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Network interconnection for voice services

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The Commission began a public proceeding in March 2011 to conduct a broad policy review of voice network interconnection matters. In a competitive telecommunications market, interconnection between networks is necessary in order that customers of different service providers can communicate with each other. To date, regulatory oversight has been required to ensure efficient and effective interconnection, on terms and conditions and at rates that are just and reasonable.

The principal objectives of this proceeding are to determine to what extent

- *existing interconnection regimes could be simplified and consolidated,*
- *changes might be necessary to enhance competition and, thus, benefit consumers, and*
- *changes might be necessary to ensure technological neutrality.*

The Commission's existing regulatory framework in relation to voice network interconnection arrangements has been implemented on an incremental basis over time. Currently, there are three distinct regulatory regimes related to the interconnection of telecommunications networks for the purpose of exchanging voice traffic: (i) local network interconnection between local exchange carrier (LEC) networks, established in 1997; (ii) wireless network interconnection between wireless carrier networks and LEC networks, established in 1984; and (iii) toll network interconnection between toll (long distance) networks and LEC networks, established in 1992.

Since the establishment of these interconnection regimes, the nature and scope of competition in telecommunications markets have increased considerably, and there have been significant market and technology changes in the telecommunications industry.

Service providers are increasingly using Internet Protocol (IP) technology to build a common network platform to provide both voice and data services (no regulatory framework exists for data network interconnection). A key driver of converging voice and data networks is cost savings. Equally important is the potential for service providers to develop and offer new enhanced and innovative service solutions for their customers. Notwithstanding this evolution in technology, arrangements originally established to interconnect legacy circuit-switched time-division multiplexing (TDM) networks remain the prevailing modality.

In this decision, the Commission decides that it is in the public interest to establish a set of principles to facilitate IP voice network interconnections between network operators while allowing market forces to shape the details of the arrangements. Specifically, in areas where a carrier provides IP voice interconnection to an affiliate, a division of its operations, or an unrelated service provider, the carrier must negotiate a similar arrangement with any other carrier that requests such an arrangement. Within six months of a formal request, an arrangement is to be concluded.

Currently, independent wireless carriers are responsible for paying the entire cost of interconnection unless they allow alternative long-distance providers access to their networks. The Commission has decided that wireless carriers can interconnect with LECs for the exchange of local voice traffic on a shared-cost basis (with the bill-and-keep compensation method) and will no longer be required to provide such alternative long-distance access given that they already offer a variety of plans and Canadians can already choose from other long-distance options, such as prepaid cards and local access numbers. This will level the playing field regarding voice network interconnection between wireless carriers that have no LEC affiliations and wireless carriers that are affiliated with a LEC.

Background

1. Subsequent to *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, P.C. 2006-1534, 14 December 2006 (the Policy Direction), the Commission established action plans¹ to review certain existing regulatory measures. Then, in Telecom Decision 2011-69, the Commission issued an updated action plan to review, among other things, the regulatory measures relating to interconnection issues. With the issuance of Telecom Notice of Consultation 2011-206, the Commission initiated a proceeding to review a number of interconnection issues.
2. The existing local, wireless, and long distance voice network interconnection regimes are technology-specific and based on the interconnection of circuit-switched networks. As explained below, the main differences between each of these regulatory regimes relate to whether competitors are treated as customers of, or carriers of equal status with, the incumbent local exchange carriers (ILECs), and the manner in which network and interconnection facilities costs are recovered.

Local network interconnection

3. The current local network interconnection regime was established in Telecom Decision 97-8 and modified in subsequent Commission decisions. The main principle on which the regime is based is that competitive local exchange carriers (CLECs) are to be equal carriers with the ILECs in the local exchange market.

¹ The Commission issued two action plans: Telecom Decisions 2007-51 (economic measures) and 2008-34 (non-economic and social measures).

4. As a result, the costs for interconnecting trunks between CLECs and ILECs are shared. The local network interconnection regime also includes two cost compensation mechanisms: (a) bill-and-keep – in the event that the volume of voice calls transferred between two local exchange carriers (LECs) is balanced; and (b) mutual compensation – in the event that the volume of voice calls transferred is not balanced. Bill-and-keep is a compensation method that allows the originating carrier to bill its customer for the call and keep the corresponding revenue; the originating carrier does not compensate the terminating carrier for call termination expense. With mutual compensation, the LEC that is transferring the greater amount of calls compensates the receiving LEC based on Commission-approved tariffs.
5. In addition, the Commission requires ILECs to make available to CLECs certain facilities and services – for example, extended area service (EAS) transport and transiting services, and local interconnection regions (LIRs). EAS allows subscribers located in different telephone exchanges to call one another without incurring long distance charges. An LIR is a grouping of ILEC exchanges, established by the Commission in order to reduce competitors' interconnection costs and to facilitate competitive entry. The Commission has also established various obligations² that CLECs must meet when operating in local service markets.

Wireless carrier interconnection

6. The current wireless carrier interconnection regime was established in Telecom Decisions 84-10 and 84-29, and modified in subsequent Commission decisions. The main principle on which the regime is based is that wireless carriers are considered to be customers of, not equal carriers with, the ILECs.
7. As a result, a wireless carrier is responsible for (a) providing the interconnecting facility between its network and a LEC's network, and (b) paying Commission-approved tariff rates to a LEC for voice calls routed from the wireless carrier to the LEC, and vice versa. The Commission does not require wireless carriers to meet the same obligations that CLECs must meet in local service markets. In Telecom Decision 97-8, however, the Commission stated that a wireless carrier could become a CLEC and have the benefit of shared-cost interconnection with other LECs, as long as the wireless carrier met the CLEC obligations.

Long distance interconnection

8. The current long distance interconnection regime was established in Telecom Decision 92-12 and modified in subsequent Commission decisions. The main principle on which the regime is based is that long distance service providers, including ILECs operating out of their incumbent territories, are considered to be customers of, not equal carriers with, ILECs operating within their incumbent territories.

² While these obligations are referred to as CLEC obligations, they are, in general, based on obligations being met by all LECs. See "Competitive Local Exchange Carrier Obligations" at <http://www.crtc.gc.ca/eng/8180/8180m.htm>.

9. As a result, a long distance service provider is responsible for (a) providing the interconnecting facility between its network and a LEC's network, and (b) paying Commission-approved tariff rates to a LEC for voice calls routed from the long distance service provider to the LEC, and vice versa.³

Internet Protocol (IP) voice network interconnection

10. There is currently no regulatory regime in place to govern IP voice network interconnection between Canadian carriers. The Commission examined IP voice network interconnection as part of its regulatory framework for voice communication services using IP in Telecom Decision 2005-28. In that decision, the Commission considered that standardized IP voice network interconnection was an important issue. However, the Commission decided to first review the IP voice network interconnection interface guidelines that were, at that time, being developed by the CRTC Interconnection Steering Committee (CISC). The Commission therefore requested CISC to provide an update on the status of its IP voice network interconnection interface guidelines and identify any outstanding issues. These technical interface guidelines were completed by CISC and were approved by the Commission in Telecom Decision 2009-139.

This proceeding

11. On 23 March 2011, pursuant to Telecom Notice of Consultation 2011-206, the Commission began this proceeding to conduct a broad policy review of voice network interconnection matters. The principal objectives of this proceeding were to determine to what extent
 - existing interconnection regimes could be simplified and consolidated,
 - changes might be necessary to enhance competition and, thus, benefit consumers, and
 - changes might be necessary to ensure technological neutrality.
12. The Commission stated that it would consider each of these objectives in light of recent and possible future industry developments. Further, the Commission noted that it would review the matters in this proceeding in light of the policy objectives set out in section 7 of the *Telecommunications Act* (the Act) and in the Policy Direction.
13. The Commission also noted that the outcome of this proceeding could result in changes to various regulatory regimes applicable to some or all telecommunications service providers.

³ While both wireless and long distance service providers are responsible for interconnection facility and LEC network costs, the functionality and services provided by the LECs, as well as the corresponding costs, are different for each regime.

14. Parties that participated in the proceeding were: Bell Aliant Regional Communications, Limited Partnership, Bell Canada, and Télébec, Limited Partnership (collectively, Bell Canada et al.); Canadian Cable Systems Alliance Inc. (CCSA); Canadian Network Operators Consortium Inc. (CNOC); Cogeco Cable Inc. (Cogeco); Distributel Communications Limited (Distributel); Bragg Communications Inc., operating as EastLink (EastLink); Fibernetics Corporation (Fibernetics); Globility Communications Corporation (Globility); the Canadian Independent Telephone Company Joint Task Force (JTF); Data & Audio-Visual Enterprises Wireless Inc., carrying on business as Mobilicity (Mobilicity); MTS Allstream Inc. (MTS Allstream); the Public Interest Advocacy Centre (PIAC); Public Mobile Inc. (Public Mobile); Quebecor Media Inc. (QMI), on behalf of itself and its wholly owned affiliate Videotron Ltd.; Rogers Communications Partnership (RCP); Saskatchewan Telecommunications (SaskTel); Shaw Communications Inc. (Shaw); SSi Micro Ltd.; TELUS Communications Company (TCC); Globalive Wireless Management Corp., doing business as WIND Mobile (WIND Mobile); and Yak Communications (Canada) Corp. (Yak).
15. The public record of this proceeding, which closed on 14 November 2011, is available on the Commission's website at www.crtc.gc.ca under "Public Proceedings" or by using the file number provided above.

Issues

16. The Commission has identified the following major issues to be addressed in this decision:
 - I. IP voice network interconnection⁴
 - II. Voice network interconnection for wireless carriers
 - III. Voice network interconnection in the territories of the small ILECs
 - IV. Other matters
 - V. Compliance with the Policy Direction

I. IP voice network interconnection

17. The ILECs' telecommunications networks, particularly the access and distribution portions of their networks, continue to be largely based on circuit-switched technology to deliver voice services to consumers. However, over the past several years, the industry has been evolving towards networks with technologies such as fibre-to-the-home/node (FTTH/FTTN), long-term evolution (LTE), High-Speed Packet Access (HSPA), and Ethernet.

