not indemnify Bell Mobility for any act or omission but rather in instances where there is a corresponding limitation of Bell Mobility's liability, similar to item 101.20(b)(2). This is in keeping with the Commission's approval of previous tariffs.

468. The Commission considers that it would be reasonable to indemnify the incumbent for all liability in respect of its resellers' or its end-users or resellers' end-users, as commercially reasonable. The wholesale customer has a direct contractual relationship with the reseller and its end-users, and the wholesale customer can take into account its liability to the MVNO wholesale provider when arranging its contractual agreements with its resellers and end-users. Without such an

²³ TCI General Tariff CRTC 21461, items 123.2 and 124.4; SaskTel General Tariff CRTC 21411, items 73.2 and 74.4.

indemnification provision, the incumbent could be unreasonably exposed to potential losses or liability caused by third parties enabled by the wholesale customer.

469. In light of the above, the Commission determines that TCI's provisions are appropriate and **directs** Bell Mobility to modify item 101.20(b)(5) as follows (changes are underlined):

“The MVNO Customer shall indemnify and hold harmless the Company from any damages or third party claims (including legal fees or other costs of responding to such claims) arising out of the circumstances listed in Item 101.20(b)(2), or from any act or omission of any of the MVNO Customer's resellers or mobile virtual network operators it hosts on its network or any End-users.”

Should there be a notification requirement when a regional wireless carrier adds a reseller?

Positions of parties

470. At item 101.7(b), Bell Mobility proposed that “the MVNO Customer shall provide the Company with ninety (90) days’ written notice prior to using the MVNO Access to serve retail customers of any new reseller or mobile virtual network operator the MVNO Customer hosts on its network.”
471. At item 235.3.8.a. of its tariff, TCI requires wholesale customers to provide it with a minimum of 90 days’ notice when adding third-party resellers to the MVNO access service. It also requires the wholesale customer to provide the identity of the reseller, the IMSI ranges of the reseller’s end-users, and an updated traffic forecast.
472. Cogeco and Sogetel objected to the advanced notification requirements. Cogeco argued that there is no need for the wholesale customer to provide the incumbent with the information given that the reseller’s subscribers would be operating under identical conditions as the wholesale customers’ subscribers.
473. Sogetel submitted that adding a reseller should constitute commercially sensitive business information and remain confidential, and that the incumbent should not require advanced notification unless the wholesale customer requires the involvement of the incumbent.
474. Several interveners objected to TCI’s proposed provisions. Iristel submitted that there is no technical reason to require the information proposed by TCI, and that the identity of the reseller is competitively sensitive information. The ITPA argued that the restrictions would suppress downstream competitive market forces and limit customer choice and innovation.
475. Bell Mobility submitted that it requires 90 days’ notice of an expected increase in users or traffic and of any intention to use the mandated MVNO access to support a new reseller.

476. TCI submitted that it requires the IMSI numbers of the end-users to determine which end-users are incidentally roaming, as opposed to MVNO users. With respect to the commercial sensitivity of information, TCI described the measures it has to protect the confidential information of third parties.

Commission's analysis

477. In the Commission's view, Bell Mobility and TCI have not demonstrated any compelling reasons, technical or otherwise, why they should be provided with advance notification regarding the addition of resellers. For example, Bell Mobility submitted that it requires 90 days' notice of an expected increase in users or traffic so that it can adjust its network planning accordingly. The only technical reason for advance notice is if there is expected to be a significant increase in traffic on an incumbent's network, requiring the installation of new equipment. However, a reseller notification provision is not required for forecasting purposes because, as part of this decision, the Commission is requiring regional wireless carriers, on a good-faith basis, to notify the MVNO access provider of any significant changes to their traffic forecasts as soon as the regional wireless carrier becomes aware of such a change. In the Commission's view, the source of such a traffic increase is not relevant for capacity planning and is likely to be competitively sensitive information in many cases.

