Canadian Radio-television and Telecommunications Commission
Conseil de la radiodiffusion et des télécommunications canadiennes

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Video relay service

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Video relay service (VRS) enables people to conduct telephone calls using sign language. VRS connects a sign language user with another party via an operator who can interpret between sign language and spoken language.

The Commission decides that VRS must be offered in Canada, and details the parameters for the establishment of a national VRS in American Sign Language (ASL) and Langue des signes québécoise (LSQ). The Commission

- *requires telecommunications service providers (TSPs) to fund VRS nationally via the existing National Contribution Fund (NCF);*
- *establishes a funding cap of $30 million annually for all VRS-related costs;*
- *decides that VRS is to be overseen and implemented by an independent VRS administrator; and*
- *sets out the minimum requirements that the VRS administrator must meet in order for funds to be released from the NCF for VRS.*

The VRS administrator will be responsible for selecting any VRS provider(s) through a request for proposals (RFP) process, which will take into account hours of operation, quality of service, and technology to be used, among other considerations.

The Commission also announces the launch of a proceeding, initiated by Telecom Notice of Consultation 2014-188, to consider the structure and mandate of the VRS administrator. The Commission determines that a comprehensive review of VRS is to be completed three years after the service becomes operational.

Introduction

1. The Commission has, over the years, taken a number of decisions intended to promote the accessibility of telecommunications services to people with disabilities. An example of an accessible telecommunications service is teletypewriter (TTY) relay service, which is a text-based relay service that was first required in 1985.[1] To

[1] See Telecom Decision 85-29.

meet the needs of Canadians, the Commission has incrementally extended the requirement to provide text-based relay services throughout Canada to different categories of service providers.[2] As technology has evolved, the requirement has also been expanded to include different types of technology, such as the more recently mandated Internet Protocol (IP) relay service.[3]

2. Some telecommunications service providers (TSPs) provide TTY relay service and IP relay service, collectively referred to as message relay service (MRS), in their operating territories pursuant to either a tariff or a condition under section 24 of the *Telecommunications Act* (the Act). These services enable people with hearing or speech disabilities to communicate with voice telephone users via text. Video relay service (VRS), on the other hand, enables a segment of these consumers who use sign language (sign language users) to communicate with voice telephone users in sign language.

3. A video relayed call involves the caller and the person called, one of whom is a sign language user, as well as the relay operator (VRS operator). The sign language user makes or receives a video call via a computer or other Internet-enabled device using video conferencing tools based on IP technology. The video call connects the sign language user to an operator who is connected to the other party via a voice telephone call. The operator relays the conversation from sign language to spoken language and vice versa, for example from American Sign Language (ASL) to English or from Langue des signes québécoise (LSQ) to French.

4. VRS is currently available in at least nine countries. It is funded from a variety of sources (e.g. government, business, TSPs, individuals, user organizations) and is provided through many different models. For example, Australia has put in place a combination of dedicated government funding and industry contribution, the United States has a competitive for-profit system, and Norway has a government-funded, workplace-only system. The availability of the service varies widely, from 21 hours per week (weekdays only) in Switzerland to 24 hours a day, 7 days a week in the United States.

5. As part of the proceeding that led to Broadcasting and Telecom Regulatory Policy 2009-430 (the Accessibility Policy), the Commission considered whether it should mandate VRS in Canada. The Commission noted at the time that the record of that proceeding was insufficient to determine whether TSPs should be required to provide VRS. The Commission also noted that any TSP may choose to provide VRS, on a regional or national basis, subject to Commission approval of a VRS tariff.

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[2] See paragraph 4 of Telecom Notice of Consultation 2013-155.

[3] See Broadcasting and Telecom Regulatory Policy 2009-430.

6. Since the publication of the Accessibility Policy, no TSP has chosen to provide VRS on a permanent basis. However, two initiatives related to VRS have been completed. Bell Canada contracted with Mission Consulting, LLC (Mission Consulting) to conduct an extensive VRS feasibility study, resulting in a report that was submitted to the Commission on 4 April 2012 (the Mission Consulting report). TELUS Communications Company (TCC) conducted an 18-month VRS trial in three cities (the TCC trial) and submitted its report on the trial on 14 March 2012. These two reports are part of the public record of this proceeding.

7. The Mission Consulting report presented detailed estimates of the projected number of VRS users, usage, and funding requirements for VRS in Canada. Mission Consulting also considered various implementation models for VRS in Canada and made recommendations as to which model would be most appropriate.

8. The TCC trial generated actual data regarding VRS usage patterns, including the number of calls, the duration of each call, and the time of day that calls were made. TCC was also able to measure the shift in call patterns when the hours of operation were modified. However, neither TCC nor the company providing VRS during the trial submitted a detailed breakdown of the cost of VRS in response to a request by the Commission.

9. Given the above facts, and to respond to complaints and requests from the public regarding the lack of VRS in Canada, the Commission issued Telecom Notice of Consultation 2013-155 (the VRS Notice) to consider issues related to the feasibility of establishing VRS in Canada. The proceeding included a public hearing in the National Capital Region, which began on 21 October 2013.

10. The Commission received interventions from organizations representing Deaf Canadians (consumer groups), TSPs, VRS providers, interpreter organizations, and individuals. The public record of this proceeding, which closed on 15 November 2013, is available on the Commission's website at www.crtc.gc.ca or by using the file numbers provided above.

Issues

11. The Commission has identified the following issues to be addressed in this decision:

    I. Appropriateness of VRS in Canada

    II. Funding and administration of VRS

    III. Details of funding

    IV. VRS in Canada

    V. Funding cap

VI. Access to VRS and fair pricing

VII. Minimum service requirements

I. Appropriateness of VRS in Canada

12. In the VRS Notice, the Commission invited comments on whether or not VRS should be implemented in Canada, and if so, how it should be implemented to address the needs of Canadians while ensuring the efficient use of resources.

13. Individuals and consumer groups submitted that sign language users face barriers to accessing basic telecommunications services and that the lack of VRS in Canada constitutes discrimination. They argued that TSPs should be responsible for the funding of VRS.

14. These parties submitted that VRS would better meet the telecommunications needs of sign language users than MRS, as MRS is only text-based. Specifically, they submitted that, in many instances, ASL or LSQ is the sign language user's first language, and he or she may lack fluency in English or French. Since VRS would allow such an individual to use his or her first language, including facial expressions and body language, to communicate during a call, a VRS call would be much more like a telephone conversation between two hearing parties than would communication through a text-based relay service. These parties further submitted that text-based relay services are much slower than the speed of a voice conversation, and that VRS would provide a more natural and efficient means of communication than traditional text-based relay services, thereby decreasing barriers to communication for sign language users.

15. Most of the TSPs that participated in this proceeding expressed concern about the provision of VRS in Canada and who should be responsible for it. TSPs generally expressed the view that if VRS is made available in Canada, it should be funded through general federal tax revenues, not telecommunications revenues.

16. Most TSPs were also concerned about the potentially high cost of VRS. Saskatchewan Telecommunications (SaskTel) argued that, based on the estimates provided on the record, the level of funding it would have to provide for VRS would be too high, in light of existing technological alternatives such as texting and Skype.

17. All the TSPs took the position that if the Commission were to require the provision of VRS, a specialized provider should be responsible, as VRS requires expertise that TSPs do not have.

18. Individuals and consumer groups generally agreed that Canadian TSPs are not in the best position to provide VRS because there could be pressure for VRS to remain low-cost at the expense of the service. They submitted that a specialized provider would serve Canadian VRS users best because the focus would remain on

providing proper service rather than on the costs that could potentially affect the TSPs' annual revenues.

