PUBLIC

CT-2022-002

COMPETITION TRIBUNAL

IN THE CASE of *Competition Law*, L.R.C. 1985, c. C-34;

IN THE CASE of the bid by Rogers Communications Inc. to acquire Shaw Communications Inc.;

AND IN THE CASE of a request by the Competition Commissioner for one or more ordinances pursuant to Article 92 of the *Competition Law*.

BETWEEN:

THE COMPETITION COMMISSIONER

Plaintiff

-and-

ROGERS COMMUNICATIONS INC. AND SHAW COMMUNICATIONS INC.

Defendants

-and-

VIDEOTRON LTD. AND THE ATTORNEY GENERAL OF ALBERTA

Intervenors

STATEMENT OF MOHAMED DRIF

I, the undersigned, Mohamed Drif, from the city of Montreal, in the province of Quebec, declare the following:

OVERVIEW

1. This statement describes the technical aspects of the wired and wireless networks of Videotron Ltée ("**Videotron**"), the current and planned roll-out plan of Videotron's wireless 5G network in Quebec and the Ottawa region, the potential roll out of a wireless 5G network in the Rest Of Canada, as well as Videotron's evaluation of the wireless network of Freedom Mobile

("**Freedom**") and the plans to integrate Freedom's wireless network with Videotron's wireless network to form a national 5G network.

2. In connection with Videotron's evaluation and plans to integrate with Freedom's network, Videotron carried out a precise technical evaluation and developed plans that were accompanied by cost projections for rolling out the 5G network on Freedom's imprint over the next ten years. This plan includes:

(a) Improvement of Freedom's network and roll out of the 5G technology on that network;

(b) Consideration of integration challenges to unify Freedom and Videotron's networks into one single 5G network;

(c) The capital expenditure and projected operating expenditures required to carry out the plan by the desired deadline;

(d) Access to backhaul and transport transmission services; and

(e) Profit likely to be generated as a result of the combination of the two networks such as the quality of service improvements, substantial synergies and avoided costs.

VIDEOTRON'S BUSINESS

My role at Videotron

3. I have been the Senior Vice President and Chief Technology Officer since 2018. In this respect, I handle the leadership on conception, construction and operation of Videotron's wired

and wireless networks as well as the development, set up and support of information technologies. I also ensure that Videotron stays on the front line of technological trends by targeting opportunities with added value for the organization and translating them into innovating strategies.

4. In this role, I define the technological positioning and strategies for new technologies and for the evolution of existing technologies.

5. Additionally, I am responsible for the technology team with close to 2,000 people throughout Quebec. This team includes three distinct groups, namely:

(a) The operational group that is responsible for the maintenance and upkeep of the wired and wireless networks.

(b) The engineering group that looks after conception, detailed engineering and planning of the roll out of technologies for wired and wireless networks.

(c) The DevOps group that is responsible for platforms and systems, which includes the IT systems.

6. I am an IT engineer and software engineer.

7. I did my studies from 1984-1989 at the University of Oran in Algeria and I hold a degree in IT engineering with a specialization in software programs and computer architecture.

8. Before joining Videotron, I worked in Algeria and in France. When I arrived in Quebec, I worked for Câble Axion Digitel Inc. as an IT network designer and then as Director of Engineering. I have been registered in the Roll of the OIQ (*Ordre des Ingénieurs du Québec* [Order of Engineers of Quebec]) as an engineer with full rights and privileges since 2002.

9. I joined Videotron in March 1999; I have been working here for around 24 years.

10. Before becoming the Senior Vice President and the Chief Technology Officer, I held the following posts within Videotron:

(a) Supervisor of fiber management

(b) Director of fiber management and the Hull network

(c) Director of planning, geomatics and gateways

(d) Senior Director, network planning, gateways and optics

(e) General Director, network planning, gateways and optics

(f) Vice President of Engineering, wired networks and planning office

(g) Vice President of Engineering, wired and wireless networks

(h) Vice President and Head of Operations of wired and wireless networks

(i) Senior Vice President and Chief Technology Officer

11. All of my duties at Videotron have always been in the engineering department and the wired network, as well as the wireless network starting from the time when Videotron had a network of that kind. More specifically, during the development of the wireless network in 2010, I had the task of creating the connectivity of all the towers. Thus, my team conceived and built the backhaul to connect all the towers.

12. Additionally, from September 2016, when I was promoted to the position of Vice President of Engineering for wired and wireless networks, I also became responsible for all of

Videotron's wireless network, including the planning and architecture of the network, and the LTE-A and 5G technologies.

13. In addition to that, I have been participating in rolling out the wireless network since 2011, not at the technological level, but at the level of project management. In fact, since 2011, I have been responsible for the Office of Centralized Projects for the wireless and wired networks. The Office of Centralized Projects looks after budgetary management, schedules and the scope of projects. All projects for the wireless network have to come through the Office of Centralized Projects.