⁴ In addition, the Commission addresses the matter of off-tariff negotiations for time-division multiplexing (TDM) network interconnection arrangements.

18. Underlying this evolutionary shift is IP technology, which enables greater network efficiencies, opportunities for network optimization, and service offerings than do legacy circuit-switched technologies. IP technology is also at the heart of the convergence of voice, data, and video services, which are increasingly being offered over integrated networks.
19. It is clear from the record of this proceeding that all carriers in Canada are implementing IP technology in their voice networks to varying degrees. Cable companies and new wireless entrants are, for the most part, mainly IP technology-based. The ILECs have deployed IP technology in certain parts of their core networks, but still rely on extensive circuit-switched infrastructure in their access and distribution networks. There remains, however, a vast majority of end-user terminal devices that are not IP-enabled.
20. In this proceeding, parties agreed that IP is the network technology of the future and will eventually replace time-division multiplexing (TDM).⁵ However, parties disagreed on how long this migration would take, and whether regulation is necessary to ensure that carriers are able to interconnect their networks to exchange IP voice traffic.
21. At the onset of this proceeding, there was no agreement among parties on whether mandated IP voice network interconnection was necessary. In their initial interventions, parties were generally divided on how best to foster the development of IP voice network interconnection; the cable companies and new wireless entrants favoured regulatory intervention, whereas the ILECs favoured reliance on market forces to dictate the pace and degree of deployment. The ILECs indicated that they still have significant investments in TDM facilities, and that these investments risk being stranded if an immediate change (“flash cut”) to IP voice network interconnection is mandated.
22. However, during the oral phase of the public hearing, many parties modified their positions in support of a framework whereby a carrier could enter into bilateral commercial negotiations with another carrier to implement an IP voice network interconnection arrangement.
23. In the Commission’s view, the transition to IP-based networks is imperative to the creation of a digital economy that will benefit all Canadians by fostering opportunities for innovation in new services. As a result, Canadian carriers must be able to exchange IP-based voice traffic with each other in a fair and equitable manner. The Commission recognizes that the adoption of IP-based network technology is still in its early stages for many carriers and that it is important to allow IP voice network interconnection arrangements to develop primarily on a commercial basis. That evolution will enable carriers to retain a measure of control over the strategic deployment of new technologies within their networks.

⁵ TDM is a type of digital multiplexing in which two or more bit streams or signals are transferred apparently simultaneously as sub-channels in one communication channel, but are physically taking turns on the channel. In this decision, the terms “TDM” and “circuit-switched” are used interchangeably.

24. However, the Commission notes that, while a significant number of end-users are currently served by IP-based carriers,⁶ there has been very little progress made between TDM-based carriers and IP-based carriers in the exchange of IP voice calls between them. The Commission therefore considers that it would be in the public interest to establish principles to facilitate IP voice network interconnections between network operators while allowing market forces to shape the details of their arrangements as much as possible, as set out more fully below.

Principles for IP voice network interconnection

25. Building on the consensus achieved by parties, the Commission has developed a set of principles to facilitate the industry's move towards full IP-based voice network interconnection. The principles relate to the following:
- scope;
 - off-tariff negotiations for IP voice network interconnection arrangements;
 - conditions to trigger IP voice network interconnection;
 - compensation for the exchange of voice traffic;
 - costs of converting voice traffic;
 - points of interconnection (POIs);
 - implementation time frames;
 - disclosure, sharing, and filing requirements for information related to IP voice network interconnection;
 - future review; and
 - CISC activities.

Scope

26. Parties generally agreed that any regime for IP voice network interconnection should apply equally to voice services offered by local, wireless, and long distance carriers. Certain parties requested that it be made clear that wireless carriers in particular were to be able to interconnect on an IP basis with LECs.

⁶ Certain parties estimated that, including wireless subscribers, as many as 50 percent of access lines in Canada are IP-based.

Commission's analysis and decisions

27. Consistent with the views of most parties, the Commission **decides** that the principles for IP voice network interconnection are to apply equally to voice services provided by all Canadian carriers as defined in the Act, regardless of whether the services are local, wireless, or long distance.

Off-tariff negotiations for IP voice network interconnection arrangements

28. Parties generally agreed that the Commission should permit parties to enter into off-tariff IP voice network interconnection arrangements. Parties also generally agreed that these arrangements should be based on the principle of shared costs for facility deployment, consistent with how facility costs are treated in the circuit-switched local network interconnection regime.
29. CNOC, Distributel, Globility, Mobilicity, Public Mobile, and WIND Mobile supported off-tariff arrangements but argued that the Commission should nonetheless establish a default tariff for IP voice network interconnection, submitting that smaller companies with less negotiation leverage are at risk of being ignored and left behind.

Commission's analysis and decisions

30. The Commission fully supports off-tariff negotiations for IP voice network interconnection. In the Commission's view, it is consistent with the Policy Direction to permit bilateral agreements that are not subject to regulatory approval for IP voice network interconnection arrangements, as this would rely on market forces to the greatest extent possible. The Commission expects that parties will negotiate in good faith with a view to implementing IP voice network interconnection arrangements on mutually agreeable terms within a reasonable time frame, as discussed below. The implementation of this decision pursuant to section 34 of the Act is set out below in paragraphs 145 to 151.
31. The Commission is not persuaded that it is necessary to mandate a default tariff for IP voice network interconnection at this time. The Commission will consider establishing a default tariff in the future if there is evidence of market failure.

Conditions to trigger IP voice network interconnection

32. There was much debate during the oral phase of the public hearing about the need to establish specific conditions which would trigger or determine when a carrier would be required to provide IP voice network interconnection with another carrier, and the extent to which such interconnection should be provided.
33. Most parties agreed that the wireless sector is close to being ready for widespread IP voice network interconnection arrangements, and discussions eventually centred around the following proposal submitted by RCP, as amended by Bell Canada et al.:

- Where an IP network operator is providing local (including wireless) IP voice interconnection to an affiliate, a division of its operations, or an unrelated service provider, it must entertain similar arrangements with other carriers to the extent required by subsection 27(2) of the Act.
 - Where an IP network operator is providing local (including wireless) voice services to users via IP switches rather than legacy TDM switches, the operator has an obligation to provide IP interconnection to other carriers, but that obligation will be limited to the geographical coverage of the operator's voice IP switch and the IP end-users served by that switch (be they voice over Internet Protocol (VoIP) over FTTH, LTE, or HSPA).
34. In its final argument, RCP clarified that it did not agree with some of Bell Canada et al.'s proposed amendments because they did not reflect the purpose of RCP's initial proposal. A number of other parties⁷ were also opposed to the conditions as drafted. In general, these parties' desire was to ensure that (a) any policy framework for IP voice network interconnection would apply to both local and toll terminating network interconnection arrangements, (b) IP voice network interconnection would be mandatory at the request of a carrier when the conditions are satisfied, and (c) there would be sufficient geographical coverage and customer volume to make IP voice network interconnection worthwhile.

Commission's analysis and decisions

35. The Commission notes that during the oral phase of the public hearing and in final written argument, despite some disagreement over specific wording, most parties generally supported the adoption of the RCP proposal as amended by Bell Canada et al.
36. However, to address concerns raised by parties during the proceeding, the Commission **decides** that IP voice network interconnection will be required in the following circumstances, in accordance with the time frames discussed below:
- Where a carrier is providing IP voice network interconnection to an affiliate, a division of its operations, or an unrelated service provider, the carrier must provide similar arrangements with other carriers.
 - Where a carrier is providing voice services to end-users via IP switches rather than legacy TDM switches, the carrier must provide IP voice network interconnection to other carriers, to the extent of the geographic coverage of the operator's voice IP switch and the IP end-users served by that switch (for example, whether voice services are provided using FTTH, LTE, HSPA, etc.)

⁷ Namely Cogeco, Mobilicity, MTS Allstream, Public Mobile, and Shaw.

37. The term “IP voice network interconnection” is to be understood to cover both wireline and wireless networks, as well as both mandated⁸ local and long distance network interconnection services. In addition, if a company offers an IP voice network interconnection service to one carrier, it will be required to offer a similar service to all carriers. IP voice network interconnection will be applicable to the geographical area served by the carrier’s IP switching equipment, limited to the end-users with IP access that are served by the IP switching equipment, including those whose terminal device is non-IP.

Compensation for the exchange of voice traffic

38. Under the TDM-based local network interconnection regime, voice calls exchanged between LECs are subject to the bill-and-keep compensation model with mutual compensation for traffic imbalances. Some parties argued that the Commission should mandate that IP voice network interconnection arrangements also be subject to bill-and-keep. Other parties argued that market forces should determine the compensation mechanisms for IP voice network interconnection.

Commission’s analysis and decisions

39. In the Commission’s view, the most suitable compensation model will vary depending on the specific arrangements upon which parties agree. The Commission does not consider that it is appropriate or necessary, at this time, to prescribe any particular compensation model for IP voice network interconnection, and **decides** that compensation for the exchange of IP traffic should be subject to bilateral negotiations. Nevertheless, it is the Commission’s expectation that most carriers will agree to either the bill-and-keep model used in the TDM regime or the peering and transit model seen in data/Internet interconnection arrangements,⁹ since these models are familiar and tested.

Costs of converting voice traffic

40. A major issue that was raised during the proceeding was related to the costs associated with converting voice traffic from IP to TDM, and vice versa. At present, IP-based carriers must install and maintain conversion equipment¹⁰ in their networks in order to exchange their IP voice traffic with the TDM-based carriers (mainly the ILECs). These IP-based carriers are thus fully responsible for the costs associated with voice traffic conversion.