Commission's analysis and determinations

19. In examining the feasibility of establishing VRS in Canada, the Commission is exercising its powers under the Act to regulate telecommunications. According to section 47 of the Act, the Commission must exercise these powers (i) with a view to implementing the telecommunications policy objectives set out in section 7 of the Act[4] and ensuring that telecommunications services are provided in accordance with section 27 of the Act, which prohibits unjust discrimination; and (ii) in accordance with any orders made by the Governor in Council, which currently consist of the Policy Direction.[5]

20. Subsection 27(2) of the Act provides, among other things, that no Canadian carrier shall unjustly discriminate in the provision of a telecommunications service or the charging of a rate for it. As discussed in the Accessibility Policy, given the breadth of the telecommunications policy objectives and the factors set out in the Policy Direction, the determination of whether any discrimination is unjust and what steps to take in addressing such discrimination necessarily involves balancing competing objectives. In fulfilling its role in this regard, the Commission must use leading Canadian human rights principles that recognize that equality is a fundamental value and a central component of the public interest, and it must act in a manner that is consistent with the *Canadian Charter of Rights and Freedoms* (the Charter).

21. The Commission recognizes that if it takes no action, unjust discrimination may not be addressed; however, it considers that any proposed accommodation should not

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[4] The telecommunications policy objectives are

7(*a*) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions;

7(*b*) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;

7(*c*) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications;

7(*d*) to promote the ownership and control of Canadian carriers by Canadians;

7(*e*) to promote the use of Canadian transmission facilities for telecommunications within Canada and between Canada and points outside Canada;

7(*f*) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective;

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

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

7(*i*) to contribute to the protection of the privacy of persons.

[5] *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, P.C. 2006-1534, 14 December 2006

unreasonably interfere with the achievement of the telecommunications policy objectives or with the Policy Direction.

22. While TTY was the best technology available when TTY relay service was first mandated, VRS makes it possible for sign language users to communicate by telephone, in their first language, with fluency, range of expression, ease, and speed. VRS thus gives sign language users access to a quality of voice telephony (i.e. local exchange service) that is very similar to that experienced by callers without a disability, which is something that text-based innovations such as texting do not provide. Additionally, generic video chat applications such as Skype lack the operator component, which means that only individuals who understand sign language can communicate using such applications.

23. Furthermore, the Commission notes that the results of the TCC trial and of the Mission Consulting report, as well as submissions from Interactivité Vidéo et Systèmes (IVèS), nWise, Sorenson Communications (Sorenson), TCC, individuals, and consumer groups, indicate that VRS is technically feasible in Canada and is highly valued by its potential users. However, the Commission considers that VRS would very likely not be introduced solely through reliance on market forces. As noted above, no TSP has chosen to provide VRS in Canada on a permanent basis.

24. The Commission finds that the failure to provide VRS in Canada constitutes unjust discrimination by Canadian carriers. The Commission could therefore require Canadian carriers to provide VRS. Instead, as set out below in more detail, it has opted for a model in which VRS would be offered by an independent, centralized, third-party VRS administrator. VRS must be offered nationally, in both ASL and LSQ, and be funded by TSPs through contributions to the NCF, with a funding cap. The Commission considers that this approach will not unreasonably interfere with the Policy Direction or with the achievement of the telecommunications policy objectives, and in fact will help to achieve many of these objectives. The Commission also considers that this approach is an appropriate means of addressing unjust discrimination against sign language users and is consistent with Charter values and human rights principles.

II. Funding and administration of VRS

25. In this proceeding, the Commission examined how VRS should be implemented to address the needs of Canadians while ensuring the efficient use of resources. The Commission presented two possible models for the funding and administration of VRS. The first model was based on the way MRS is currently funded and administered: each TSP is required to offer MRS to its customers and must spread the cost across all its local exchange service customers (the MRS model). The second model envisioned one central administrator that would contract with one or more VRS providers through a competitive request for proposals (RFP) process to provide a national VRS funded through contributions by TSPs (the centralized model).

26. Bell Canada et al.[6] submitted that applying the MRS model to VRS may have unintended negative consequences, as it may give local exchange carriers (LECs) an incentive to find ways to drive VRS users, and the related costs, to other LECs. They argued that having each LEC provide its own VRS, either internally or more likely through a third-party supplier, is not an efficient use of resources and could drive up the overall cost of providing VRS. Also, service levels and quality could vary widely between LECs under the MRS model. Finally, Bell Canada et al. argued that the MRS model would arbitrarily assign responsibility for the funding and provision of VRS to a subset of TSPs, which would be interventionist, asymmetrical, and contrary to the Act and the Policy Direction.

27. There was general support for the centralized model. While MTS Inc. and Allstream Inc. (collectively, MTS Allstream), TCC, and the Cable carriers[7] were in favour of using general federal tax revenues to fund VRS, they indicated that they would support the centralized model as a second option. Parties that supported the centralized model indicated that it would spread the cost of VRS over a wider base of TSPs, telecommunications services, and subscribers. They submitted that the centralized model would therefore be more equitable than the MRS model. However, they had differing views as to how the VRS administrator should be created and structured.

Commission's analysis and determinations

28. While the Commission could simply extend the MRS requirements to include VRS, parties were generally opposed to this approach.

National service

29. The record of this proceeding indicates that there is currently a shortage of qualified sign language interpreters. The Commission considers that under the MRS model, LECs would be competing for the limited pool of qualified sign language interpreters to serve a relatively small number of users.[8]

30. The Commission expects that under the centralized model, economies of scale will be achieved, particularly during off-peak hours, by avoiding unnecessary redundancies that would occur with the MRS model. In addition, a more consistent quality of service is likely to be available across the country if VRS is provided nationally rather than by each TSP within its serving territory.

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[6] Bell Aliant Regional Communications, Limited Partnership on its own behalf and on behalf of DMTS, KMTS, NorthernTel, Limited Partnership, and Télébec, Limited Partnership; Bell Canada; Bell Mobility Inc.; and Northwestel Inc.

[7] Bragg Communications Inc., Cogeco Cable Inc., Quebecor Media Inc., Rogers Communications Inc., and Shaw Communications Inc.

[8] The estimated number of VRS users was based on (i) the results of the Mission Consulting report, and (ii) Statistics Canada's 2006 census results. See the VRS Notice for more details.

31. The Commission therefore considers that there is significant potential for efficiencies in the provision of VRS on a national basis.

Source of funding

32. The Commission notes that VRS as required by this decision will enable VRS users to initiate and receive calls over the public switched telephone network (PSTN) using a telecommunications facility (namely, the VRS technical platform). VRS will provide its users with the functionality of local exchange service, including the assignment of a specific telephone number to each VRS user, which a caller will dial to reach the user. Given these characteristics, the Commission considers that VRS is a basic telecommunications service and that a centralized fund would most efficiently support the continuing accessibility of voice telephony to a segment of the population that would otherwise not have access to such service because of a disability.

Administration

33. The Commission is of the view that an independent, centralized administrator will ensure that the viewpoints of the primary VRS users are considered throughout the implementation and ongoing operations of VRS. Additionally, having one administrator oversee both ASL and LSQ service offerings is expected to promote equality and efficiency.

34. In light of the above, the Commission determines that the centralized model, in which VRS is provided nationally by an independent administrator and funded through contributions by TSPs pursuant to section 46.5 of the Act, will provide VRS in a way that best fulfills the telecommunications policy objectives.

35. In order for the Commission to approve the release of funds collected pursuant to section 46.5 of the Act, it must be satisfied that the VRS administrator will meet the requirements set out in this decision in order to ensure that VRS is provided in a manner that best meets the telecommunications policy objectives. However, it also considers that the VRS administrator should have the flexibility to ensure that VRS is developed and implemented in a way that reflects the unique Canadian context.

36. In addition, the VRS administrator, in seeking approval from the Commission for funds to be released, must demonstrate that all the requirements set out in this decision have been or will be met. Although the VRS administrator may decide to deliver all or part of VRS itself or to contract with a VRS provider[9] for this purpose, it is the administrator's responsibility to ensure that the requirements set

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[9] The VRS administrator will decide whether there will be one or multiple providers, including whether there will be separate providers for ASL and LSQ. For simplicity, all references to "VRS provider" include both single and multiple provider scenarios. The VRS provider is distinct from a VRS operator, which is a person who provides interpretation, acts as an intermediary with a 9-1-1 operator, etc. VRS operators will likely be hired by a VRS provider.

out in this decision are met at all times, by both itself and any party with which it contracts.