478. Regarding the other information required by TCI pertaining to the identity of the reseller and the IMSI ranges of its end-users, the Commission is not persuaded that this information is necessary for the incumbent to have. First, the information is competitively sensitive and not relevant for capacity planning purposes. In addition, at paragraph 192 of this decision, the Commission determined that the MVNO access coverage area is an extension of the regional wireless carrier's home network, which effectively eliminates the need to distinguish between different types of end-users because all end-users would be considered MVNO access end-users in a given eligible tier 4 area. Therefore, there is no need for an incumbent to have the IMSI ranges of resellers' end-users to determine which end-users on its network are roaming and which ones are not.

479. In light of the above, the Commission **directs** Bell Mobility to remove item 101.7(b) from its tariff and **directs** TCI to remove item 235.3.8.a. from its tariff.

What fraud prevention and acceptable use provisions are appropriate?

Positions of parties

480. Several interveners, including Cogeco, the ITPA, Sogetel, TerreStar, Videotron, and Xplornet, objected to Bell Mobility's proposed fraud prevention and reasonable use provisions.

481. Cogeco proposed modifications to Bell Mobility tariff item 101.18(b)(4). It proposed that in the event the incumbent detects excessive use of the service, the wholesale customer contact the subscriber to resolve the issue.
482. Cogeco also proposed changes to Bell Mobility tariff item 101.18(c) regarding Bell Mobility directing the regional wireless carrier to take action on Bell Mobility's request in respect of an end-user's use of the services. Cogeco submitted that the incumbent is providing a service to the regional wireless carrier and should therefore not unilaterally interfere with the regional wireless carrier's provision of the service. Instead, the incumbent should address issues by engaging with the regional wireless carrier in a collaborative manner.
483. Videotron proposed that Bell Mobility be directed to delete all fraud prevention and reasonable use provisions other than item 101.18(a), which is found in its wholesale roaming tariff, because these provisions impose new fraud prevention and reasonable use provisions on wholesale customers that do not exist in the wholesale roaming tariff.
484. The ITPA and Sogetel submitted that Bell Mobility should define "excessive use" of the service. TerreStar argued that it is not appropriate for Bell Mobility to put detailed fraud prevention and reasonable use provisions in the MVNO access tariff.
485. Bell Mobility submitted that these provisions are the same that are applied to its own retail customers. With respect to the definition of excessive use, Bell Mobility proposed removing the second sentence of item 101.18(b)(4) if the Commission shares the same concerns as interveners. With respect to item 101.18(c), Bell Mobility submitted that this provision only allows it to ask a regional wireless carrier to take action that either Bell Mobility would take with its own customers or the regional wireless carrier would take with its end-users. The company added that all interveners except Videotron have accepted this provision, in part.

Commission's analysis

486. In their tariffs, Bell Mobility, RCCI, and SaskTel require that regional wireless carriers comply with procedures and provisions concerning fraudulent and unauthorized use by end-users, as set out in the GSMA permanent reference document (PRD). Similarly, TCI included a more general reference that regional wireless carriers must be in accordance with technical requirements set out in the GSMA PRD.
487. In addition to the GSMA PRD provisions, Bell Mobility went a step further by including items 101.18(b), 101.18(c), and 101.18(d), which add a number of detailed fraud prevention and reasonable use provisions beyond those of its wholesale roaming tariff. Those provisions would require the regional wireless carrier to prohibit end-users from committing a number of fraudulent or unauthorized activities, such as using the access service for illegal purposes. The provisions would

not only empower Bell Mobility to require a regional wireless carrier to take certain remedial actions but allow Bell Mobility to take action against specific end-users in Bell Mobility's sole discretion.

488. In the Commission's view, these additional fraud prevention provisions that Bell Mobility has added to its MVNO access tariff, which are not present in its wholesale roaming tariff, are unnecessary and inappropriate. Bell Mobility's item 101.18(a) already requires compliance with the GSMA PRDs, which consider the detailed procedures and provisions concerning fraud and unauthorized use.