⁸ This would not include interconnection arrangements that are not mandated by the Commission, such as the exchange of international traffic with telecommunications service providers operating outside of Canada.

⁹ A peering arrangement involves two generally equal carriers interconnecting their networks for the purpose of exchanging traffic, but neither carrier pays the other for the exchanged traffic. A transit arrangement involves two carriers that are not equal interconnecting their networks to exchange traffic, and the lesser carrier pays the other carrier for the exchanged traffic.

¹⁰ Media and signalling gateways

41. Several cable companies and new wireless entrants argued that this situation is not equitable, given the preponderance of IP in carriers' networks, and that ILECs ought to properly bear some or all of the conversion costs.
42. In particular, Cogeco, EastLink, and Shaw argued that future conversion costs should be borne by TDM operators, as this would incent ILECs to migrate to end-to-end IP networks. RCP was initially in favour of the ILECs assuming all conversion costs. However, during the oral phase of the public hearing, it indicated that it would be willing to agree that conversion arrangements be determined through bilateral negotiations. In its final argument, QMI stated that, for the time being, it was prepared to accept the current arrangements.
43. The ILECs, except MTS Allstream, argued that they should not be required to bear any conversion costs since the competitors' conversion equipment already exists and voice traffic only needs to be converted once in order to be terminated. MTS Allstream submitted that the ILECs will, in any event, have to invest in conversion equipment when they deploy IP voice network interconnections.

Commission's analysis and decisions

44. The Commission recognizes that, unlike the ILECs, IP-based carriers have had to invest in conversion equipment. On the other hand, the Commission also recognizes that, in future, this arrangement could be perceived as inequitable given the increasing use of IP technology in carriers' networks. Nevertheless, the Commission considers that protocol conversion is a temporary issue that will be decreasingly relevant as legacy TDM networks are migrated to IP networks.
45. The Commission notes that, although there are continuing operational costs associated with maintaining conversion equipment, the majority of necessary capital expenditures have already been incurred by IP-based carriers.
46. The Commission considers that the primary benefits of IP voice network interconnection, as stated by parties, are increased network efficiency and reduced costs. Further, the Commission considers that it would be inefficient to force the ILECs to incur the expense of duplicating conversion equipment that already exists. Therefore, the Commission **decides** that no further action is required.

POIs

47. In the current TDM local network interconnection regime, ILECs are required to establish a single point at which competitors can interconnect within each LIR. LIRs were established by the Commission¹¹ in order to reduce competitors' interconnection costs and to facilitate competitive entry.

¹¹ The Commission initially consolidated ILEC local exchanges into LIRs in Telecom Decision 2004-46. The definitions of these LIRs were later amended in Telecom Decision 2006-35.

48. In this proceeding, many parties cited POI consolidation as one of the more important benefits of moving to IP voice network interconnection. In an IP regime, the number of POIs that are required between two carriers can be further consolidated.
49. Several parties submitted that as part of an IP voice network interconnection regime, the Commission should mandate the specific number of POIs that are required between two carriers. For instance, Cogeco and QMI urged the Commission to mandate that the number of POIs be set at one or two per province. Under RCP's proposal, specifically under the second trigger, which is reflected in the second circumstance set out in paragraph 36 above, the number of POIs would be determined by the geographical coverage of the carriers' IP switches. Shaw agreed that the number of POIs should be minimized as much as possible; in fact, Shaw did not support RCP's proposed second trigger because, in its view, it would not result in sufficient POI consolidation.
50. Bell Canada et al. submitted that the quantity and location of POIs in an IP regime should be negotiated between carriers, as distinct from being prescribed by the Commission.

Commission's analysis and decisions

51. The Commission is strongly in favour of improving the efficiency of Canada's telecommunications networks, and considers that IP voice network interconnection between carriers will contribute significantly in this regard. The Commission notes that the consolidation of POIs is one of the principal benefits of IP voice network interconnection cited by parties in this proceeding.
52. The Commission recognizes that there may be benefits in mandating a set number of POIs between carriers, such as two per province, and acknowledges parties' concerns that the second trigger may not result in sufficient consolidation. However, the Commission also recognizes that there are risks in mandating a set number of POIs, since carriers in different regions may face unique circumstances or challenges in terms of their network capabilities and deployment. The Commission therefore **decides** that the number of POIs is to be established by the carriers themselves through negotiations.
53. Given the efficiency benefits of IP voice network interconnection, the Commission expects that negotiations between parties will yield significantly fewer POIs than currently exist under the TDM regime. More specifically, the Commission does not expect that there would be an overlay of the LIR framework in an IP regime. Although it is not prescribing a set number of POIs in this decision for the reasons stated above, the Commission is of the view that in an IP regime, two POIs per province would generally be reasonable and would represent a significant enhancement over the present number of POIs under the TDM regime.

Implementation time frames

54. Several parties stressed the need for set time frames within which IP voice network interconnection arrangements should be negotiated and implemented. These parties indicated that without set time frames, the ILECs would have the ability to unduly delay IP voice network interconnection.
55. Some parties proposed that carriers be ready to accept negotiation requests within 6 months of this decision, and that negotiations be completed within 12 months thereafter, while others proposed that bilateral negotiations be completed within 6 months of the date negotiations are requested. Parties also suggested that the failure to conclude negotiations within the 6-month time frame should give either party the right to apply to the Commission for mediation or a mandated agreement.
56. The ILECs were generally of the view that mandatory time frames are inappropriate, arguing that each IP voice network interconnection arrangement will have its own set of challenges and issues to resolve. Interoperability of network equipment is a factor that may result in some arrangements taking longer to develop, particularly if equipment is sourced from different manufacturers. Bell Canada et al. submitted that they could be overwhelmed with requests and have difficulty meeting the demand for IP voice network interconnection within established time frames.

Commission's analysis and decisions

57. The Commission considers that negotiation deadlines are necessary to avoid undue delays in the establishment of IP voice network interconnection arrangements, and that the six-month time frame proposed by Cogeco for negotiations is appropriate. Accordingly, the Commission **decides** that parties negotiating IP voice network interconnection arrangements are to complete the negotiation process within six months of a request for such interconnection. Either party may request Commission staff mediation or apply to the Commission for intervention if an arrangement is not concluded within the six-month period.
58. The Commission also considers that it is necessary to give carriers time to prepare for receiving IP voice network interconnection requests. The Commission therefore **decides** that carriers are not required to accept requests and begin negotiations for IP voice network interconnection arrangements, in accordance with this decision, until **21 February 2012**. The Commission notes that parties are not precluded from accepting such requests and entering into negotiations prior to this date.
59. With respect to implementation, the Commission recognizes that there are risks involved in setting deadlines that would apply universally to every arrangement between carriers, since each set of negotiations may have its own unique circumstances that will affect deployment time frames. As a result, the Commission considers that it is not appropriate to set an absolute time frame for the implementation

of IP voice network interconnection arrangements, but expects that the majority of arrangements will be implemented, or significant progress made, within 12 months after the conclusion of an arrangement or the outcome of a Commission intervention.

60. In the table below, the Commission summarizes the implementation time frames set out in this decision:

By 21 February 2012	Carriers are to accept requests and begin negotiations for IP voice network interconnection arrangements
Within 6 months after a carrier receives a request for IP voice network interconnection	Negotiations are to be completed and, if an arrangement is not concluded, parties may request Commission intervention
Within 12 months following conclusion of a negotiated arrangement or outcome of Commission intervention	Implementation of IP voice network interconnection arrangements is to be completed or significant progress is to have been made

Disclosure, sharing, and filing requirements for information related to IP voice network interconnection

61. The question has arisen of whether carriers should be required to share and disclose the details of any IP voice interconnection arrangements they have with other carriers and, if so, to what extent. The general view among parties was that sharing of best practices for such arrangements would be beneficial and desirable, but there was disagreement over whether trial activities should be published or shared.
62. RCP submitted that to identify if and where its triggers are met, all carriers should be directed to post on their websites the existence of agreements under which they provide IP voice network interconnection.¹² RCP submitted that this approach would be consistent with the approaches used for publishing multi-unit dwelling (MUD) access agreements and certain off-tariff agreements for wholesale services.
63. A wide range of suggestions were put forward by other parties. For example, some parties suggested that all carriers should be required to post on their websites the existence of agreements under which they provide IP voice network interconnection, and others suggested that all such agreements should be filed in confidence with the Commission.

Commission's analysis and decisions

64. In the Commission's view, the sharing of the technical details of IP voice network interconnection arrangements, and of trials or tests, would be beneficial to the industry.

¹² RCP submitted that the complete agreements should be filed in confidence with the Commission.

65. As discussed below, the Commission is requesting CISC to develop questionnaires that it could use to obtain pertinent information on IP voice network interconnection from industry participants, and make its recommendations on the sharing of that information throughout the industry.

Future review

66. Cogeco submitted that the Commission should clearly indicate that a review of IP voice network interconnection implementation would be initiated no later than three years from the date of this decision, arguing that such a measure would provide a strong signal to all parties that progress in this matter is expected and would be assessed at the end of this three-year period.

Commission's analysis and decisions

67. The Commission notes that IP voice network interconnection is in its relative infancy, and that it is still unknown how IP voice services will evolve. Accordingly, the Commission considers that it will be necessary to review the principles established in this decision in light of the data and information that will become available.
68. The Commission notes that it will conduct a review of the framework for essential services in 2014.¹³ The Commission considers that it may review the principles for IP voice network interconnection in the same time frame.