14. Since my arrival at Videotron, I have participated in a number of strategic projects, including the upgrade program for Greater Montreal, the networks development strategy, the launch of the Helix platform, produced by Comcast technology, as well as setting up the architecture for "Fiber in the neighborhood".

Videotron's networks

15. Videotron operates and is the owner of a wired network on which it offers products and services that have evolved, including internet access, multi-platform digitized television, wired telephones and certain interactive services, as well as internet and connectivity services for small, medium and large companies.

16. Videotron chose a hybrid fiber-coaxial ("**HFC**") network architecture as the standard for its residential network. HFC network architecture combines the use of fiber-optic cable and coaxial cable. Videotron's wired network consists of four distinct parts: the signal acquisition networks, the regional gateways, the distribution networks and customers' service wires.

17. Videotron's network is the largest broadband network in Quebec, covering around 3.0 million homes (or 81% of establishments) and supplying around 2.6 million customers in the province of Quebec. We have concentrated the roll out and development of Videotron's wired network in the most populated regions of Quebec, including Montreal/Laval/Montérégie; the National Capital, the center of Quebec; the Estrie townships and the Ottawa region.

18. In 2016, Videotron acquired Fibrenoire, which supplies companies with connectivity services via fiber optics. Fibrenoire deploys and operates a fiber optics network throughout Montreal, Toronto, Ottawa and Quebec City.

[redacted]

20. A more detailed description of Videotron's wired network is found in the excerpt from the annual Notice of Quebecor, dated March 31, 2022, attached as **Annex 1**. A recent map of Videotron's wired network is attached as **Annex 2**.

21. Videotron operates and is the owner of a wireless network based on infrastructures offering a range of innovating technologies and services under the brands Videotron and Fizz.

22. Videotron entered the wireless market in 2006 as a MVNO and, as of 2010, held its own mobile network (HSPA). In 2013, Videotron signed a 20-year agreement with Rogers Communications S.E.N.C ("**Rogers**") for the cooperation and collaboration in the construction and operation of a wireless network shared in Quebec and in the Ottawa region. In September 2014, Videotron rolled out its LTE network that is shared with Rogers. The LTE/4G network shared by Videotron serves 94% of the population of the Quebec province and the Ottawa region.

23. Videotron's wireless network RAN consists of three technologies that cover the territory of Quebec and the Ottawa region: Nokia for the 3G/HSPA; Videotron continues to maintain its 3G/HSPA network in the province of Quebec and in the Ottawa region while its customers continue to migrate to the networks of new generations; Ericsson for the LTE/4G, the network that is shared with Rogers; Samsung for the LTE-A/5G.

24. The majority of Videotron's transmission towers and equipment are connected by its fiber optics network using multi-protocol label switching ("**MPLS**"). The towers and equipment that are not connected to Videotron's fiber optics network are connected via microwaves.

25. A more detailed description of Videotron's wireless network is found in the excerpt from the annual Notice of Quebecor, dated March 31, 2022, attached as **Annex 3**. A recent map of Videotron's wireless network is attached as **Annex 4**.

Roll out of 5G in Quebec and Ottawa

26. Videotron has currently reached the stage where it is modernizing its wireless network in order to provide 5G connectivity. In 2019, Videotron chose Samsung as the provider of LTE-A/5G equipment. [redacted], the LTE-A and 5G technologies were rolled out in the centers of the main cities of Quebec and will continue to be rolled out over the next years.