489. In light of the above, the Commission **directs** Bell Mobility to remove items 101.18(b), 101.18(c), and 101.18(d) from its tariff.

Other issues

TCI's definition of third-party reseller

490. Iristel and Sogetel objected to how TCI defined third-party reseller in the definitions section of its tariff, namely that third-party resellers must be enabled²⁴ on the home PMN of the regional wireless carrier. They argued that this would limit the types of resale arrangements available to wholesale customers.

491. As set out in this decision, a prerequisite for eligibility is for a regional wireless carrier to have its own home PMN. As a result, the Commission is not persuaded that a requirement to have a reseller be enabled on the home PMN of a regional wireless carrier is problematic. Accordingly, the Commission **approves** TCI's definition of third-party reseller.

Multimedia messaging service

492. Iristel requested that TCI be directed to confirm that its MVNO access tariff includes access to multimedia messaging service (MMS) in addition to voice, SMS, and data. TCI confirmed that MMS would be included as part of the service.

493. However, for greater clarity, the Commission confirms that the MVNO access service is to include MMS in addition to voice, SMS, and data.

²⁴ From a technical perspective, enabling third-party resellers on the home PMN of the MVNO wholesale access customer means that the reseller will use the MVNO wholesale access customer's core network to access the incumbent's RAN, regardless of whether the third-party reseller has its own home PMN or not. It is up to the regional wireless carrier to manage this relationship technically. From the incumbent's perspective, all users (whether MVNO wholesale access customer or third-party reseller) will be on the home PMN of the MVNO wholesale access customer. In other words, third-party resellers will have to be enabled on the regional wireless carrier's core network and not the incumbent's.

Location area codes and tracking area codes

494. Videotron submitted that Bell Mobility's proposed MVNO access tariff includes explicit provisions allowing a regional wireless carrier to request the addition or removal of location area codes (LACs) and tracking area codes (TACs). Videotron added, however, that RCCI's and TCI's proposed tariffs include only an indirect reference to this possibility. Videotron requested that RCCI and TCI be directed to align their LAC and TAC provisions with Bell Mobility's.
495. RCCI and TCI both subsequently indicated that they were amenable to Videotron's request and agreed to insert language in their tariffs accordingly. As a result, the Commission determines that no further action is required on this matter.

Bell Mobility provision related to the design of its public mobile network

496. At item 101.5(a) of its proposed tariff, Bell Mobility explains that it has the sole discretion and control over the design and ownership of its PMN, and that it has no obligation to consider the needs of wholesale customers when it makes network changes. This provision is consistent with its existing wholesale roaming tariff.
497. TerreStar argued that unilateral revisions to the MVNO service without notice and without Commission approval could damage the commercial reputation of the regional wireless carrier with its subscribers and should not be allowed.
498. In this regard, the Commission notes that pursuant to item 101.9(a)(1)(a) of its tariff, Bell Mobility is required to use commercially reasonable efforts to provide 90 days' written notice to an MVNO customer when it makes network changes. Consequently, Bell Mobility would be required to provide sufficient notification of network changes under 101.9(a)(1)(a).
499. Therefore, the Commission determines that no changes are required to Bell Mobility's tariff item 101.5(a).

Final tariff approval process

500. The Commission **directs** the incumbents to file for Commission approval revised tariff pages that reflect the Commission's determinations in this decision within **30 days** of this decision. Once filed, the revised tariff pages will follow the process for competitor tariff applications set out in Telecom Information Bulletin 2010-455-1. Submissions are to be limited to whether the revised tariff provisions reflect the determinations in this decision.

Conclusion

501. The Commission determines that the wholesale MVNO access service is available for use by regional wireless carriers that have deployed their own home PMN somewhere in Canada and are offering retail wireless services. More specifically, to be eligible for the MVNO access service, a regional wireless carrier must be

registered with the Commission as a wireless carrier, must have a home PMN somewhere in Canada (including a RAN and core network), and must be actively offering mobile wireless services commercially to retail customers. The Commission **directs** the incumbents to modify their tariffs in accordance with this determination. Entities that may not currently be eligible for the service may become eligible over the course of the mandate if they acquire rights to spectrum, invest in a home PMN, and begin offering retail service.