CISC activities

69. CISC was established by the Commission in 1996¹⁴ to bring together, under the guidance of the Commission, participants of the industry in working groups. The Commission has found the contribution and assistance of CISC working groups in the past to be of great value in developing information, procedures, and guidelines as may be required.
70. During the oral phase of the public hearing, the Commission requested parties to provide a list of activities that they felt should be addressed by CISC in relation to IP voice network interconnection. Following is a high-level summary of issues that were identified:
 - Review the existing Master Agreement for Local Interconnection (MALI) and the Special MALI for small CLECs, as well as the ILEC and model CLEC tariffs, and propose revisions to eliminate any inference that would preclude IP voice network interconnection arrangements;

¹³ In Telecom Decision 2008-17, the Commission stated that it would review the service category assignments of all remaining mandated wholesale services six years from the date of that decision.

¹⁴ CISC was established in Telecom Public Notice 96-28. It has proven to be an effective organization through which the Commission and industry participants have worked together in various aspects of the Commission's regulatory activities.

- Develop a master default IP voice network interconnection agreement that would identify issues to be negotiated bilaterally and those that could reasonably be subject to standard terms and conditions;
- Review and update existing IP voice network interconnection guidelines and technical specifications, as well as existing operational process documents, as required in relation to all allowable call types and features interworking;
- Develop test plans for signalling protocols between network components to address technical issues such as call flow, quality of service, and security;
- Develop a methodology for identifying calls to ensure that only end-to-end IP calls are routed over the IP voice network interconnections;
- Develop a new IP voice network interconnection architecture for 9-1-1 emergency services;
- Establish a Canadian carrier ENUM¹⁵ database;
- Develop questionnaires that could be used to obtain pertinent information about IP voice network interconnection trials; and
- Monitor the evolution of IP voice network interconnection standards and update them accordingly over time.

Commission's analysis and decisions

71. The Commission considers that any CISC activities are to be conducted in parallel with IP voice network interconnection negotiations and implementation activities, and are not a precondition to interconnection.
72. The Commission concludes that the list of potential CISC activities can be divided into three groupings: (a) activities related to agreements, interconnection guidelines, technical specifications, operational process documents, test plans, and call identification methodology; (b) activities related to address look-up (e.g. ENUM) and 9-1-1 emergency services; and (c) ongoing activities related to sharing of trial information and monitoring of IP standards evolution.
73. For the activities in (a) above, the Commission requests that CISC review and make recommendations on agreement templates, interconnection guidelines, technical specifications, operational process documents, and test plans that should be updated and/or put in place in support of IP voice network interconnection arrangements. The Commission anticipates that these activities will be completed within six months of the date of this decision.

¹⁵ E.164 Number Mapping, or ENUM, is a process that can be used to translate a telephone number into an IP address to allow seamless interoperability between IP and TDM networks.

74. In developing a methodology for identifying calls to ensure that only end-to-end IP calls are routed over the IP voice network interconnections, the Commission considers that, initially, this should be subject to bilateral negotiations between carriers implementing IP voice network interconnection. This does not preclude CISC from initiating discussions on this matter with a view to develop a common or standard methodology. CISC activities, however, are not to be used to impede or delay negotiation and implementation activities of IP voice network interconnection between carriers.
75. The Commission encourages CISC to discuss matters related to the development of address look-up systems such as ENUM, and 9-1-1 emergency services networks using IP technology as future focused activities. The Commission considers that such discussions should take place as the industry works towards a full and complete transition to IP technology.
76. As stated above, the Commission considers that the sharing of information among parties on IP voice network interconnection trials could benefit the industry. The Commission therefore requests CISC to develop questionnaires to be used to obtain pertinent information from industry participants in relation to in-service IP voice network interconnection arrangements, trials, and in-service IP switches. The Commission also requests CISC file a report within six months of the date of this decision with its recommendations to the Commission on the information to be obtained from industry participants (i.e. the questionnaires), the methodology to be used to complete the questionnaires, the party that should be responsible to compile and retain the information, and how to share this information with industry participants.

Off-tariff negotiations for TDM network interconnection arrangements

77. Bell Canada et al. and TCC argued that negotiated off-tariff arrangements should be allowed in relation to legacy TDM network interconnection arrangements.

Commission's analysis and decisions

78. The Commission notes that all parties agreed that the TDM interconnection regime should apply for the foreseeable future and, as such, considers that all carriers should continue to have the option to interconnect on a circuit-switched basis pursuant to Commission-approved tariffs.
79. The Commission considers that, consistent with prior Commission decisions regarding other wholesale services,¹⁶ carriers should have the opportunity to enter into off-tariff negotiated arrangements with respect to TDM-based interconnection services. Accordingly, the Commission **decides** that parties may enter into negotiated TDM network interconnection arrangements without seeking regulatory approval. Parties are not required to file any such negotiated arrangements with the Commission. The implementation of this decision pursuant to section 34 of the Act is set out below in paragraphs 145 to 151.

¹⁶ See Telecom Decision 2008-17 and Telecom Regulatory Policy 2009-19.

II. Voice network interconnection for wireless carriers

80. Currently, a wireless carrier has two choices of how to establish direct network interconnection arrangements with a LEC. It can either (a) subscribe to the LEC's wireless access service (WAS)¹⁷ and pay for both the interconnecting facilities and the transfer of voice calls to and from the LEC, or (b) become a Type II CLEC¹⁸ and obtain the benefit of shared-cost interconnection, including the bill-and-keep compensation method.
81. In addition, a wireless carrier can indirectly interconnect with a LEC. To do so, it must be affiliated with, or negotiate an agreement with, a CLEC that has established local network interconnection arrangements with a LEC. Voice calls to and from the wireless carrier's end-customers can be transferred to and from the LEC via the CLEC. For such wireless carriers that are part of an integrated wireline/wireless telecommunications entity, their network interconnection with the LEC is effectively a shared-cost arrangement with the bill-and-keep compensation method and without the requirement to meet any of the CLEC obligations.

Wireless carrier network interconnection regime

82. In this proceeding, parties generally expressed the opinion that wireless carriers should have access to shared-cost facilities and a bill-and-keep compensation mechanism when interconnecting with LECs. However, parties disagreed on the terms and conditions that should be applied for wireless carriers to have access to shared-cost network interconnection facilities.
83. In their initial interventions, parties were divided. A number of parties argued that wireless carriers should have access to shared-cost interconnection without being required to meet all CLEC obligations. Other parties took the position that, currently, a wireless carrier has the option to become a CLEC and has access to the shared-cost interconnection regime, as long as any such wireless carrier meets all CLEC obligations.
84. However, during the oral phase of the public hearing, most parties submitted that wireless carriers should have access to a shared-cost network interconnection regime without the requirement to meet all CLEC obligations.
85. Parties' views differed on which CLEC obligations wireless carriers should be required to meet and on certain technical considerations related to network interconnection.

¹⁷ WAS is a Commission-mandated service that provides a wireless carrier with the option to interconnect its network with a LEC so that the wireless carrier's end-customers can make calls to, and receive calls from, the LEC's end-customers and all other entities connected to the LEC's network.

¹⁸ A Type II CLEC, also known as a wireless CLEC, is a wireless Canadian carrier which offers local exchange services using wireless mobile technology, chooses to utilize the CLEC interconnection regime, and meets all the CLEC obligations.

86. Independent wireless carriers argued that they should not be required to meet the CLEC obligation to support equal access¹⁹ for competitive long distance service providers. The independent wireless carriers submitted that there are a number of alternative long distance options available to consumers. They argued further that, to meet equal access obligations, they would be required to make investments in networks that would not be recovered. PIAC and Yak generally supported these views. RCP submitted that there is virtually no demand from long distance service providers for Fido's²⁰ equal access services.
87. Public Mobile argued that the obligation related to directory listings is not relevant to the wireless market since wireless customers generally prefer not to have their telephone number listed.
88. Mobilicity submitted that wireless carriers should not be required to assume the CLEC obligation to provide details of all service options and applicable prices to the Commission, arguing that it would be both onerous and of little use, given how quickly and often wireless service options are modified.

Commission's analysis and decisions

89. Based on the record of this proceeding, the Commission notes that few wireless carriers rely on mandated WAS to any great extent to interconnect directly with a LEC. As noted above, a wireless carrier that is affiliated with a CLEC can transfer voice calls to and from a LEC effectively on a shared-cost basis without the requirement to meet any of the CLEC obligations. As set out below, the Commission has considered parties' proposals to relieve wireless carriers from meeting some of these CLEC obligations in order to obtain shared-cost interconnection.
90. The Commission notes that it required LECs to provide equal access to long distance service providers in order to foster competition in the Canadian long distance voice services market. The Commission notes that consumers using wireless services have access to a number of alternative long distance options such as prepaid cards, local access numbers, VoIP, and over-the-top (OTT) applications, which allow consumers to make voice calls over the Internet.
91. The Commission is of the view that, in order to support equal access, wireless carriers would be required to make significant investments in their networks and that such costs are unlikely to be recouped from long distance service providers given insufficient demand. The Commission also considers that, due to technical impediments when roaming occurs, equal access in a fully functional manner may not be practical. Accordingly, the Commission considers that a wireless carrier should not be required to support equal access to qualify as a Type II CLEC.

¹⁹ Equal access allows competitive long distance service providers to interconnect their networks to the LEC networks, and subscribers can access the long distance competitors' services as easily as they currently access long distance service provided by their LEC (i.e. by dialing either 0 or 1 plus a 10-digit telephone number).

²⁰ Fido is the only wireless carrier currently registered as a wireless CLEC with the Commission, and is a subsidiary of Rogers Wireless Inc.