37. With respect to the structure of the VRS administrator, its Board of Directors must comprise members drawn from TSPs and sign language user organizations (both ASL and LSQ), as well as members with other relevant areas of expertise. The VRS administrator must also ensure that staff and any advisory panels that may be struck to advise the Board of Directors include the perspectives of both the ASL and LSQ communities.

38. Concurrently with this decision, the Commission is issuing Telecom Notice of Consultation 2014-188, seeking comments on the structure, mandate, and governance of the VRS administrator. The public process initiated by that notice will determine the composition and specific mandate of the Board of Directors, when and how the administrator will be required to report to the Commission, and the details of the VRS administrator's financial accountability to the Commission.

III. Details of funding

39. Individuals and consumer groups provided no specifics as to whether the existing NCF should be used to fund VRS or a new standalone fund should be created. Sorenson, a full-service American VRS provider, submitted that the existing NCF should be amended to include VRS funding. All TSPs that commented on this issue, except TCC, recommended that the existing NCF be used. The TSPs generally agreed that the NCF mechanism would be the most efficient and cost-effective method to implement a centralized VRS fund because

- the costs and administrative burden would be lower, since the existing processes and structure could be expanded and modified for VRS purposes;
- it would eliminate the need to create a regime similar to the NCF in order to carry out an almost identical function, thereby minimizing duplication of reporting and collection processes; and
- the existing procedures, processes, and reporting requirements are well-known and understood within the industry.

40. TCC submitted that a new standalone centralized fund with separate reporting should be used to collect and disburse VRS funding because, in its view, VRS is quite different from a traditional basic local telecommunications service, as it uses an Internet connection and specialized services that are outside the normal domain of TSPs.

41. With respect to which revenues should be taken into account when contributions for funding VRS are determined, Bell Canada et al., MTS Allstream, SaskTel, Sorenson, and TCC submitted that the existing definition of contribution-eligible revenue used for the purposes of the NCF should be expanded to include Internet revenues because VRS is an Internet-based service.

42. The Cable carriers, however, were of the opinion that the existing definition of contribution-eligible revenue should be retained because VRS provides an accessible equivalent to local exchange service. They submitted that retail Internet revenues should not be included in the definition.

Commission's analysis and determinations

NCF versus a standalone fund

43. In the Commission's view, VRS should be introduced in Canada as quickly and efficiently as possible. Using the existing NCF would be the most efficient and appropriate means of funding VRS at this time because NCF procedures are well-established. In addition, using the NCF will ease the administrative burden on the industry. Accordingly, the Commission determines that VRS funding is to be provided through the existing NCF.

Bridge funding

44. Currently, when funds are drawn from the NCF, there is a lag between the request for funds and their reimbursement. TSPs that are eligible to receive subsidy from the NCF to support their own customer base in high-cost serving areas are responsible for any associated bridge funding. However, these TSPs also earn most of their revenues from their customers, which will not be the case with VRS. Thus, the procedure for drawing funds for VRS from the NCF will necessarily be different from the procedure for high-cost serving areas, as the primary revenue source for the VRS administrator will be NCF funding, which will also be subject to a lag. The Commission considers that requiring a large number of TSPs to share interim costs for VRS would be unnecessarily complex.

45. To ensure that bridge funding for VRS is made available in an efficient manner, the Commission requires, as a condition of providing local exchange service pursuant to section 24 of the Act, that TSPs with members on the VRS administrator's Board of Directors provide this bridge funding, which will be reimbursed from the NCF.

Inclusion of Internet revenues

46. Currently the NCF does not include retail Internet revenues in its definition of contribution-eligible revenues. The Commission considers that changing this definition at this time would result in administrative complexity and delay. Since the existing NCF is fully operational and would permit funding of VRS with little or no delay, the Commission considers that the most efficient way to provide VRS

funding would be to use the existing NCF rules (i.e. without Internet revenues funding VRS).

47. Accordingly, the Commission approves the use of the existing definition of contribution-eligible revenue for funding VRS. However, the Commission recognizes that VRS is delivered over an Internet connection and that it may be appropriate to revisit the definition of contribution-eligible revenue for funding VRS at a later date.

IV. VRS in Canada

48. As mentioned earlier, there are many different models of VRS internationally. Canada has many distinct characteristics, including two official languages, two corresponding sign languages, a relatively small population spread unevenly over its large land base, six time zones, and a unique Canadian telecommunications regulatory context.

49. In deciding how to implement VRS in Canada, the Commission must take into consideration the specifics of the Canadian marketplace. The Commission has considered the following issues with regard to how VRS should be implemented in the unique Canadian context:

- number of VRS providers and competition in VRS;
- equivalence of ASL and LSQ services; and
- technical and operator elements of VRS.

Number of VRS providers and competition

50. The Commission has examined what would be the ideal number of VRS providers to serve the needs of sign language users and ensure the efficient use of resources in Canada, given the country's landscape and low population density.

51. Parties presented varying views on the appropriate number of VRS providers and level of competition between providers in Canada. The Ontario Association of the Deaf (OAD) submitted that there should be at least two VRS providers selected through a competitive process. The Ontario Video Relay Services Committee (OVRSC) submitted that the provision of VRS should be independent of TSPs and there should be competition in VRS. Most of the TSPs submitted that there should be a single national provider of VRS in Canada. Sorenson's view was that VRS in Canada should be competitive, much like in the United States.

52. In general, parties were of the view that competition would result in more consumer choice and improved quality of service. IVèS, a VRS technology vendor based in France, submitted that a competitive balance should be struck, arguing that the American model, in which any VRS provider may enter the market freely so long

as it meets the minimum criteria, is inefficient. IVèS added that three VRS providers would be an ideal number for Canada.

53. However, many parties also recognized the need for the orderly development of VRS. The Canadian Association of the Deaf (CAD), for example, submitted that one ASL provider and one LSQ provider would be appropriate as a starting point, and that the VRS market could be opened up to competition once the system is running smoothly.

Commission's analysis and determinations

54. Given the unique Canadian context, the Commission concludes that the VRS environment will not support competition among multiple providers at this time.

55. The Commission considers that artificially stimulating direct competition would be inconsistent with subparagraph 1(*a*)(ii) of the Policy Direction, which states that the Commission, when relying on regulation, must 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.

Equivalence of ASL and LSQ services

56. Parties all agreed that ASL and LSQ services should be equal. However, the Mission Consulting report indicated that there are currently not enough ASL and LSQ interpreters in Canada to support a robust VRS operating 24 hours a day, 7 days a week, and that this shortage may be more pronounced for LSQ interpreters. It added that there is not a uniform standard of proficiency for LSQ interpreters. The majority of parties submitted that in such circumstances, it would be difficult to ensure the equality of the two services, at least initially and until sufficient interpreter capacity could be built within Canada.

57. Le Centre québécois pour la déficience auditive (CQDA), however, did not agree that there are proportionally more ASL interpreters than LSQ interpreters for the provision of VRS. It argued that the LSQ service must be as comprehensive as the ASL service, even if it is necessary to restrict the ASL service to ensure this equality.

Commission's analysis and determinations

58. The Commission considers that ASL and LSQ services should be as equally comprehensive as possible (e.g. in terms of hours of operation and quality of service), but recognizes that this may not always be possible. Therefore, the VRS administrator must consider all the information available and demonstrate that it has made all reasonable efforts to ensure that ASL and LSQ services are equally comprehensive. This applies regardless of whether ASL and LSQ customers are served by the same or separate VRS providers.

59. The VRS administrator is not to restrict the hours or quality of one service to ensure its equality with the other service. Regardless, the administrator must ensure that ASL and LSQ services are launched on the same day.