502. Regarding the device limitations proposed by the incumbents that limit acceptable end-user devices to those that are capable of operating on the regional wireless carrier's PMN and radio frequencies, the Commission considers that these limitations are consistent with the service being available only to facilities-based regional wireless carriers and with the direction above. Thus, the Commission determines that these device limitations are appropriate.

503. The Commission **directs** Bell Mobility and TCI to remove provisions related to minimum spectrum requirements from their tariffs.

504. The Commission **directs** the incumbents to modify their eligibility provisions regarding subordinated spectrum according to the following determinations and file revised tariff provisions:

- Regional wireless carriers with subordinate spectrum licences are eligible in the geographic areas covered by those licences.
- Primary licence holders that have subordinated their spectrum are not eligible to use the service in the geographic areas covered by those subordinated spectrum licences (except in sharing agreements described above).
- Regional wireless carriers that share or subordinate spectrum with another wireless carrier in a joint network build or network-sharing agreement are eligible in the geographic areas covered by those licences.

505. The Commission determines that MVNO access should be provided in a tier 4 area where an eligible regional wireless carrier has any unencumbered spectrum, even if some parts of the tier 4 area are subject to encumbered spectrum. As a result, the Commission **directs** TCI to remove the requirement from its tariff that licence(s) at a tier 4 level or higher must be unencumbered and available to provide commercial retail wireless services.

506. The Commission determines that holders of TEL licences, regardless of whether they cover an entire tier 4 area, qualify for eligibility in the corresponding coverage area. To be clear, TEL licence holders must also satisfy all other eligibility requirements set out by the Commission in Telecom Regulatory Policy 2021-130 or as a determination in this decision. The Commission therefore **directs** the incumbents to modify their proposed tariffs in accordance with this determination.

507. The Commission determines that the proposed provisions that restrict MVNO access to individuals and small business customers and prohibit the use of the wholesale service to enable IoT and M2M devices are appropriate at this time. The Commission **directs** incumbents to define small businesses in their tariffs as businesses that have between 1 and 99 paid employees.

508. The Commission will initiate a proceeding to consider the inclusion of the enterprise and IoT/M2M retail segments in its MVNO access policy framework.

509. The Commission determines that provisions preventing regional wireless carriers from using cellular networks to provide home or small business Internet services over fixed wireless, wireline, or Wi-Fi facilities are appropriate, and that RCCI's provision to this effect is appropriate. The Commission **directs** TCI to revise its provision to be similar to that of RCCI.

510. The Commission **directs**

- RCCI to add the following underlined word to its proposed MVNO access tariff item 902.2.2(c): "In the event that Rogers reasonably believes that any equipment...";
- RCCI to revise its proposed tariff item 902.2.2(c) to include that it provides written notice to customers prior to testing devices; and
- RCCI and SaskTel to modify their proposed tariff language (RCCI item 902.2.2(c) and SaskTel item 650.36.4.4) such that the tariff provisions do not apply to devices similar in nature to the devices they offer their own subscribers.

511. The Commission **directs** TCI to revise tariff item 235.3.8.c. and its definition of third-party resellers such that TCI's prior approval for customers to provide service to resellers is not required.

512. The Commission **directs** TCI to remove its resale-of-resale provisions (tariff item 235.3.8.f.).

513. The Commission **directs** SaskTel to remove tariff item 650.36.3.

514. In Telecom Decision 2017-56, the Commission required wholesale roaming customers to ensure that any access to the incumbent's network on behalf of its resellers, including MVNOs, occurs on the same basis, and with the same limitations, as set out in the relevant wholesale roaming tariff. The Commission **directs** SaskTel to include a similar provision in its MVNO access tariff.