92. The Commission notes that evidence in this proceeding indicates that the vast majority of wireless end-customers do not have their wireless telephone number listed in a directory. The Commission therefore considers that a wireless carrier should not be required to supply directory listing information to other LECs to qualify as a Type II CLEC.
93. CLECs are currently required to file with the Commission details of all their service options, with applicable prices, and details of all potentially applicable service charges. CLECs are also required to make this information available to existing and potential customers, upon their request. The Commission is of the view that, because service options change so often, it would not be useful to require wireless carriers to file all their offers with the Commission. The Commission therefore considers that, to qualify as a Type II CLEC, a wireless carrier should be required to provide this information to the Commission and to existing and potential customers only upon request.
94. In light of the above, the Commission **decides** that, in order to become a Type II CLEC and offer local services in an ILEC exchange, a wireless carrier is no longer required to meet the CLEC obligations related to equal access, supply of directory listings to other LECs, or provision of details of all their service options with applicable prices and applicable service charges to the Commission, except upon request. The Commission considers that this will level the playing field regarding voice network interconnection between LEC-affiliated and non-LEC-affiliated wireless carriers. A summary of the obligations that must now be met by a Type II CLEC is provided in the Appendix. Such wireless carriers are reminded that they must register with the Commission per the procedure explained on the Commission's website.

Forbearance for WAS

95. Bell Canada et al. first proposed that forbearance from regulation be extended to WAS where at least one CLEC is operating in an LIR, arguing that under such circumstances, competition would be sufficient to protect the interests of potential customers. SaskTel concurred with Bell Canada et al.'s proposal.
96. During the proceeding, Bell Canada et al. revised their position and requested that WAS be forborne in every LIR if the Commission grants mandated access for wireless carriers to shared-cost interconnection, including a bill-and-keep compensation method. They argued that keeping two parallel mandated interconnection services for wireless carriers would be overly intrusive and contrary to the Policy Direction. In their opinion, wireless carriers wishing to use WAS to interconnect with LECs should do so on a negotiated, forborne basis. Other parties were generally opposed to Bell Canada et al.'s proposal.

Commission's analysis and decisions

97. The Commission considers that Bell Canada et al. have not provided sufficient evidence to support their proposed criterion for forbearance. Accordingly, the Commission **denies** Bell Canada et al.'s proposal with respect to the WAS forbearance framework.

POIs

98. Parties advocated different points of interconnection and different financial models upon which wireless interconnection might take place.

Commission's analysis and decisions

99. In Telecom Decision 97-8, the Commission established the ILEC exchange as the elementary unit for the purposes of local network interconnection. In Telecom Decision 2004-46, as a result of a detailed and lengthy process, the Commission determined that consolidation of exchanges to form LIRs would provide for more efficiency and lower the costs of interconnection. The definition of LIRs was later modified in Telecom Decision 2006-35.
100. The Commission is of the view that the current principle for network interconnection between LECs has proven to be efficient and is working well in the TDM regime. Consequently, the Commission **decides** that the wireless carrier shared-cost network interconnection regime will continue to be LIR-based.
101. The Commission notes that no changes have been made to WAS in this decision. Therefore, the Commission considers that any wireless carrier that wishes to establish network interconnection on the basis of local calling areas (LCAs)²¹ can continue to do so by subscribing to WAS.
102. With regard to EAS transport and transit services, as discussed below in the Other matters section of this decision, the Commission previously determined that the ILECs should be entitled to recover their costs for EAS transport and local transit services²² through specific rates for the type of traffic carried. The Commission considers that parties have not provided sufficient rationale as to why the Commission's decision is no longer appropriate.

²¹ A local calling area, or LCA, is a grouping of ILEC exchanges to which both residential and business customers can make local telephone calls from their exchange without incurring toll charges.

²² EAS transport trunks can be established so that a CLEC can transfer calls to the ILEC for termination to ILEC end-customers outside the LIR under certain circumstances. Local transit trunks can also be established so that a CLEC can transfer calls to another CLEC. For both EAS transport and local transit, the CLEC is responsible for providing the interconnecting facility and paying flat monthly rates for each interconnection circuit so that traffic can be transferred to the ILEC.

III. Voice network interconnection in the territories of the small ILECs

103. The Commission's existing regulatory framework for local, and long distance, voice network interconnection in the small ILECs' operating territories has been implemented on an incremental basis in a number of decisions.²³ There is no wireless carrier network interconnection regime applicable to the small ILECs. However, the Commission has established a regime for the implementation of wireless number portability (WNP) in the small ILECs' operating territories, in Telecom Decision 2008-122. In Telecom Regulatory Policy 2011-291, the Commission determined that WNP and local competition, including local number portability, would continue to be introduced in the territories of the small ILECs.
104. There were two distinct proposals in this proceeding regarding interconnection arrangements in the small ILECs' operating territories:
- RCP proposed that CLECs be allowed to use local transit arrangements that they have with a large ILEC, rather than long distance interconnecting trunks, to transfer long distance voice calls to the small ILECs for termination to the small ILECs' end-customers; and
 - the small ILECs proposed that a wireless carrier wishing to compete in a small ILEC operating territory be required to directly interconnect with that small ILEC.

Long distance voice calls transferred using local transit arrangements

105. The existing regulatory regime related to long distance network interconnection arrangements requires long distance service providers to interconnect with LECs, which includes small ILECs, using Commission-approved rates to compensate the LECs for their network costs associated with long distance voice calls transferred to and from their end-customers.
106. RCP proposed changes to how CLECs are required to transfer long distance voice calls destined to the small ILECs.

Commission's analysis and decisions

107. The Commission notes that the small ILEC rates related to long distance network interconnection arrangements are being addressed in the small ILEC regulatory framework proceeding.²⁴ The Commission also notes that many parties, including RCP in its final argument, submitted that this matter should be addressed in that proceeding. The Commission considers that it would be inappropriate to dispose of RCP's proposed change for interconnection with the small ILECs in this decision.

²³ The Commission established a framework for implementing long distance network interconnection in small ILEC operating territories in Telecom Decision 96-6. The Commission established a framework for implementing local network interconnection in Telecom Decision 2006-14.

²⁴ See Telecom Notice of Consultation 2011-348.

Therefore, the Commission **decides** that it will first address the small ILEC rates related to long distance network interconnection arrangements, which are being examined in the small ILEC regulatory framework proceeding.

Direct interconnection for wireless carriers competing in a small ILEC operating territory

108. The framework related to WNP in the small ILECs' territories does not require a wireless carrier to directly interconnect with a small ILEC, for the purpose of transferring calls, when the wireless carrier requests that WNP be implemented in that small ILEC's territory. Instead, the Commission concluded in Telecom Decision 2008-122 that, following a request by a wireless carrier and an approval process for WNP, the wireless carrier could use transit arrangements established with a large ILEC to transfer local voice calls to and from a small ILEC.
109. The JTF, representing most of the small ILECs, initially proposed that any carrier wishing to originate or terminate voice calls in a small ILEC operating territory should be required to directly interconnect with that small ILEC. The JTF submitted that this would allow the small ILECs to (a) effectively police their networks to ensure their integrity and carriers' compliance with the network interconnection regimes, and (b) ensure that the small ILECs would be appropriately compensated for the costs they incur in facilitating interconnection. During the oral phase of the public hearing, the JTF modified its proposal, such that wireless carriers should be required to directly interconnect with the small ILEC through a tariffed small ILEC wireless access service in order for WNP to be implemented.
110. In their final written arguments, EastLink, Public Mobile, RCP, and TCC argued against the JTF's proposal that a wireless carrier requesting implementation of WNP in a small ILEC's territory be required to interconnect directly with that small ILEC. These parties argued, among other things, that wireless carriers are not required to interconnect directly with the large ILECs in order to obtain WNP in the large ILEC operating territories, and that imposing such a regulatory requirement would give the small ILECs an unfair competitive advantage.
111. In their final written arguments, Bell Canada et al. submitted that they did not object to the JTF's revised proposal, while QMI submitted that it was prepared to support the JTF's revised proposal.

Commission's analysis and decisions

112. The Commission notes that, while WNP has already been implemented generally throughout the large ILEC operating territories, this is not the case in the small ILEC operating territories, where implementation takes place on a territory-by-territory basis following a request from a wireless carrier and an approval process.
113. The Commission also notes that a wireless carrier competing within the operating territory of a large ILEC establishes network interconnection arrangements within that large ILEC's operating territory to transfer voice calls to and from ILECs and

other wireless carriers. In contrast, as noted above, a wireless carrier that requests implementation of WNP in order to compete with a small ILEC is not required to establish network interconnection arrangements within that small ILEC's operating territory. Instead, the wireless carrier can use transit arrangements established in a large ILEC's operating territory to transfer calls to and from the small ILEC.

114. The Commission's approach with respect to the regulation of the small ILECs has been to establish frameworks that are, as much as possible, consistent with those of the large ILECs. The Commission notes that in the large ILEC operating territories, it is not possible for wireless carriers to make use of WNP without making a direct interconnection within the large ILEC territories they wish to serve. As noted above, this is not the case for the small ILEC operating territories.
115. The Commission considers that, consistent with the approach in the large ILEC operating territories, WNP should be made available only to a wireless carrier that is willing to make a direct interconnection within a small ILEC operating territory for the purpose of transferring voice traffic. Based on the record of this proceeding, the Commission considers that, in light of the specific circumstances of the small ILECs, it would be appropriate for a wireless carrier to directly interconnect with the small ILEC in order for WNP to be implemented.
116. The Commission therefore **decides** that implementation of WNP is to be conditional on the wireless carrier directly interconnecting with a small ILEC, unless otherwise negotiated.

IV. Other matters

POI and LIR consolidation

117. A number of parties made various proposals in relation to consolidating POIs and/or LIRs. For example, EastLink argued that POIs should be consolidated because the cost of network facilities used to transport voice calls is declining and a reduction in the number of physical POIs would make it more cost- and time-efficient for competitors to enter new exchanges. Fibernetics submitted that the Commission should review whether certain LIRs should be consolidated with other larger LIRs.
118. Bell Canada et al. stated that, where a CLEC might benefit from POI consolidation in the TDM regime, they would be willing to explore a commercial benefit to both parties.