Technical and operator elements of VRS

60. Some parties supported the approach, recommended by Mission Consulting and endorsed by Bell Canada et al., of separating the technical and operator elements of VRS. This approach would mean that multiple call centres, managed by one or more providers, could access a single technology platform. Parties submitted that such an approach would enable a phased-in implementation of VRS that could put interpreter agencies and interpreter training programs in a position to provide VRS.

61. TCC, however, submitted that VRS is a service based on specialized call centre operations; therefore, it would be more sensible to have companies that already have significant expertise in managing call centres offer the service, as opposed to interpreter agencies and training programs that do not have such expertise.

Commission's analysis and determinations

62. The Commission considers that it is important for VRS to build service capacity within Canada and to fit the Canadian context. In the Commission's view, separating the technical and operator elements of VRS would reduce the barriers for interpreter agencies and training programs, as well as smaller companies with limited access to start-up funding, to participate in a competitive process by eliminating the need for them to invest in a technology platform. The Commission notes that interpreter agencies and training programs have expertise in employing and training sign language interpreters, who will likely be hired as VRS operators.

63. The Commission also considers that separating the technical and operator elements would give the VRS administrator the flexibility to create a service that best fits the Canadian context by choosing from different technology platforms and VRS providers. For example, the VRS administrator may contract for the technical element and lease a non-proprietary platform. In these circumstances, an existing VRS provider that typically uses its own proprietary technical platform could decide to bid separately for the operator service component only.

64. The Commission therefore concludes that the VRS administrator should consider separating the technical and operator elements of VRS, in order to create a more efficient and reliable Canadian model.

V. Funding cap

65. TSPs generally supported a limit on the amount of annual funding to be provided for VRS (funding cap). Many TSPs indicated that they were unable to provide costing information for VRS, as it is outside their area of expertise. However, they submitted that the widely ranging estimates available on the record regarding the funding required for VRS in Canada demonstrate the need for a funding cap to

ensure predictability. They added that a funding cap and established service requirements would allow for an appropriate balance between costs and benefits.

66. Bell Canada et al. argued that a funding cap could give the VRS provider an incentive to find ways to operate more efficiently. They added that a cap could also encourage the development and use of innovative alternative communications technologies.

67. Sorenson opposed establishing such a cap and submitted its estimate of what the funding requirement for VRS would be in Canada, based on its experience providing VRS in the United States. Sorenson estimated that $10 million annually would be required initially, and this amount would increase to approximately $100 million annually as more users register for VRS. However, Sorenson did not provide a detailed breakdown of its costs as evidence to support its estimates.

68. The Mission Consulting report concluded that, assuming a per-minute compensation approach, the funding requirement for a fully subscribed VRS available 24 hours a day, 7 days a week, with specific quality of service standards as laid out in the report, would be approximately $32 million annually. The majority of consumer groups, including CAD, the Canadian Hearing Society (CHS), and the OAD, were in agreement with these findings and supported Mission Consulting's recommendations.

69. L'Université du Québec à Montréal (UQAM) and le Service d'interprétation visuelle et tactile (SIVET) filed a joint intervention that presented a new approach to implementing VRS based on a fixed number of operators. Their model presented a controlled expansion of VRS based on interpreter availability. For example, if interpreters were initially unavailable to act as VRS operators, the hours of operation would be expanded only as the number of available interpreters capable of being VRS operators increased. They estimated that an LSQ service could begin limited operations starting with funding of $620,000 in year one. Under this approach, interpreter training organizations would be able to provide VRS operator services while developing the base of sign language interpreters in Canada.

Commission's analysis and determinations

70. The Commission considers that it is appropriate to establish a VRS funding cap, as such a cap would (i) promote predictability in funding requirements; (ii) allow VRS providers to tailor their bids to meet clear funding and service criteria; and (iii) enable the implementation of VRS while allowing for the collection of data about actual costs to inform future decisions. The Commission further considers that a VRS funding cap would assist it in achieving several of the telecommunications policy objectives by permitting the orderly development of an innovative, efficient, and affordable VRS.

71. With respect to the amount of the funding cap, the Commission notes that much of the information available on the record pertaining to the cost of VRS was based on the provision of the service in the United States. Though this information is useful, it is specific to that particular model of offering VRS. The Commission notes that the funding requirements for VRS in a variety of countries are based on the particular model of service in each country and range from under $1 million to over $550 million annually. The nature of VRS is unique to each country, and each model has its own set of advantages and disadvantages.

72. The Commission sets out below a number of specific minimum criteria for the service to ensure that it is implemented in a way that will ensure the fulfillment of the telecommunications policy objectives and meet the particular needs of Canadians.

73. Taking into consideration the range of estimates submitted by parties for the level of funding required to support a full-time VRS and the different funding requirements for VRS internationally, the Commission considers that an annual funding cap of $30 million is appropriate for delivering VRS in Canada. The Commission considers that the VRS funding cap is to be a firm, long-term cap. Potential VRS providers will be able to seek efficiencies and put forward competitive bids tailored to Canada's unique context, within the cap.

74. The $30 million funding cap is to cover all administrative and service-related costs for VRS in both ASL and LSQ. The Commission's decision not to distinguish between service-related costs and administrative costs is intended to encourage the VRS administrator to be innovative in its approach to implementing VRS, which may involve a more hands-on role for the administrator.

75. The Commission notes that it could take several years for VRS to become operational. Until the service is in operation, the funding required will be primarily for administrative purposes.

VI. Access to VRS and fair pricing

76. In this proceeding, the Commission requested comments on Internet service requirements for VRS and on long distance services and ancillary services (e.g. call waiting, call display).

77. Many parties submitted that VRS should be offered free of charge. They also submitted that VRS users should not be required to subscribe to voice telephony as is the case for MRS, since all that is technically required to access VRS is an Internet connection.

78. The majority of consumer groups were in favour of offering VRS users a basic Internet package that includes sufficient speeds to support VRS, as well as high or unlimited data caps. The OVRSC submitted that speeds of 20 megabits per second (Mbps) would be optimal for video communications. Other consumer groups, such as la Maison des Femmes Sourdes de Montréal, were not concerned about the need

for Internet subscriptions, indicating that many people already subscribe to Internet services.

79. The CHS stated that if financial restrictions prevent consumers from subscribing to Internet services, there are social services available that subsidize the price of a subscription, or public services such as libraries that provide free Internet connectivity.

80. TSPs expressed the view that existing Internet packages are capable of supporting VRS and that no regulatory intervention is required in this regard.

81. Parties generally submitted that long distance and ancillary services, such as video mail and call display, should be offered to VRS users where the technology permits and at rates comparable to those that hearing users would pay. Individuals generally submitted that the services they receive and the rates charged for those services should be similar to those provided to hearing users.

82. The CQDA submitted that various forms of interpreting, such as lip reading and oral transliteration,[10] should be offered as part of VRS. Communication Disabilities Access Canada (CDAC) submitted that a video-based VRS technology platform could be used to offer other types of relay service, including speech-to-speech relay,[11] to assist people with speech and language disabilities. Mission Consulting submitted that there are no technical obstacles to many of these services being available along with standard sign languages.

Commission's analysis and determinations

Requirements for customers to access VRS

83. The Commission considers that, since VRS will be provided on a national basis by a centralized administrator and access to VRS will not require a voice telephony service, a requirement for VRS users to subscribe to a voice service is unnecessary.

84. The Commission notes that VRS users will need access to an Internet service and that there are a variety of Internet packages available in the marketplace that meet the minimum requirements for VRS. The Commission therefore does not consider it necessary to mandate a regulated Internet package for VRS users.

85. The Commission further notes that VRS users will be customers of the VRS administrator or the VRS provider. The Commission considers that a mandatory

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[10] Oral transliteration is a means of providing communication access to a person with a hearing disability. An oral transliterator inaudibly repeats the spoken message in a manner which permits the individual to read their lips.