515. The Commission **directs** Bell Mobility to remove item 101.19(a) from its tariff.

516. The Commission **directs** the incumbents to include a brief service description that includes, at a minimum, (i) who is eligible for the service, (ii) where the service will

be made available, and (iii) what the key features of the service are pursuant to Telecom Regulatory Policy 2021-130 and the determinations in this decision.

517. The Commission determines that in an eligible geographic area, the MVNO access service is an extension of the regional wireless carrier's home network and should be available to all end-users of the regional wireless carrier, without distinction. As a result, the Commission **directs** the incumbents to modify their proposed tariffs accordingly.
518. The Commission determines that wholesale MVNO access is to include access to all available GSM-based networks, including 3G, 4G/LTE, and 5G (and any eventual future GSM-based network generations) and **directs** RCCI, TCI, and Sasktel to revise their tariffs to reflect this determination.
519. The Commission determines that seamless hand-off is to be included as a functionality of MVNO access and **directs** Bell Mobility, RCCI, and TCI to revise their tariffs accordingly.
520. The Commission determines that seamless hand-off for MVNO access service is not required to be implemented for 3G networks.
521. The Commission **directs** Bell Mobility, RCCI, and TCI to include support for one-way seamless hand-off in their MVNO access service tariffs and modify their tariffs to be in accordance with this determination.
522. The Commission **directs** SaskTel to include support for one-way seamless hand-off in its MVNO access service tariff and to update its tariff to be in accordance with this determination.
523. The Commission **directs** the incumbents to revise their tariffs to clarify that seamless hand-off is available for use by regional wireless carriers where they have in-footprint coverage gaps within the eligible MVNO access service area.
524. The Commission **directs** the incumbents to revise their tariffs to permit regional wireless carriers to provide updated cell site information to their MVNO access service providers no more than once per month in a standard format that is to be set out in the tariffs. Upon receiving updated regional wireless carrier cell site information, the incumbents are to make the necessary adjustments to their networks within **30 days**. The incumbents are to provide updated cell site information to a regional wireless carrier within **seven days** of receiving a request. Incumbents and regional wireless carriers are encouraged to work together and be flexible regarding these baseline time frames, and mutually agreed-upon extensions and alternate arrangements may be appropriate in some situations.
525. The Commission **directs** the incumbents to notify regional wireless carriers that are customers of their MVNO access service **six months** prior to the launch of a 5G core network and begin working in good faith to implement direct connections upon request. If an incumbent has already launched its 5G core network, or plans to do so less than six months from the date of this decision, it must immediately notify regional wireless carriers that are customers of its MVNO access service. The

Commission **directs** the incumbents to file tariff updates reflecting the availability of direct interconnection as an option at the time of notification.

526. The Commission finds that mandated traffic-steering applications are not necessary and **directs** RCCI to revise its tariff item 901.1.7(g) accordingly.

527. The Commission **directs** Bell Mobility, TCI, and SaskTel to include joint-network builds as part of their available footprint for MVNO access service as a condition in the tariffs under section 24 of the Act. The Commission further **directs** Bell Mobility and TCI to modify their tariff provisions to clarify that their available footprint for MVNO access service includes the RAN owned and operated by the other carrier under their shared network agreement.

528. The Commission **directs** the incumbents to revise their tariffs in accordance with the following determinations:

- The regional wireless carrier must provide a traffic forecast of the expected service volume anticipated to be used by end-users in each tier 4 area in which they subscribe to the service.
- The forecast must be submitted **30 days** prior to the commercial start date of the MVNO access service and then **30 days** prior to the beginning of each subsequent calendar year.
- The forecast must cover the subsequent 12-month period.
- The forecast must be aggregated as volume of data, represented in GB of data, comprising all voice, text, and data anticipated to be used by end-users over the forecast period.
- On a good-faith basis, regional wireless carriers must notify the incumbent of any significant changes to their traffic forecasts as soon as the regional wireless carrier becomes aware of such a change.

529. The Commission **directs** Bell Mobility and TCI to remove all forecasting penalty provisions from their proposed tariffs.