Commission's analysis and decisions

119. The Commission notes that the overall process which established the current LIRs involved a detailed review over a period of five years (2001 to 2006).²⁵ The Commission further notes that LECs have invested considerable capital in establishing connections between their POIs in the LIRs.

²⁵ See Public Notice 2001-126, and Telecom Decisions 2004-46 and 2006-35.

120. The Commission is of the view that expanding the LIRs would shift the cost of network facilities used to transport voice calls from the CLECs to the ILECs, as well as possibly lead to stranded ILEC investments in existing interconnection facilities. The Commission is also of the view that this issue will become less relevant as legacy TDM voice network interconnections are converted to IP.
121. In light of the above, the Commission considers that it would be inappropriate to amend the existing regime by consolidating existing POIs or LIRs at this time, and hereby **denies** parties' proposals to this effect. This does not, however, preclude parties from negotiating alternative off-tariff arrangements to those which are regulated.

Interconnection facility efficiency

122. Several parties made various proposals related to the use of shared-cost network interconnection facilities to reduce costs and increase network efficiency. Essentially, they requested that EAS transport and local transit services be provisioned using the shared-cost local network interconnection facilities.

Commission's analysis and decisions

123. The Commission considers that there are two issues raised by parties' proposals in relation to this matter: (a) extending the bill-and-keep compensation method to EAS transport and local transit services; and (b) increasing the utilization of the shared-cost local network interconnection facilities.
124. For the first case, the Commission has previously determined that the ILECs should be entitled to recover their costs for EAS transport and local transit services²⁶ through rates that are specific to the type of traffic carried. Consequently, the bill-and-keep compensation method is inappropriate for these two services. Further, the Commission considers that parties have not provided sufficient rationale as to why the Commission's determination is no longer appropriate. The Commission therefore **denies** parties' proposals to extend the bill-and-keep compensation method to EAS transport and local transit services.
125. For the second case, the Commission is of the view that, to the extent that any shared-cost local network interconnection facilities have surplus capacity, it would be appropriate for carriers to be able to use that surplus capacity for other network interconnection requirements. However, the Commission considers that it would be inappropriate to mandate ILECs to make such surplus capacity available, and hereby **denies** parties' proposals to this effect.

Switch interface

126. Network interconnection arrangements require that digital channels be provisioned between two carriers' networks and connected to the carriers' respective digital switching equipment. In the case of connections to the ILECs' legacy switching

²⁶ See Telecom Decision 2004-46.

equipment, the interfaces generally require that the interconnection facilities be at DS-1²⁷ level. Some parties proposed that competitors be allowed to connect higher-level facilities, such as DS-3²⁸ level, to ILEC legacy switching equipment.

127. The ILECs generally submitted that only a small portion of their legacy switches were either equipped to, or could, provide higher-level connections, and that interface equipment would be discontinued by manufacturers in 2012.

Commission's analysis and decisions

128. As discussed above, parties in this proceeding agreed that IP technology is the future and will eventually replace TDM as the dominant network technology. In light of this and the fact that the ILECs generally have technical limitations, the Commission considers that it is not necessary or appropriate to require the ILECs to upgrade their legacy digital switching to support higher-level connections. The Commission therefore **denies** parties' proposals to this effect.

Channelization

129. As discussed above, network interconnection arrangements require that digital channels be provisioned between two carriers' networks and connected to the carriers' respective digital switching equipment. While the ILECs generally require that the interface to their legacy switching equipment be at DS-1 level, the interconnection facilities between networks operate at a higher level. This requires that the higher-level signals be split into a number of lower-level signals. This process is referred to as channelization.
130. Several parties proposed that the ILECs should be responsible for their own channelization costs when competitors lease network interconnection facilities from the ILEC.
131. Yak argued that, unlike Bell Canada et al., TCC does not charge for these costs, provided that the only circuits on the leased connection are for local interconnection.
132. Bell Canada et al. argued that if a CLEC requests the use of leased facilities instead of a joint-build, they have to pay based on how Bell Canada et al.'s networks are structured.

Commission's analysis and decisions

133. The Commission notes that, with local network interconnection, LECs share the cost of provisioning network interconnection facilities between their respective POIs, unless a CLEC leases the interconnection facilities from an ILEC, as discussed above. The LECs are responsible for their own transmission facility and network costs, up to and including the POI.

²⁷ A 1.544 megabit/second signal, through which 24 individual channels can be established for voice communications

²⁸ A 44.736 megabit/second signal, through which 672 individual channels can be established for voice communications

134. The Commission notes that the channelization equipment provided by the ILEC is on the ILEC's side of its POI and, consequently, considers that the associated costs should be borne by the ILEC. The Commission therefore **decides** that the ILECs are not to charge for channelization costs when CLECs, instead of provisioning jointly built facilities with an ILEC, use facilities leased from the ILEC, provided that the circuits on the leased facilities are used only for local network interconnection.

Imbalance payments

135. As noted above, the local network interconnection regime includes two cost compensation mechanisms: (a) bill-and-keep – in the event that voice calls transferred between two LECs are balanced; and (b) mutual compensation – in the event that voice calls are not balanced.

136. Commission-approved tariffs are in place for the mutual compensation mechanism. QMI argued that the current structure of the imbalance tariff and method of calculation can result in significant fluctuations in the applicable payments between months, and proposed two possible solutions: (a) a change to the tariff; and (b) a change to the method of calculating the imbalance payments.

Commission's analysis and decisions

137. While the Commission considers that there may be some merit to QMI's proposals, the record of this proceeding is insufficient for the Commission to render a decision on these proposals. QMI can, if it wishes, file a separate application for the Commission's review.

Small CLEC obligations

138. CCSA, representing the small cable companies, stated that the regulatory obligations imposed on small CLECs could be simplified in ways that would promote the opportunities for small cable operators to compete more effectively in the local exchange market. CCSA made four proposals to simplify the process for small CLECs to meet the regulatory obligations that the Commission has established in Telecom Decision 97-8. CCSA proposed that the Commission should

- a) grant approval of the Special MALI expeditiously;
 - b) establish a formal streamlined process by which a small CLEC can demonstrate that it has fulfilled its interconnection obligations when its underlying partner carrier has already done so;
 - c) not require a small CLEC to enter into separate MALIs with each of the other LECs operating in the same LIR, provided that the underlying LEC employed by the small CLEC has already done so; and
 - d) allow a maximum of 30 days for review and signature of a Special MALI that conforms to the language of the model approved by the Commission.
139. No other party commented on CCSA's proposal.

Commission's analysis and decisions

140. The Commission notes that it recently approved the Special MALI.²⁹ Accordingly, this CCSA proposal has been addressed.
141. With regard to CCSA's other proposals, the record of this proceeding is insufficient for the Commission to render a decision on these proposals. CCSA can, if it wishes, file a separate application on these matters for the Commission's review.

Network interconnection implementation time frames

142. When the Commission initiated this proceeding, it called for comments on the extent to which standards should be established regarding implementation time frames for network interconnection implementation.
143. Distributel and Fibernetics both proposed that the Commission establish a standard implementation time frame for local network interconnection implementation. Distributel proposed a 60-day time frame, and Fibernetics proposed a 90-day time frame. TCC argued that the ILECs' performance in completing these actions is already measured and reported through the Commission's competitor quality of service process and, therefore, there is no value in establishing another layer of performance measures.

Commission's analysis and decisions

144. The Commission notes that a competitor quality of service measurement and reporting process is in place. The Commission is of the view that the existing quality of service process is sufficient to address concerns related to interconnection facility ordering, provisioning, and testing. The Commission therefore **denies** Distributel's and Fibernetics' proposals.

Implementation of forbearance decisions

145. Pursuant to subsection 34(1)³⁰ of the Act, the Commission may make a determination to refrain from exercising certain powers and performing certain duties where it finds that to do so would be consistent with the policy objectives of the Act.

²⁹ See Telecom Decision 2011-574.

³⁰ The subsections of section 34 of the Act referred to in this section are

34(1) The Commission may make a determination to refrain, in whole or in part and conditionally or unconditionally, from the exercise of any power or the performance of any duty under sections 24, 25, 27, 29 and 31 in relation to a telecommunications service or class of services provided by a Canadian carrier, where the Commission finds as a question of fact that to refrain would be consistent with the Canadian telecommunications policy objective;

34(3) The Commission shall not make a determination to refrain under this section in relation to a telecommunications service or class of services if the Commission finds as a question of fact that to refrain would be likely to impair unduly the establishment or continuance of a competitive market for that service or class of services; and

34(4) The Commission shall declare that sections 24, 25, 27, 29 and 31 do not apply to a Canadian carrier to the extent that those sections are inconsistent with a determination of the Commission under this section.

The Commission finds, as a question of fact, that to refrain from the exercise of its powers and the performance of its duties, to the extent set out below, with respect to the regulation of IP and TDM voice network interconnection services, would be consistent with the policy objectives set out in paragraphs 7(c), (f), and (h) of the Act.³¹

146. The Commission considers that it is appropriate to refrain from the exercise of its powers and the performance of its duties with respect to sections 25,³² 29,³³ and 31,³⁴ and subsections 27(1), (5), and (6) of the Act, with respect to IP and TDM voice network interconnection services provided pursuant to negotiated arrangements.
147. The Commission considers that it is also appropriate to retain sufficient powers under section 24³⁵ of the Act to impose future conditions on the offer and provision of the forborne IP and TDM voice network interconnection services provided pursuant to negotiated arrangements, as warranted.
148. The Commission also considers that it is appropriate to retain its powers pursuant to subsections 27(2) and (4) of the Act to ensure that smaller carriers in particular are not subject to unjust discrimination and undue preference.

³¹ The cited policy objectives of the Act are

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; and

7(h) to respond to the economic and social requirements of users of telecommunications services.

³² 25(1) No Canadian carrier shall provide a telecommunications service except in accordance with a tariff filed with and approved by the Commission that specifies the rate or the maximum or minimum rate, or both, to be charged for the service.