[11] Speech-to-speech relay is a form of relay service for people with speech disabilities. An operator repeats, or revoices, what the individual with the speech disability is saying in a manner which can be easily understood by the other party. It may also be possible to use an assistive speech-generating device to facilitate the conversation.

user agreement between these parties is necessary in order to set out, in plain language, the roles and responsibilities of the provider, the administrator, and the user. The following criteria must be included in the user agreement, in addition to other criteria that the VRS administrator may consider appropriate:

- user self-certification of a hearing or speech disability;
- a privacy and confidentiality policy;
- a fair usage policy, which will set out the appropriate use of VRS (including that VRS is not to be used by two callers in the same location, which is instead a video remote interpreting (VRI) service);
- 9-1-1 access; and
- a billing agreement for ancillary and long distance services, where applicable.

Ancillary and long distance services

86. The Commission considers that long distance calling must be offered to VRS users and that ancillary services should be offered. However, the Commission considers that ancillary and long distance services, as well as end-user devices, are not eligible for compensation from a fund established under section 46.5 of the Act. Rather, customers are to be charged for these services at rates similar to those of corresponding voice telephony services. The VRS administrator is to ensure that any competitive bid from a potential VRS provider indicates the price the provider will charge to customers for any such services.

87. With respect to long distance services, the Commission notes that long distance calls originating from, and billed to, the residential telephone numbers of registered MRS users with hearing or speech disabilities are typically discounted by 50 percent. The discounted rate takes into consideration the slower speed of text-based communications.

88. The Commission notes that the speed of conversation for VRS is approximately 150 words per minute, compared to 170 words per minute for voice calls. The Commission considers that the difference in speed between video relayed calls and voice calls is negligible. Therefore, the Commission will not mandate a discount for long distance calls made using VRS. However, at the beginning of a VRS call, the VRS operator typically takes a few minutes to collect some information from the user prior to placing the call. Therefore, calls must be billed based on call time and not session time; that is, any preparation time prior to the call and any time used to conclude the session after the call ends must be excluded from the time billed for a long distance VRS call.

Other issues

89. The Commission notes that the VRS Notice specifically stated that VRS is a telecommunications relay service that provides services between ASL and English, and between LSQ and French. Accordingly, the Commission considers that the CQDA's and CDAC's proposals regarding other forms of interpretation are outside the scope of this proceeding.

90. However, the Commission recognizes that there are different forms of sign language and interpretation that may benefit VRS users. The Commission considers that a VRS provider may offer services in these other languages if they do not affect the funding or the quality of the ASL and LSQ services.

VII. Minimum service requirements

91. The Commission considers that the VRS administrator should have the flexibility to implement VRS in a manner that is efficient and effective. However, certain minimum requirements must be met either directly by the VRS administrator or through a third party in order for the service to be eligible for compensation from the NCF.

92. If a third party provides the relevant service, the VRS administrator must (i) include these minimum service requirements in the RFP it issues, (ii) only choose a VRS provider that meets the minimum requirements, and (iii) include compliance with the minimum requirements as a contractual commitment in the agreement with the chosen provider.

a) Technology

Direct dialing versus dialing through an operator

93. There are two possible ways to design VRS in terms of how calls are made. Similar to MRS, a caller can dial a call centre and have an operator manually complete the call. Alternatively, a caller can directly dial a traditional telephone number that conforms to the North American Numbering Plan (NANP), and the call will be automatically connected to the person called and to the VRS operator.

94. Most parties supported the assignment of traditional telephone numbers for VRS users, which would allow for direct dialing. The Toronto Association of the Deaf and the Alberta Association of the Deaf submitted that this option would allow users to be contacted directly, as opposed to being manually connected through a VRS operator. The OVRSC indicated that directly dialing a telephone number would provide a more seamless experience, similar to voice telephony, and added that this option would enable VRS users to complete certain online forms that only accept traditional telephone numbers. IVèS stated that direct dialing is an important factor in simplifying access to VRS, in particular facilitating calls from a hearing person to a VRS user.

95. In addition, nWise, a VRS technology vendor based in Sweden, stated that implementing direct dialing would increase the likelihood that hearing users would call VRS users, as observed in the United States after that country switched to direct dialing for VRS users in 2008.

96. The Commission considers that assigning traditional telephone numbers to VRS users would provide a user experience most similar to voice telephone service.

97. In light of the above, the Commission determines that the assignment of telephone numbers conforming to the NANP is a requirement for VRS.

Single platform versus multiple platforms

98. Parties generally agreed that a single (common) VRS technology platform would be best for Canadian VRS, indicating that it would avoid interoperability issues, provide uniform reporting capabilities to VRS providers, and ensure consistency of features and quality between ASL service and LSQ service.

99. The Commission considers that a single platform would be more efficient to operate than multiple platforms because it would avoid the interoperability issues that would arise with a multi-platform system. It would also provide a consistent quality of service to all VRS users in Canada.

100. In light of the above, the Commission determines that a single national platform is required for VRS.

Specialized platform versus existing, non-specialized platforms

101. Some parties supported the use of existing, non-specialized (generic) platforms, such as Skype or ooVoo, for VRS. These parties pointed to Australia's positive experience using Skype for VRS. The Australian Communication Exchange submitted that the use of Skype reduced barriers to the adoption of VRS, as consumers were already familiar with the software. Further, it noted that Skype is free of charge.

102. Parties that supported a specialized platform, such as those provided by nWise and IVèS, submitted that non-specialized platforms currently do not have full capability to support 9-1-1 calling, cannot provide location information, and cannot queue and prioritize calls.

103. The Commission considers that free, non-specialized platforms offer many advantages, and their end-user software and hardware are widely available and easily accessible. However, in the Commission's view, such existing platforms currently do not offer certain important features for VRS, such as direct dialing (in Canada), 9-1-1 service, queuing, and quality-of-service monitoring.

104. In light of the above, the Commission requires that non-specialized platforms not be used for VRS unless the key features mentioned above become available on these platforms.

Implementation of technology based on industry-accepted protocols

105. Several parties submitted that it is important for VRS to be able to adapt to emerging technologies and maximize consumer choice in end-user devices. In addition, several parties submitted that, for VRS to remain up-to-date on the latest features and products, it is important to ensure that devices can communicate using non-proprietary technology that is based on industry-accepted technical protocols.

106. Several parties referred to Session Initiation Protocol (SIP), which is used for controlling a voice or video conversation over the Internet. nWise stated that SIP has been used in Europe for 12 years and will soon be adopted in the United States. Sorenson stated that efforts to standardize VRS among providers in the United States have centred on SIP.

107. Sorenson submitted that while its videophone uses proprietary technology that would not be compatible with other platforms, this technology is specifically designed for VRS, in particular for movements related to sign language. Sorenson stated that if VRS were to migrate from its platform to a different platform in the future, VRS users would not be able to use the Sorenson videophones they already have.

108. nWise noted that some European countries require that the International Telecommunications Union's (ITU) Total Conversation standard be used for relay services. nWise argued that Total Conversation allows harmonization of MRS and VRS; for example, an MRS user can communicate directly by text with a VRS user.

109. Examples of current industry-accepted technical protocols include the ITU's H.264 protocol for video compression and the Internet Engineering Task Force's (IETF) SIP for signaling communication. However, since technical protocols evolve as services evolve, newer protocols could emerge to which the industry will migrate.

110. The Commission considers that the VRS system in Canada, to remain flexible and current, must (i) retain the ability to migrate smoothly to a different platform or provider in the future, (ii) have the ability to become internationally interoperable over time, and (iii) promote consumer choice by being compatible with multiple devices and off-the-shelf technologies. Adherence to current (i.e. evolving) industry-accepted technical protocols would facilitate these goals.

111. In light of the above, the Commission determines that the RFP must require that the VRS technology platform comply with current (i.e. evolving) industry-accepted technical protocols set by international bodies, including the ITU, the IETF, and the Moving Picture Experts Group (MPEG). Specifically, the implementation of non-proprietary technology based on industry-accepted protocols is required for

signaling communication, video compression, and other aspects of the VRS system that enable communication between end-user devices.