530. The Commission **directs** Bell Mobility, RCCI, and TCI to remove their proposed wind-down provisions.

531. With a view to having the service operationalized and in use as soon as possible, the Commission expects the parties to have executed agreements in place within **90 days** of the date of the decision approving the final tariffs, assuming the incumbents receive requests from regional wireless carriers. If this time frame is not met, the Commission will consider adding time to the term of the seven-year mandate.

532. The Commission **directs** the incumbents to begin accepting requests for wholesale MVNO access on the date this decision is issued and to enter into good-faith commercial negotiations with regional wireless carriers upon request to agree on a

rate. The Commission also **directs** the incumbents to have the service operational and ready for use no later than **30 days** following the date the tariffs are finalized and **directs** the incumbents to have the seamless hand-off functionality in place within **90 days** following the date the tariffs are finalized.

533. The Commission **directs** Bell Mobility to remove item 101.21(f) from its proposed tariff.
534. The Commission **directs** RCCI to remove item 902.3.5(d) from its proposed tariff.
535. The Commission determines that RCCI's item 902.10.1 may be retained in its proposed tariff.
536. The Commission **directs** TCI to add item 233.3.20.k. from its wholesale roaming tariff to its wholesale MVNO tariff. It is reasonable for TCI to follow an incremental approach by providing notification prior to potential suspension or termination of service.
537. The Commission **directs** TCI to remove item 235.3.25 from its proposed tariff.
538. The Commission determines that TCI's item 235.3.24.a.iii may be retained in the tariff.
539. The Commission **directs** Bell Mobility to remove items 101.7(a) and 101.7(d) from its tariff.
540. The Commission determines that Bell Mobility's, RCCI's, and SaskTel's quality of service and level of service provisions are appropriate and can remain in their respective tariffs. However, the Commission **directs** Bell Mobility, RCCI, and SaskTel to amend their tariffs to make it clear that in the event that Bell Mobility, RCCI, or SaskTel has decommissioned a network generation that is still in use by a regional wireless carrier (for instance, 3G), they must provide that regional wireless carrier with the next highest available network generation (such as 4G/LTE in the absence of a 3G network) without throttling the speed of the MVNO access service down to what Bell Mobility, RCCI, or SaskTel deems to be the equivalent of the regional wireless carrier's home network speed.
541. The Commission **directs** TCI to modify its quality of service provision such that (i) the MVNO access service shall provide the regional wireless carrier with the ability to access voice and data services at a quality comparable to that offered for similar services to TCI's own customers; and (ii) TCI is not obligated to provide a quality, functionality, technology, service, or level of service that is in excess of the lesser of that offered by the regional wireless carrier to its own end-users on the regional wireless carrier's PMN or that offered by the incumbent to its own end-users.

542. However, as with the other incumbents, the Commission **directs** TCI to amend its tariff to make it clear that in the event that it has decommissioned a network generation that is still in use by a regional wireless carrier (for instance, 3G), it must provide that regional wireless carrier with the next highest available network generation (such as 4G/LTE in the absence of a 3G network) without throttling the speed of the MVNO access service down to what TCI deems to be the equivalent of the regional wireless carrier's home network speed.

543. The Commission **directs** RCCI to remove item 901.1.5 from its tariff.

544. The Commission determines that negotiated MVNO access rates be open to renegotiation at least every **two years** from the date they are last established. The Commission **directs** the incumbents to incorporate wording in their tariffs in accordance with this determination. Parties may agree to a different time frame if they so choose.

545. The Commission

- determines that using commercially reasonable efforts to provide 90 days' notice of network changes is appropriate for notification purposes;
- **directs** Bell Mobility to remove "where practical" from item 101.9(a)(1)(a);
- **directs** SaskTel to include a tariff provision regarding network changes and associated notification requirements, similar to that of the other incumbents; and
- **directs** the incumbents to add a provision to the effect that if they provide more than 90 days' notice of network changes to their own subscribers, that they must notify their wholesale customers at the same time.