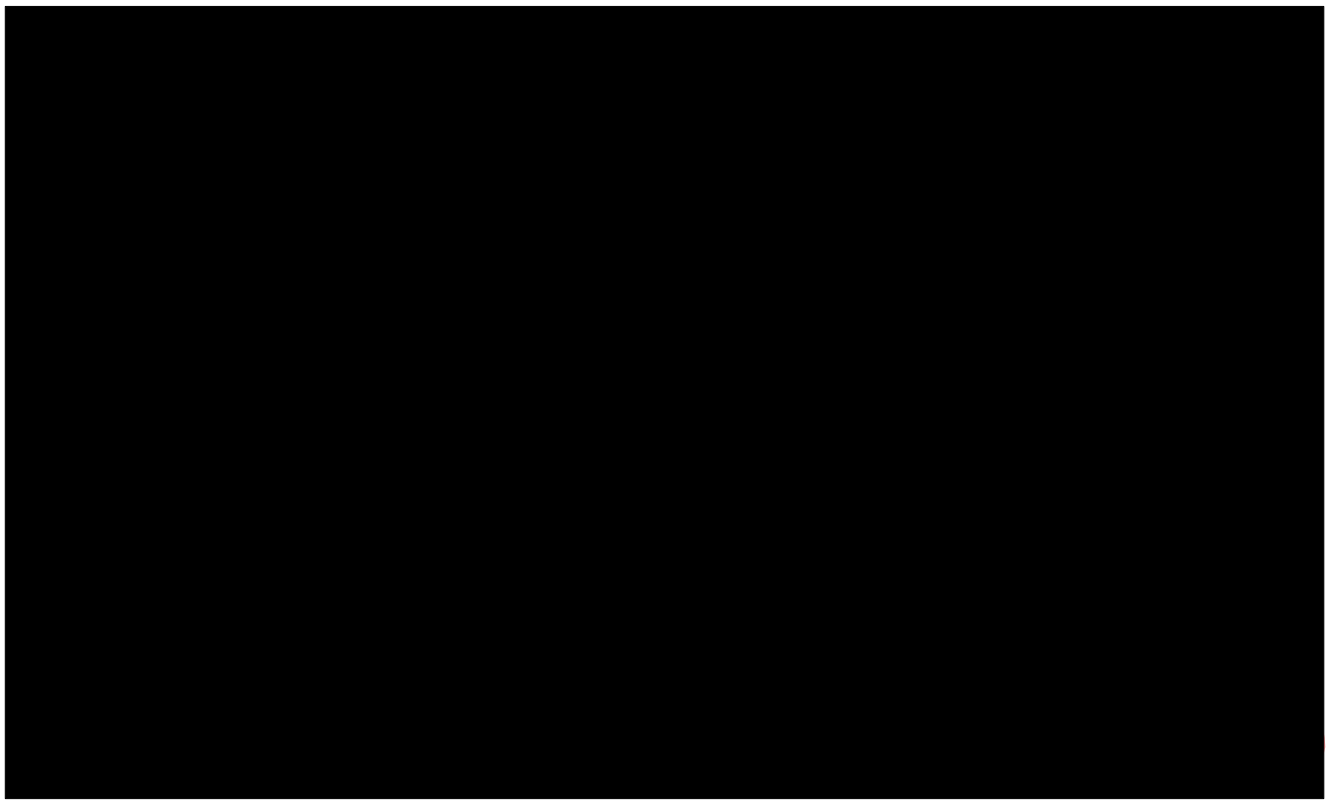
27. 5G is the fifth generation of norms for mobile technology that is based on packet switching. The establishment of 5G leads to a significant increase in the top-speed flow rate, promises a low latency and also allows for the support of many simultaneous user connections like connected devices (sensors, cameras, GPS, home automation, etc.).

28. The roll-out plan for 5G in Quebec was developed by my team under my supervision. I approved it and made sure that it follows Videotron's strategic direction and its business imperatives. I presented said roll-out plan to senior management and had it approved. Additionally, I ensure that the monitoring mechanisms are in place so that the plan is followed. When differences of opinion or issues arise, my role as mediator allows me to settle them.

29. In order to be able to roll out a 5G wireless mobile network, a mobile network operator ("MNO") like Videotron has to deploy specific, new equipment for 5G. This equipment sets up the norms of 5G technology to provide the evolved mobile services to 5G-compatible devices.

30. Our 5G roll-out plan involves setting up a non-independent core network (non-standalone or "NSA") that relies on Videotron's existing elements of the 4G network as a first phase.

31. As intended in the roll-out plan, we carried out the plan first in the City of Montreal [redacted] and then in Quebec City and Sherbrooke in 2021 and 2022, respectively. According to the roll-out plan, there is a prioritization of sectors with high population density, where the demand is greatest. The plan intends for roll out in regions and in accordance with the periods indicated in the map below:



[redacted]

33. The LTE-A/5G sites will primarily be macrosites (deployed on structures up high); however, Videotron plans for use of small cells when it is not possible to use macrosites in certain territories or to provide additional capacity because of the density of the traffic demand. Videotron plans to add small cells in accordance with the needs of the clientele and the network.

34. The roll out also plans for expenses to improve 5G in Videotron's core network. My team has planned capital expenditure of approximately [redacted] million over the next ten years and approximately [redacted] million for expenses relating to maintenance, capacity and performance; however, the latter figure is subject to change.

35. The roll-out plan is always shifting and adapting each year. In addition, I am capable of confirming that the targets which have been set are actually followed in accordance with the plan.

POTENTIAL ROLL OUT OF A 5G NETWORK IN THE REST OF CANADA

36. Videotron's wireless network—like any wireless network—uses spectrum to connect mobile devices and to provide them with services (such as, for instance, voice and data).

37. Wireless networks have three principal components:

(a) A wireless radio access network ("**RAN**"), consisting of a set of cell towers (also called base stations or cell sites) and a set of electronics that are installed in towers, including antennae. These base stations communicate with mobile devices by using designated spectrums;

(b) A backhaul network, generally fibers or microwaves, connect the cell sites to the core network and carries control information and customers' data between the RAN and the core; and

(c) The core network, which manages the customers' access, voice calls, text messages and data traffic, enables services to be offered to customers and acts as a bridge to exterior networks (mobile networks, telephone, internet).