112. In addition, the Commission encourages the VRS administrator to consider interoperability between VRS and MRS, as described in the ITU Total Conversation standard.

b) Hours of operation

113. Information on the record of this proceeding indicates that there is a limited number of qualified ASL and LSQ sign language interpreters available to staff VRS operator positions. The CQDA submitted that in light of the interpreter shortage, it would be imprudent to require that VRS be immediately provided 24 hours a day, 7 days a week, and that a phased implementation would be more prudent.

114. Most parties supported having VRS available 24 hours a day, 7 days a week, but recognized that this would be a difficult objective to meet at the outset, given the shortage of interpreters. Some individuals and consumer groups indicated that if they had to choose between longer hours of operation and higher quality of service (e.g. shorter wait times), they would prioritize longer hours.

115. Given the interpreter shortage, the Commission considers that the VRS administrator may decide to offer VRS on a restricted schedule to ensure an adequate quality of service. However, to meet the maximum level of consumer demand given the resources available, the VRS administrator must ensure that the hours of operation target the highest traffic times.

116. The VRS administrator must ensure that (i) some service is provided every day of the week, with both ASL and LSQ services targeting a minimum of 72 hours per week of operation, by the end of the first year of operations, and (ii) the services are capable of expanding their hours of operation subsequently. The Commission considers that these measures will enable VRS to meet the majority of demand, based on the data collected in the TCC trial and through a request for information regarding MRS.

c) Quality of service standards

117. Consumer groups submitted that service standards are critical to maintaining a high-quality and functional VRS, but that it would be difficult to establish specific and acceptable levels of service standards prior to the launch of VRS. All consumer groups agreed that establishing a complaints process is essential.

118. The CHS submitted that any service standards should apply equally to ASL and LSQ, and expressed the importance of imposing minimum screening standards for VRS operators to ensure that they have the necessary qualifications, as VRS calls vary in nature (e.g., medical, legal, 9-1-1) and can require a high degree of interpretation expertise.

119. Numerous parties suggested indicators that could be used to determine quality of service, such as wait time, complaints, and average call-handling time.

120. The Commission considers that it would be premature to prescribe service standards or customer service requirements at this time, given that many factors contributing to the overall delivery of VRS are unknown. However, the Commission considers that the VRS administrator should provide a high-quality service.

121. Therefore, the VRS administrator must

- establish complaints mechanisms for the VRS provider and for itself, including a mechanism to escalate complaints to the Commission, and file details of these mechanisms with the Commission;
- handle and monitor customer complaints, and report these to the Commission;
- record and maintain VRS usage data (including monthly reports generated by the VRS technology platform) so that a trend analysis may be completed regarding traffic patterns, call volumes, wait times, and other related issues identified by the Commission;[12] and
- ensure that the VRS provider establishes a screening process to ensure that operators are qualified sign language interpreters, meaning that they can interpret effectively, accurately, and impartially, both receptively and expressively, using any necessary specialized vocabulary.

122. The VRS administrator must also ensure that the RFP includes criteria for the VRS provider to record the following information, which may be required by the Commission:

- operators (including the number of operators hired, the average wage rate and availability, and certification requirements);
- demand data (including, at a minimum, detailed call traffic patterns sorted by day and by hour, call volume, call duration, abandoned calls, and average wait time); and
- complaints and inquiries data relating to interpretation service and underlying technology.

123. The VRS administrator must report to the Commission as required and verify that the requirements set out above regarding quality of service have been met. These reports will be posted on the Commission's website. As part of the review of VRS, discussed below, the VRS administrator must file its recommendations on appropriate minimum quality of service standards and an updated complaint

[12] The Commission may require these reports, or a summary report, to be filed.

mechanism, among other standards which are expected to be formalized as part of the service's review.

d) Access to 9-1-1 service

124. Parties agreed that access to 9-1-1 service is critical for VRS users and must be provided, and that 9-1-1 calls should be prioritized over other calls and routed to the first available interpreter. Individuals and consumer groups requested that 9-1-1 service via VRS be provided 24 hours a day, 7 days a week. The CQDA submitted that if VRS is not operational 24 hours a day, 7 days a week, 9-1-1 service could be offered on an on-call basis during the hours VRS is not operational. IVèS submitted that having VRS operators on-call specifically for 9-1-1 purposes would not be an efficient use of resources, as those operators could equally handle other VRS calls during those hours at the same cost.

125. The CHS submitted that point-to-point access between a VRS caller and a 9-1-1 call taker would be ideal. However, it acknowledged that, as pointed out by the TSPs, it is not technically possible in the current 9-1-1 network. The TSPs submitted that a similar approach to providing nomadic voice over IP (VoIP) 9-1-1 services should be used, where the VRS operator would act as an intermediary between the VRS user and the 9-1-1 call taker.[13] The CHS also submitted that consumers should not be charged for 9-1-1 access.

126. VRS providers and TSPs submitted that it is not technically possible to automatically provide a VRS user's location or telephone number to a 9-1-1 call taker. They suggested that 9-1-1 calls be routed in the same manner as nomadic VoIP 9-1-1 calls. TSPs, individuals, and consumer groups submitted that VRS users should be responsible for providing their location information to VRS providers.

127. The Commission notes that, similar to nomadic VoIP service, VRS can be accessed from any Internet connection. Therefore, VRS providers cannot automatically determine the caller's location or the appropriate public safety answering point (PSAP) in Canada to which the call should be routed.

128. The Commission therefore considers that an approach similar to the one used for 9-1-1 service provided to nomadic VoIP users is appropriate. Under this approach, the VRS operator would be the intermediary between the user and the 9-1-1 call taker. The operator would be able to retrieve location information, as previously provided by the user, and confirm it with them before routing the call to the PSAP and providing the information to the 9-1-1 call taker.

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[13] Under this approach, each VRS user's address information would be registered in a database and automatically provided to the VRS operator during a 9-1-1 call made via VRS. The VRS operator would then confirm the address with the caller and provide the address to the 9-1-1 operator. The user-provided address information contained in the database is only used as a last resort, in situations where VRS users are unable to provide or confirm their location. See Telecom Decisions 2005-21 and 2007-44.

129. The VRS administrator must ensure that there is a means for VRS users to update their address information through customer service and online, and all VRS users are responsible for ensuring that this information is current. However, the Commission considers that customer-provided location information may not always be up-to-date and can be subject to errors, and that it should only be used as a last resort in situations where VRS users are unable to provide or confirm their registered information.

130. The provision of 9-1-1 service via VRS is dependent on the availability of VRS. Unless VRS is offered 24 hours a day, 7 days a week, there will be certain times when there is no VRS operator available to receive calls. While some parties suggested that access to 9-1-1 service should be provided outside of the regular hours of VRS operation by an on-call VRS operator, no evidence was provided as to what the specific requirements of a sufficiently robust on-call service would be.

131. The Commission therefore requires only that access to 9-1-1 service via VRS be made available during the hours that VRS is operational. In addition, the VRS administrator must ensure that an onscreen notification appears when a VRS user tries to place a call during the hours that VRS is not operational.

132. The Commission determines that access to 9-1-1 service is to be provided with the initial implementation of VRS, by using the same approach mandated in Telecom Decision 2005-21 for the provision of nomadic VoIP 9-1-1 service. Details are set out in Appendix B to this decision.

e) Privacy and confidentiality

133. The record of this proceeding indicates that there are three privacy and confidentiality issues associated with VRS:

- the privacy and confidentiality of VRS calls, including what policies would be appropriate and how they should be enforced;
- the use of VRS to contact institutions, such as financial institutions, with their own privacy and confidentiality policies; and
- the provision of call detail records for the purposes of monitoring the quality and costs of VRS.