546. The Commission **directs**

- Bell Mobility, RCCI, and SaskTel to modify their tariff provisions to provide 18 months' notification in advance of a technology turn-down; and
- TCI to add a technology turn-down tariff provision, similar to those of the other incumbents.

547. The Commission **directs** Bell Mobility, TCI, and SaskTel to revise their trademark or trade name provisions with wording that conforms to the following section 24 condition, modified to the appropriate circumstances of the MVNO access tariff: "Pursuant to section 24 of the Act, the Commission, as a condition of offering and providing wholesale MVNO access service, prohibits wholesale MVNO access providers from preventing wholesale regional wireless carriers from disclosing the

identity of their wholesale MVNO access provider(s) to their current or potential end-users. This condition applies to all wireless carriers, regardless of the network technology being used.”

548. The Commission **directs** Bell Mobility to remove provisions prohibiting the display of its trademark or trade name on end-users’ devices.

549. The Commission **directs** Bell Mobility to remove reference to “that are the fault of the Company” in item 101.20(a).

550. The Commission determines that TCI’s provisions are appropriate and **directs** Bell Mobility to modify item 101.20(b)(5) as follows (changes are underlined):

“The MVNO Customer shall indemnify and hold harmless the Company from any damages or third party claims (including legal fees or other costs of responding to such claims) arising out of the circumstances listed in Item 101.20(b)(2), or from any act or omission of any of the MVNO Customer’s resellers or mobile virtual network operators it hosts on its network or any End-users.”

551. The Commission **directs** Bell Mobility to remove item 101.7(b) from its tariff and **directs** TCI to remove item 235.3.8.a. from its tariff.

552. The Commission **directs** Bell Mobility to remove items 101.18(b), 101.18(c), and 101.18(d) from its tariff.

553. The Commission **approves** TCI’s definition of third-party reseller.

554. The Commission confirms that the MVNO access service is to include MMS in addition to voice, SMS, and data.

555. The Commission **directs** the incumbents to file for Commission approval revised tariff pages that reflect the Commission’s determinations in this decision within **30 days** of this decision. Once filed, the revised tariff pages will follow the process for competitor tariff applications set out in Telecom Information Bulletin 2010-455-1. Submissions are to be limited to whether the revised tariff provisions reflect the determinations in this decision.

Policy Directions

556. The Commission considers that its determinations in this decision are consistent with the 2006 Policy Direction and the 2019 Policy Direction as well as with the policy objectives of the Act.

557. Market forces cannot be relied on to ensure the availability and implementation of wholesale MVNO access by the incumbents. The regulatory measures the Commission is imposing in this decision are efficient and proportionate to their purpose, consistent with paragraph 1(a) of the 2006 Policy Direction.

558. The Commission considers that its determinations in this decision, which seek to enable the implementation of wholesale MVNO access to support regional wireless carriers' competitiveness in the market, support the 2019 Policy Direction's call to, among other things, reduce barriers to entry into the market and to competition for TSPs that are new, regional, or smaller than the incumbent national service providers.
559. The Commission considers that the measures adopted in this decision regarding the implementation of the facilities-based MVNO access model will serve to further the policy objectives that are not being met by the current state of affairs. In particular, the measures adopted by the Commission in this decision are intended to constrain the market power of dominant wireless carriers, expand competitive options for WSPs in the retail market, and promote the broad availability of a variety of retail options at affordable rates. Therefore, these determinations are consistent with the Canadian telecommunications policy objectives set out in paragraphs 7(a), 7(b), 7(c), 7(f), 7(g) and 7(h) of the Act.²⁵
560. For instance, the Commission considers that its determinations in this decision, which seek to implement wholesale MVNO access expediently to the benefit of regional wireless carriers and consumers across the country, are consistent with paragraph 7(b) of the Act because they will help to ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas.
561. Furthermore, the adverse impact that the continued absence of wholesale MVNO access has on the regional wireless carriers undermines the competitive choice available to retail customers 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.
562. Finally, by adversely affecting the regional wireless carriers' ability to compete effectively with the incumbents and deploy networks, the continued absence of wholesale MVNO access undermines the efficiency and competitiveness of

²⁵ The cited policy 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; 7(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; 7(c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications; 7(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; 7(g) to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services; and 7(h) to respond to the economic and social requirements of users of telecommunications services.