25(2) A joint tariff agreed on by two or more Canadian carriers may be filed by any of the carriers with an attestation of the agreement of the other carriers.

25(3) A tariff shall be filed and published or otherwise made available for public inspection by a Canadian carrier in the form and manner specified by the Commission and shall include any information required by the Commission to be included.

25(4) Notwithstanding subsection (1), the Commission may ratify the charging of a rate by a Canadian carrier otherwise than in accordance with a tariff approved by the Commission if the Commission is satisfied that the rate (a) was charged because of an error or other circumstance that warrants the ratification; or (b) was imposed in conformity with the laws of a province before the operations of the carrier were regulated under any Act of Parliament.

³³ 29. No Canadian carrier shall, without the prior approval of the Commission, give effect to any agreement or arrangement, whether oral or written, with another telecommunications common carrier respecting (a) the interchange of telecommunications by means of their telecommunications facilities; (b) the management or operation of either or both of their facilities or any other facilities with which either or both are connected; or (c) the apportionment of rates or revenues between the carriers.

³⁴ 31. No limitation of a Canadian carrier's liability in respect of a telecommunications service is effective unless it has been authorized or prescribed by the Commission.

³⁵ 24. The offering and provision of any telecommunications service by a Canadian carrier are subject to any conditions imposed by the Commission or included in a tariff application approved by the Commission.

149. As a necessary consequence of its retention of section 24 and subsection 27(2), the Commission also considers it necessary to retain subsection 27(3)³⁶ of the Act as it pertains to the exercise of its powers under those sections. Further, the Commission considers it necessary to retain its powers under subsection 27(3) of the Act with respect to compliance with the other powers and duties not forborne from in this decision.
150. Pursuant to subsection 34(3) of the Act, the Commission finds that forbearance, to the extent set out in this decision, with respect to the regulation of IP and TDM voice network interconnection services provided pursuant to negotiated arrangements, will not likely impair unduly the establishment or continuance of a competitive market for the provision of IP and TDM voice network interconnection services.
151. Pursuant to subsection 34(4) of the Act, the Commission declares that, effective the date of this decision, sections 25, 29, and 31, and subsections 27(1), (5), and (6) of the Act, do not apply with respect to IP and TDM voice network interconnection services provided pursuant to negotiated arrangements.

V. Compliance with the Policy Direction

152. The Commission considers that the determinations made in this decision are consistent with the Policy Direction for the reasons set out below.
153. The Policy Direction states that the Commission, in exercising its powers and performing its duties under the Act, shall implement the policy objectives set out in section 7 of the Act, in accordance with paragraphs 1(a), (b), and (c) of the Policy Direction.

³⁶ 27(1) Every rate charged by a Canadian carrier for a telecommunications service shall be just and reasonable.
27(2) No Canadian carrier shall, in relation to the provision of a telecommunications service or the charging of a rate for it, unjustly discriminate or give an undue or reasonable preference toward any person, including itself, or subject any person to an undue or unreasonable disadvantage.
27(3) The Commission may determine in any case, as a question of fact, whether a Canadian carrier has complied with section 25, this section or section 29, or with any decision made under section 24, 25, 29, 34 or 40.
27(4) The burden of establishing before the Commission that any discrimination is not unjust or that any preference or disadvantage is not undue or unreasonable is on the Canadian carrier that discriminates, gives the preference or subjects the person to the disadvantage.
27(5) In determining whether a rate is just and reasonable, the Commission may adopt any method or technique that it considers appropriate, whether based on a carrier's return on its rate base or otherwise.
27(6) Notwithstanding subsections (1) and (2), a Canadian carrier may provide telecommunications services at no charge or at a reduced rate (a) to the carrier's directors, officers, employees or former employees; or (b) with the approval of the Commission, to any charitable organization or disadvantaged person or other person.

154. The regulatory measures under consideration in this decision relate to network interconnection arrangements and regimes for access to networks. Therefore, subparagraphs 1(a)(i) and (ii),³⁷ and subparagraphs 1(b)(i), (ii), and (iv),³⁸ of the Policy Direction apply to the Commission's decisions.
155. Consistent with subparagraph 1(a)(i) of the Policy Direction, the Commission has, in the case of IP and TDM voice network interconnection, relied to the maximum extent feasible on market forces by allowing carriers to provide interconnection services pursuant to negotiated agreements without having to obtain prior Commission approval. Further, with respect to IP voice network interconnection, the Commission has decided not to require the establishment of a default tariff so as to permit market forces to be relied on to the maximum extent feasible.
156. Consistent with subparagraph 1(a)(ii), the Commission considers that the continued mandated provision of TDM interconnection services and WAS is necessary in light of the insufficiency of market forces as a means of achieving the objectives. For the same reason, the Commission considers that regulatory oversight is necessary in the event that negotiations by carriers for the provision of IP voice network interconnection fail to result in agreement. Further, with respect to IP and TDM voice network interconnection services, the Commission considers that it is necessary to retain its jurisdiction to address issues of unjust discrimination that may arise from negotiated agreements. The Commission considers that these measures are efficient and proportionate to their purpose and interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives.
157. Consistent with subparagraph 1(b)(ii), the Commission has streamlined regulatory measures by permitting wireless carriers to interconnect on a shared-cost basis without having to comply with the following CLEC obligations: equal access; supply of directory listings; or provision of details of their service options to the Commission, except upon request. This will allow independent wireless carriers to have the same benefits and obligations as integrated wireline/wireless telecommunications service providers that offer mobile wireless services to consumers.

³⁷ Paragraph 1(a) states: "the Commission should (i) rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives, and (ii) when relying on regulation, use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives."

³⁸ Paragraph 1(b) states: "the Commission, when relying on regulation, should use measures that satisfy the following criteria, namely, those that (i) specify the telecommunications policy objective that is advanced by those measures and demonstrate their compliance with this Order, (ii) if they are of an economic nature, neither deter economically efficient competitive entry into the market nor promote economically inefficient entry, ... and (iv) if they relate to network interconnection arrangements or regimes for access to networks, buildings, in-building wiring or support structures, ensure the technological and competitive neutrality of those arrangements or regimes, to the greatest extent possible, to enable competition from new technologies and not to artificially favour either Canadian carriers or resellers."

158. In compliance with subparagraph 1(b)(i), the Commission considers that the policy objectives set out in paragraphs 7(a), (c), (f), and (g) of the Act are advanced by the regulatory measures established in this decision.³⁹
159. Consistent with subparagraph 1(b)(iv), the regulatory measures in this decision will allow the technological evolution of networks and potential innovation in telecommunications services available to Canadian consumers. This decision will also ensure competitive neutrality by allowing all wireless carriers to have easier access to shared-cost interconnection, thereby enhancing competition in the Canadian mobile wireless services market.

Secretary General

Related documents

- *CISC Business Process Working Group – Consensus report BPRE070a regarding Type III and Type IV CLEC agreement requirements*, Telecom Decision CRTC 2011-574, 8 September 2011
- *Review of regulatory framework for the small incumbent local exchange carriers and related matters*, Telecom Notice of Consultation CRTC 2011-348, 26 May 2011, as amended by Telecom Notice of Consultation CRTC 2011-348-1, 5 July 2011; Telecom Notice of Consultation CRTC 2011-348-2, 28 November 2011; and Telecom Notice of Consultation CRTC 2011-348-3, 21 December 2011
- *Obligation to serve and other matters*, Telecom Regulatory Policy CRTC 2011-291, 3 May 2011, as amended by Telecom Regulatory Policy CRTC 2011-291-1, 12 May 2011
- *Proceeding to review network interconnection matters*, Telecom Notice of Consultation CRTC 2011-206, 23 March 2011, as amended by Telecom Notice of Consultation CRTC 2011-206-1, 3 May 2011
- *Updated action plan for reviewing regulatory measures*, Telecom Decision CRTC 2011-69, 4 February 2011, as amended by Telecom Decision CRTC 2011-69-1, 21 February 2011
- *Implementation of new Rules of Practice and Procedure*, Broadcasting and Telecom Regulatory Policy CRTC 2010-958, 23 December 2010
- *CRTC Interconnection Steering Committee – Consensus items*, Telecom Decision CRTC 2009-139, 12 March 2009

³⁹ The additional 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; and 7(g) to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services.

- *Bell Canada et al.'s application to review and vary Telecom Decision 2008-17 with respect to negotiated agreements*, Telecom Regulatory Policy CRTC 2009-19, 19 January 2009
- *Regulatory framework for the implementation of wireless number portability within the serving territories of the small incumbent local exchange carriers*, Telecom Decision CRTC 2008-122, 18 December 2008
- *Action plan for reviewing social and other non-economic regulatory measures in light of Order in Council P.C. 2006-1534*, Telecom Decision CRTC 2008-34, 17 April 2008
- *Revised regulatory framework for wholesale services and definition of essential service*, Telecom Decision CRTC 2008-17, 3 March 2008
- *Forbearance with respect to certain inter-carrier agreements filed pursuant to section 29 of the Telecommunications Act*, Telecom Decision CRTC 2007-129, 14 December 2007
- *Action plan for the review of Commission regulatory measures in light of Order in Council P.C. 2006-1534*, Telecom Decision CRTC 2007-51, 11 July 2007
- *Follow-up to Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers*, *Telecom Decision CRTC 2004-46*, Telecom Decision CRTC 2006-35, 29 May 2006
- *Revised regulatory framework for the small incumbent local exchange carriers*, Telecom Decision CRTC 2006-14, 29 March 2006
- *Regulatory framework for voice communication services using Internet Protocol*, Telecom Decision CRTC 2005-28, 12 May 2005, as amended by Telecom Decision CRTC 2005-28-1, 30 June 2005
- *Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers*, Telecom Decision CRTC 2004-46, 14 July 2004
- *Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers*, Public Notice CRTC 2001-126, 19 December 2001
- *Local competition*, Telecom Decision CRTC 97-8, 1 May 1997
- *Regulatory framework for the independent telephone companies in Quebec and Ontario (except Ontario Northland Transportation Commission, Québec-Téléphone and Télébec ltée)*, Telecom Decision CRTC 96-6, 7 August 1996, as amended by Telecom Decision CRTC 96-6-1, 17 September 1996