134. Parties primarily referred to three potential sources of guidance for VRS privacy and confidentiality provisions: current Commission requirements,[14] the Association of Visual Language Interpreters of Canada (AVLIC) Code of Ethics and Guidelines for Professional Conduct, and other relay service policies, including VRS policies in other jurisdictions.

[14]See Telecom Regulatory Policy 2009-723.

135. The VRS administrator must therefore develop VRS privacy and confidentiality provisions, and file them with the Commission for information. Such provisions are to

- meet existing Commission privacy and confidentiality requirements;
- be consistent with the AVLIC Code of Ethics and Guidelines for Professional Conduct;
- draw on other relay services' best practices;
- recognize the special circumstances of VRS, including its visual nature and the overlap between the staffing pools for VRS operators and community interpreters; and
- be enforced by the VRS administrator through a complaints process, as well as through contracts between the VRS administrator and the VRS provider, and between the VRS provider and individual VRS operators.

f) Education and outreach

136. Parties identified three main target audiences for education and outreach:

- persons with hearing or speech disabilities who will be the primary users of VRS;
- Canadians in general who will need to understand how to place and receive VRS calls; and
- Canadian institutions that will have to know how to identify legitimate relay calls and how to verify caller information in order to assist their clients via relay services.

137. Parties were generally in agreement that education and outreach could be effectively conducted by taking advantage of the existing relationships between the parties to this proceeding and the target audiences. For example, CAD submitted that it is well-positioned to target its education and outreach efforts regarding the benefits of VRS to the Deaf community, as this is part of its mandate.

138. The Commission therefore requires the VRS administrator to establish and execute an education and public awareness campaign to encourage the adoption of VRS by users with and without disabilities, including institutions. The Commission expects TSPs to be active participants in the VRS education and outreach initiatives.

139. In addition, the Commission may impose other requirements on TSPs as VRS is implemented. For example, the Commission may consider requiring TSPs to take steps proposed by the VRS administrator as part of its education and public awareness campaign if TSP participation is not at a sufficient level.

140. The Commission further requires that the VRS administrator include, in its education and public awareness campaign, targeted education efforts to inform consumers on how to access 9-1-1 services during the hours when VRS is available, as well as when it is not available.[15] This is in addition to any disclaimers informing consumers of which hours 9-1-1 access is available via VRS.

g) Monitoring

141. In general, parties agreed that monitoring would increase accountability and quality of service, and would prevent fraud. Parties also agreed that if VRS is implemented via a third-party administrator, the Commission should impose reporting requirements on the VRS administrator and the VRS provider. Parties generally agreed that a review should occur after two or three years of service operation, at which point usage and complaint data could be used to refine service/quality standards.

142. TSPs submitted that monitoring would be critical for improving VRS, as it would allow for analysis of usage data, operator supply and costs, quality of service commitments, and other relevant trends. Bell Canada et al. suggested that the VRS provider be required to report on the same indicators as typical call centres: average call-handling time, speed to answer, quality of service parameters, and complaints. Sorenson submitted that its platform can measure and generate reports on up to 32 different data points per call, to ensure the company is meeting customer expectations.

143. The Commission considers that it is important to monitor VRS in order to ensure that the telecommunications policy objectives are met. Therefore, the VRS administrator is to ensure that data is collected, and the Commission will review VRS, in its entirety, three years after the service becomes operational. This review will assess

- whether or not VRS addresses the needs of Canadians with hearing and speech disabilities in an efficient manner;
- funding for VRS; and
- the minimum requirements for VRS.

144. The Commission considers that, given the timing of the review of VRS, the initial contract signed between a provider and the administrator must be for no more than four years of service, with the option of an extension, to allow the administrator to adapt how VRS is provided in light of any Commission finding resulting from a review.

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[15] Alternative ways of accessing 9-1-1 services when VRS is not available include MRS and Text Messaging with 9-1-1 service (see Telecom Decision 2013-22 and the Commission factsheet for further details).

Telecommunications policy objectives and the Policy Direction

145. The Commission considers that the provision of VRS, an accessible form of local exchange service, to sign language users furthers the policy objectives set out in paragraphs 7(*a*), (*b*), (*c*), (*e*), (*f*), (*g*), (*h*), and (*i*) of the Act. In particular, the Commission notes that VRS will respond to the social and economic requirements of VRS users by giving them greater independence; strengthening relationships with family, friends, and other members of society; giving them access to improved employment and business opportunities; and providing access to social, medical, and other services that hearing Canadians can access by telephone. The centralized model will allow for the orderly development of VRS across Canada in a way that is efficient and affordable, and will promote innovation in the provision of VRS.

146. With regard to the Policy Direction, the Commission considers that since no TSP has chosen to offer VRS on a permanent basis, it is not feasible to rely on market forces for the provision of the service. The Commission also considers that the centralized model is an efficient and proportionate measure, as it minimizes the administrative burden on LECs, which will not be required to provide the service themselves. In addition, by funding VRS through contributions from TSPs, the Commission has ensured that the measure is competitively neutral.

Directions

147. For all the reasons set out above, the Commission has decided that, in order to address unjust discrimination against sign language users in the provision of local exchange service, the NCF will be used to fund a national VRS provided by a centralized VRS administrator in both ASL and LSQ. Consequently, the Commission directs TSPs, or groups of related TSPs, that have $10 million or more in Canadian telecommunications service revenues (i.e. TSPs that are required to contribute to the NCF) to fund VRS based on their contribution-eligible revenues. The amount of annual VRS funding will be added to the national subsidy requirement when the annual revenue percent charge is determined.

148. The Commission directs TSPs with members on the VRS administrator's Board of Directors to pay all costs of providing VRS, subject to reimbursement from the NCF.

149. Additionally, the Commission requires the VRS administrator, once established, to comply with the requirements set out in Appendix B to this decision in order to receive funding.

Other matters

150. Information collected as part of this proceeding from various TSPs that are required to offer MRS indicates that the aggregate amount of money collected to provide MRS currently exceeds the amount required to provide MRS to customers. Additionally, individuals and consumer groups submitted that the general quality of service of MRS, specifically IP relay services, did not meet their expectations. The

Commission notes that such issues related to MRS are outside the scope of this proceeding. The Commission will consider whether a review of MRS is appropriate at a later date.

Secretary General

Related documents

- *Establishing the structure and mandate of the video relay service administrator*, Telecom Notice of Consultation CRTC 2014-188, 22 April 2014

- *Issues related to the feasibility of establishing a video relay service*, Telecom Notice of Consultation CRTC 2013-155, 27 March 2013, as amended by Telecom Notice of Consultation CRTC 2013-155-1, 16 May 2013

- *CISC Emergency Services Working Group – Consensus report regarding Text Messaging with 9-1-1 trial and service implementation*, Telecom Decision CRTC 2013-22, 24 January 2013

- *Regulatory measures associated with confidentiality provisions and privacy services*, Telecom Regulatory Policy CRTC 2009-723, 25 November 2009

- *Accessibility of telecommunications and broadcasting services*, Broadcasting and Telecom Regulatory Policy CRTC 2009-430, 21 July 2009, as amended by Broadcasting and Telecom Regulatory Policy CRTC 2009-430-1, 17 December 2009

- *Routing of fixed/non-native and nomadic VoIP 9-1-1 calls to public safety answering points*, Telecom Decision CRTC 2007-44, 15 June 2007

- *Emergency service obligations for local VoIP service providers*, Telecom Decision CRTC 2005-21, 4 April 2005

- *British Columbia Telephone Company – Voice Relay Service Centre*, Telecom Decision CRTC 85-29, 23 December 1985

Appendix A: List of acronyms/initialisms

Terms

ASL	American Sign Language
IP	Internet Protocol
LEC	local exchange carrier
LSQ	Langue des signes québécoise
MRS	message relay service
NANP	North American Numbering Plan
NCF	National Contribution Fund
PSAP	public safety answering point
PSTN	public switched telephone network
RFP	request for proposals
SIP	Session Initiation Protocol
TSP	telecommunications service provider
TTY	teletypewriter
VoIP	voice over Internet Protocol
VRI	video remote interpreting
VRS	video relay service

Organizations

AVLIC	Association of Visual Language Interpreters of Canada
CAD	Canadian Association of the Deaf
CDAC	Communication Disabilities Access Canada
CHS	Canadian Hearing Society
CQDA	Centre québécois pour la déficience auditive
IETF	Internet Engineering Task Force
IVèS	Interactivité Vidéo et Systèmes
ITU	International Telecommunications Union
MPEG	Moving Picture Experts Group
OAD	Ontario Association for the Deaf
OVRSC	Ontario Video Relay Services Committee
SIVET	Service d’interprétation visuelle et tactile
TCC	TELUS Communications Company
UQAM	Université du Québec à Montréal

Appendix B: Detailed requirements

Requirements for the VRS administrator

1) Establish and monitor a national VRS system that meets the requirements set out below or otherwise set out by the Commission.