Canadian telecommunications, which is further inconsistent with paragraph 7(c) of the Act.

Secretary General

Related documents

- *Updates to national wireless carriers' GSM-based wholesale mobile wireless roaming tariffs to incorporate seamless hand-off and 5G roaming*, Telecom Decision CRTC 2022-102, 6 April 2022
- *Review of mobile wireless services*, Telecom Regulatory Policy CRTC 2021-130, 15 April 2021
- *Videotron Ltd. (Videotron) – Application for the Commission to order Bell Canada, on behalf of Bell Mobility Inc., not to suspend wholesale roaming services offered to Videotron – Final relief*, Telecom Decision CRTC 2020-48, 5 February 2020
- *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
- *Approval processes for tariff applications and intercarrier agreements*, Telecom Information Bulletin CRTC 2010-455-1, 19 February 2016

Appendix to Telecom Decision CRTC 2022-288

Forecast requirements for regional wireless carriers proposed by Bell Mobility Inc., Rogers Communications Canada Inc., TELUS Communications Inc., and Saskatchewan Telecommunications

Bell Mobility Inc.

First forecast deadline	Lead time for subsequent forecasts	Forecast duration	Forecast breakdown	Forecast area	Traffic forecast breakdown	Lead time for submission of revised forecasts	Third-party mobile virtual network operator (MVNO) reseller provisions
Prior to the commercial start date	90 days prior to the beginning of each quarterly calendar period	Four quarterly periods	Quarterly	Each eligible (tier 4) region	Expected volume of voice, text, and mobile broadband data usage separately	90 days before the expected increase	New reseller/MVNO must be identified at least 90 days before retail subscribers of the new resellers and/or MVNOs can be served

Rogers Communications Canada Inc.

First forecast deadline	Lead time for subsequent forecasts	Forecast duration	Forecast breakdown	Forecast area	Traffic forecast breakdown	Lead time for submission of revised forecasts	Third-party MVNO reseller provisions
90 days prior to the commencement of MVNO access	30 days prior to the beginning of each year	12 months	Three-month period	Per tier 4 area	Aggregated service volume	30 days prior to the earlier of (i) the commencement of the calendar quarter and (ii) the introduction of such promotion	N/A

TELUS Communications Inc.

First forecast deadline	Lead time for subsequent forecasts	Forecast duration	Forecast breakdown	Forecast area	Traffic forecast breakdown	Lead time for submission of revised forecasts	Third-party MVNO reseller provisions
60 days prior to the commercial start date	Every six months	24 months	Monthly	Per tier 4 area	Broken down voice, minutes, data, megabytes, megabytes of Voice over Long Term Evolution (VoLTE), and short messaging service (SMS) counts	90 days of notice ²⁶	Forecasts shall also include service elements forecasted to be consumed by any third-party reseller

Saskatchewan Telecommunications

First forecast deadline	Lead time for subsequent forecasts	Forecast duration	Forecast breakdown	Forecast area	Traffic forecast breakdown	Lead time for submission of revised forecasts	Third-party MVNO reseller provisions
30 days prior to the start of service	Within the last 30 days of the calendar year	12 months	Annual	Per tier 4 area	Aggregated service volume	30 business days prior to an event or promotions not identified in the forecast	N/A

²⁶ In its reply comments, TCI mentioned that its proposed MVNO tariff did not contain a provision to allow for changes to be made to the forecast and indicated that it will add a new clause to allow for a 90-day change provision, consistent in substance with the forecast change provisions in Bell Mobility's draft MVNO access tariff.