- *Implementation of regulatory framework – Development of carrier interfaces and other procedures*, Telecom Public Notice CRTC 96-28, 1 August 1996
- *Competition in the provision of public long distance voice telephone services and related resale and sharing issues*, Telecom Decision CRTC 92-12, 12 June 1992, as amended by Erratum 92-12-1, 28 August 1992
- *Review of the general regulations of the federally regulated terrestrial telecommunications common carriers*, Telecom Decision CRTC 86-7, 26 March 1986
- *Cellular Radio Service*, Telecom Decision CRTC 84-29, 19 December 1984
- *Radio common carrier interconnection with federally regulated telephone companies*, Telecom Decision CRTC 84-10, 22 March 1984

CLEC obligations	
All of the following obligations must be met by Type II (wireless) CLECs, except as otherwise noted	
Pre-Entry Obligations for Proposed CLECs	Type II CLEC
1. Attest to the Commission that the proposed CLEC understands and will conform to the obligations set out in Telecom Decision 97-8, as modified from time to time.	
2. Identify the exchange(s) and the associated province(s) in which local service is to be provided.	
3. Attest to the Commission that the proposed CLEC is Canadian owned and controlled within the meaning of the <i>Canadian Telecommunications Common Carrier Ownership and Control Regulations</i> issued under the authority of section 22 of the Act.	
4. Register with the Commission using the electronic Data Collection System (DCS) and complete the associated forms (i.e. the registration and ownership forms). Ensure ongoing compliance with the <i>Canadian Telecommunications Common Carrier Ownership and Control Regulations</i> , including the filing of ownership reports.	
CLEC Tariff / Agreement Filing Obligations	
5. File an Access Services Tariff for Commission approval. (Based on the most recent version of the CLEC Model Tariff. Any departure from the CLEC Model Tariff needs to be justified.) Complete all required applications and supporting documents as listed on the Telecom application checklists and Frequently Asked Questions page.	
6. Enter into a master agreement for local interconnection (MALI) (the most recently approved version) with other LECs and file Schedule C with the Commission. Complete all required applications and supporting documents as listed on the Telecom application checklists and Frequently Asked Questions page. Note: Pursuant to Telecom Decision 2007-129, LECs must file a quarterly report listing new template-based MALIs entered into with other LECs. If an executed MALI departs from the template, LECs must file the complete MALI for Commission approval.	

<p>7.</p>	<p>File proposed tariffs for interexchange equal access.</p> <p>(Based on the most recent version of the CLEC Model Tariff. Any departure from the CLEC Model Tariff needs to be justified.)</p> <p>Complete all required applications and supporting documents as listed on the Telecom application checklists and Frequently Asked Questions page.</p>	<p>Not required (this decision para. 94)</p>
<p>8.</p>	<p>Enter into a LEC/IXC (interexchange carrier) Agreement (most recently approved version)</p> <p>Note: Pursuant to Telecom Decision 2007-129, LECs must file a quarterly report listing new template-based LEC/IXC agreements entered into with other LECs. If an executed LEC/IXC agreement departs from the template, LECs must file the complete LEC/IXC agreement for Commission approval.</p> <p>Complete all required applications and supporting documents as listed on the Telecom application checklists and Frequently Asked Questions page.</p>	<p>Not required (this decision para. 94)</p>
<p>9.</p>	<p>Supply subscriber directory listings to other LECs that serve the exchanges in which the proposed CLEC plans to offer service.</p> <p>File the unexecuted template Basic Listing Interchange File Agreement (BLIF) for Commission approval. Any departure from the BLIF agreement template needs to be justified.</p>	<p>Not required (this decision para. 94)</p>
<p>10.</p>	<p>Provide 9-1-1 service and file a 9-1-1 agreement if required.</p> <p>Note: 9-1-1 service is currently provided by public safety answering points (PSAPs) via the ILECs. A 9-1-1 agreement with the ILEC is obligatory when 9-1-1 service is provided through the ILEC. In the event that a proposed CLEC enters into a direct interconnection arrangement with a PSAP, the proposed CLEC would not be required to submit this arrangement for Commission approval but would instead be required to file an attestation that such an arrangement has been finalized.</p>	
<p>11.</p>	<p>Provide message relay service (MRS) and file an MRS agreement if required.</p> <p>Note: When MRS is provided through an agreement with the ILEC, the proposed CLEC is required to file this agreement for Commission approval.</p>	

<p>12.</p>	<p>File a Primary Interexchange Carrier/Customer Account Record Exchange (PIC/CARE) Access Customer Handbook in accordance with Part 1 of the <i>Canadian Radio-Television and Telecommunications Commission Rules of Practice and Procedure</i>.</p> <p>Note: Only required if an IXC requests direct interconnection.</p> <p>Complete all required documents as specified in Broadcasting and Telecom Regulatory Policy 2010-958.</p>	<p>Not required (this decision para. 94)</p>
<p>Proposed CLEC Entry Obligations</p>		
<p>13.</p>	<p>Advise the Commission that the proposed CLEC has obtained a central office (CO) code (NXX) per LIR for routing purposes, for each LIR in which it intends to provide service.</p> <p>To obtain a CO code, the proposed CLEC should contact the Canadian Numbering Administration Consortium, which is responsible for the Canadian Numbering Administrator (CNA). The CNA provides information on procedures, guidelines, application forms, and current or upcoming area code relief planning activities and related service provider obligations (e.g. numbering resource utilization forecast, or NRUF, input).</p> <p>See www.cnac.ca</p>	
<p>14.</p>	<p>Advise the Commission that the proposed CLEC has obtained a CO code (NXX) for each exchange in which it intends to assign numbers to customers. To obtain a CO code, see 13 above and www.cnac.ca.</p>	
<p>15.</p>	<p>Attest to the Commission that the proposed CLEC has implemented LNP.</p> <p>Proposed CLECs are required to join the Canadian Local Number Portability Consortium (CLNPC) and to participate in CLNPC activities, as recommended to all industry members.</p> <p>See www.clnpc.ca</p>	

16.	<p>Attest to the Commission that the proposed CLEC will meet all existing and future regulatory requirements designed to protect customer privacy. These requirements include the following:</p> <ul style="list-style-type: none"> • Delivery of the privacy indicator when invoked by an end-customer; • Provision of automated universal per-call blocking of calling line identification; • Provision of per-line call display blocking to qualified end-customers; • Disallowance of Call Return to a blocked number; • Enforcement of the Commission’s restrictions on automatic dialing-announcing devices, automatic dialing devices, and unsolicited facsimiles applicable in the ILEC territory where the proposed CLEC operates; and • Provision of the universal Call Trace feature. 	
17.	<p>Provide the following information to the Commission and make it available to existing and potential customers, upon request:</p>	
	<ul style="list-style-type: none"> • Local calling area boundaries; 	
	<ul style="list-style-type: none"> • Details of all service options, with applicable prices; 	<p>Modified <i>Required to make the information available only upon request (this decision para. 94)</i></p>
	<ul style="list-style-type: none"> • Details of all potentially applicable service charges; 	<p>Modified <i>Required to make the information available only upon request (this decision para. 94)</i></p>
	<ul style="list-style-type: none"> • Policy on access to enhanced service providers; 	
	<ul style="list-style-type: none"> • Available special needs services; and 	
	<ul style="list-style-type: none"> • Information on privacy protection, including how the company protects the confidentiality of customer records. 	

18.	Make serving area maps available at company business offices upon request.	
19.	<p>Provide the following information to the Commission and to existing and potential customers before the proposed CLEC accepts service contracts:</p> <ul style="list-style-type: none"> • The policies on billing frequency, payment, disconnection, security deposits, and directories; • The name and address of the company providing service to the customer; • A toll-free telephone number that the customer can use to obtain further information or lodge a complaint; • Billing dates; • Due dates for payment; • Interest rates applicable to late payments; • 9-1-1 service and MRS information, including customer charges, if any; and • Information on company obligations regarding customer safety and privacy protection. 	
20.	Attest to the Commission that the proposed CLEC will abide by Commission directives regarding the confidentiality of customer information established in Telecom Decision 86-7, as modified from time to time.	
21.	Attest to the Commission that the proposed CLEC will abide by Commission directives on the provision of billing information and billing inserts in alternative formats, as modified from time to time.	
22.	Attest to the Commission that the proposed CLEC will abide by Commission directives to ensure that end-users are able to have direct access, under reasonable terms and conditions, to services provided by any other LEC serving in the same area.	
Filing Completion		
23.	Serve the documentation filed with the Commission on all other LECs serving exchanges in which the proposed CLEC plans to offer service, and on all other entities that have proposed to provide service in compliance with the above-mentioned entry obligations.	

24.	<p>Notify the Commission once the CLEC obligations set out in Telecom Decision 97-8, as modified from time to time, have been met. This notification should include a description of how each obligation has been met and a reference to the relevant Commission determination(s). Serve a copy of the notification on other LECs providing service in the exchanges in which the proposed CLEC is proposing to provide service.</p>	
<p>Other obligations</p>		
25.	<p>File annual contribution revenue information with the Commission. For contact information, see the Commission's website</p>	
26.	<p>Contact the Canadian Portable Contribution Consortium Inc. (CPCC) to become a shareholder.</p> <p>Note: CLECs are eligible to become CPCC shareholders but are not required to do so.</p> <p>You may contact the CPCC using the information provided on the Commission's website.</p>	