2) Operate in accordance with its bylaws, mandate, and any other corporate documents approved by the Commission.

3) Develop and file with the Commission, for information, the processes it will follow for

    a) resolving complaints between VRS users and itself or any VRS provider(s), with a mechanism to escalate complaints to the Commission;

    b) recording and maintaining VRS usage and demand data (including monthly reports generated by the VRS technology platform) so that any trend analysis may be completed regarding call traffic patterns sorted by day and by hour, call volume, call duration, wait times, abandoned calls, technical areas, and other related issues; and

    c) recording and maintaining data with respect to the provision of VRS, including, at a minimum: quality of service measures; financial accountability measures; and the number and nature of (i) complaints and inquiries (including those related to operator service and technical errors or technology compatibility), and (ii) operators (including the number of operators hired, the average wage rate and availability, and certification requirements).

4) Develop and file with the Commission, for information, privacy and confidentiality standards for the provision of VRS that meet the criteria set out in paragraph 135 of this decision.

5) File any information requested by the Commission with respect to its operations.

6) Develop and file with the Commission, for information, a proposed education and public awareness campaign to encourage the adoption of VRS by users with and without disabilities, including institutions (e.g. financial institutions). The campaign must include (i) the proposed role of TSPs and proposed measures of success, and (ii) targeted education efforts to inform consumers about how to access 9-1-1 services using VRS as well as when VRS is not available. The proposal must be filed either at the same time the administrator seeks funding for service or earlier.

7) Introduce ASL and LSQ services on the same day and demonstrate that it has made all reasonable efforts to ensure that both services are equally comprehensive regardless of whether ASL and LSQ customers are served by the same or separate VRS providers. The administrator is not to limit one service to ensure its equality with the other service.

8) Ensure that staff and any advisory panels that may be struck to advise the Board of Directors include the perspectives of both the ASL and LSQ communities.

9) Ensure that the total of all VRS-related costs does not exceed $30 million annually for a fully subscribed, full-time service.

10) File an application for annual funding with the Commission, demonstrating that all the requirements set out for VRS have been or will be met.

11) On a date set by the Commission before the VRS review, file with the Commission, for approval, modified or updated

    a) quality of service standards;

    b) complaints resolution guidelines, including service standards; and

    c) reporting requirements.

12) Where all or some of the VRS is provided by a VRS provider, the administrator must include in any RFP, and in any resulting contract, a requirement that a VRS provider must

    a) provide a service (or a portion of a service) that complies with (or allows the administrator to comply with) the requirements in this Appendix or otherwise established by the Commission;

    b) provide to the administrator, or to the Commission directly, any information with respect to its operations for monitoring or review purposes, including any data collected or reports generated;

    c) handle and monitor customer complaints in accordance with the mechanism established by the administrator;

    d) record the following information in relation to the services provided:

        i. operators (including the number of operators hired, the average wage rate and availability, and certification requirements);

ii. demand data (including, at a minimum, detailed call traffic patterns sorted by day and by hour, call volume, call duration, abandoned calls, and average wait time); and

iii. complaints and inquiries data relating to operator service and underlying technology.

e) indicate the price the VRS provider will charge to customers for long distance calls and any ancillary services. Bids should also indicate whether or not long distance calling cards are compatible with the service, and if so, identify which calling cards are compatible;

f) limit its contract term to a maximum of four years, with the option of an extension, in order to allow for possible changes resulting from the Commission's review of VRS; and

g) cooperate with the administrator and with any other VRS providers to ensure seamless transitions at the beginning and the end of the contract term.

13) In developing VRS, the administrator should consider the following:

a) interoperability with other jurisdictions' VRS systems to the extent possible, to facilitate point-to-point calls internationally;

b) interoperability between VRS and MRS, as described in the ITU Total Conversation standard;

c) promotion of consumer choice in end-user devices that are current, off-the-shelf, and popular; and

d) separation of the technical and operator elements of VRS.

Minimum requirements for the VRS developed by the VRS administrator

14) Provide video relayed calls in both ASL and LSQ.

15) Use telephone numbers that conform to the NANP and provide universal access to and/or from the PSTN.

16) Use a single (common) VRS technology platform nationally that can support multiple VRS providers.

17) Use non-proprietary VRS technology based on current (i.e. evolving) industry-accepted technical protocols.

18) Use a specialized platform for VRS unless the key features mentioned in paragraph 103 of this decision become available on non-specialized platforms.

19) Provide some service every day of the week, targeting a minimum of 72 hours of operation per week, by the end of year one of VRS operation.

20) Target hours of operation that serve the highest traffic times, if operating VRS on a restricted schedule.

21) Be capable of expanding its hours of operation.

22) Include the ability for VRS users to make point-to-point calls (i.e. calls between VRS users without the use of an operator).

23) Create a database of VRS users, accessible to the administrator, that includes users' address information and has a mechanism for users to update their information through customer service and online.

24) Provide access to 9-1-1 service during the hours of operation of VRS using the same approach that the Commission has mandated for nomadic VoIP 9-1-1 services, as set out in Telecom Decisions 2005-21 and 2007-44. Specifically:

    a) the VRS operator must act as the intermediary between the VRS user and the 9-1-1 call operator at the PSAP;

    b) 9-1-1 service must be provided using the incumbent local exchange carriers' tariffed emergency call routing operator service so that the VRS operator has priority access to PSAPs across the country;

    c) customers must be informed when they register for VRS, and when they initiate a 9-1-1 call outside of VRS operating hours, of the hours when 9-1-1 service is unavailable via VRS and how to reach 9-1-1 during those hours;

    d) an onscreen notification must appear when a VRS user tries to place a 9-1-1 call during hours when VRS is not operational; and

    e) each VRS user's address information must be entered into a database and automatically provided to the VRS operator during a 9-1-1 call made via VRS.

        i. The user-provided address information is to be used as a last resort, in situations where the VRS user is unable to provide or confirm their location.

        ii. VRS users must have the capacity to update their address information for 9-1-1 purposes through customer service and online.

25) Use a screening process to ensure that operators are qualified sign language interpreters, meaning that they can interpret effectively, accurately, and impartially, both receptively and expressively, using any necessary specialized vocabulary.

26) Be provided to registered VRS users upon user self-certification of hearing or speech disability and their signing a user agreement. This agreement must be in plain language and must outline, at a minimum, user self-certification of a hearing or speech disability, privacy and confidentiality policies, fair usage policy, information on 9-1-1 access, and a billing agreement for ancillary and long distance services. This user agreement must be signed before services are rendered.

27) Have a user technology interface and written materials provided to the customer that are in plain language and are offered in the official language of the customer's choice.

28) Be provided at no additional cost to the customer.

29) Ensure that ancillary services such as call display, video mail, etc., where offered, are billed to customers who subscribe to these services at rates similar to those charged for corresponding voice services.

30) Offer VRS users long distance services at rates similar to those charged for other long distance services. Long distance calls initiated by VRS users are to be billable to the user, based on call duration.