38. In short, the cell sites are connected to the backhaul components that carry voice and data traffic to the core network, which itself carries them to an external network, as needed.

Spectrum

39. Since 2021 and the acquisition of the 3,500 MHz band, I have been involved in the strategy, planning and acquisition of spectrum.

40. The electromagnetic spectrum (or simply "spectrum") is an essential element to provide wireless telecommunication services and is an essential component of the wireless network.

41. Spectrum refers to the range of frequencies used to emit electromagnetic radiation which carries communication between a customer's wireless device and the cell sites constituting the RAN.

42. Voice and data communications between the wireless device and the RAN cannot happen without using an appropriate and compatible spectrum. In order to be compatible, the devices have to be manufactured in such a way that they are equipped with radios and antennae that can receive and broadcast on the specific frequency spectrum being used.

43. Spectrum licenses are issued by the Minister of Innovation, Science and Economic Development ("**Minister**"). Under the authority of the Minister, the Ministry of Innovation, Science and Economic Development (ISED) issues licenses made available to service providers in frequency bands in the form of a unit called "blocks". These different spectrums aim for specific

usage and are subject to specific conditions. The ISED divides the spectrum licenses at a more or less large level geographically in accordance with their objectives and the spectrum under consideration.

44. To operate a wireless mobile network in Canada, an operator of mobile networks has to acquire the rights to use a spectrum license for the geographic regions where the network is to be rolled out.

45. The frequencies used for wireless communications are generally divided into three big categories:

(a) Low frequency (between 600 MHz and 1000 MHz);

(b) Medium frequency (1000 MHz and 6000 MHz); and

(c) High frequency (above 6000 MHz).

46. There are significant differences in the characteristics of the different frequencies. Taking these differences into account, a mobile network operator will generally seek to have a range of various spectrums in order to gain the benefit from the different characteristics of each of them, as described below.

47. The low-frequency spectrum transmits better than the medium frequency or high frequency, i.e., the force of the radio transmission signal at low frequency is subject to less attenuation when it is transmitting in space, which enables it to cover the greatest distances and to penetrate walls better. This means that the low-frequency spectrum provides coverage over a greater geographic area and better coverage inside of buildings. By way of example, the 600 MHz spectrum transmits significantly further than does the 2500 MHz spectrum. These bands normally

form the basic coverage of wireless mobile networks, but they are not adequate to carry a large quantity of traffic (compared to the medium-frequency spectrum or the high-frequency spectrum).

48. The low frequencies used in Canada in the wireless mobile networks are currently in the level of 600 MHz, 700 MHz, and 800 MHz and can be used for 3G, 4G and ultimately 5G services. Usage of these bands for 5G services requires changes in equipment and software programs of the RAN.

49. As opposed to low-frequency spectrum, high-frequency spectrum carries a greater volume of data but transmits a lesser distance. These bands are characterized by limited transmission and their large capacity, which makes them especially suitable for applications requiring a volume of important data or in regions with a higher population density.

50. In the center are the bands that combine coverage and capacity: the ranges from 1710 to 1755 MHz and from 2110 to 2155 MHz (called Advanced Wireless Services or "AWS-1"), the ranges from 1755 to 1780 MHz and from 2155 to 2180 MHz (called "AWS-3"), the ranges from 2000 to 2020 MHz and from 2180 to 2200 MHz (called "AWS-4"), 2500 MHz (called Broadband Radio Service or "BRS"), the range from 1850 to 1990 MHz (called Broadband Personal Communication Services or "PCS") and the bands 3500 MHz and 3800 MHz.

51. The bands in the middle used in Canada for wireless mobile services are currently in the ranges of PCS, AWS-1, AWS-3 and 2500 MHz and can be utilized for the 3G, 4G and, later, for 5G services (when the 5G equipment and the cell phones suitable for these bands are available).

52. The 3500 MHz and 3800 MHz bands are of great value for 5G wireless services. First, they are defined only in the 5G standards and then because they combine transmission distance and a relatively high capacity to accommodate deployment via macrocells (i.e., those on larger

geographic regions). The other bands from the medium-frequency spectrums in Canada are already used by LTE wireless technology and to a lesser extent by 3G; their use for 5G will require withdrawing the LTE and 3G networks to move them to the 5G, thereby diminishing the network capacity of the 3rd and 4th generations.

53. The ISED has also made the medium-frequency spectrum of 3450 MHz to 3650 MHz available for use for 5G wireless mobile services. The ISED carried out an auction to allocate the spectrum licenses of 3500 MHz, which was held from June 15, 2021 to July 23, 2021.

54. The 3800 MHz spectrum is not available yet for mobile network operators in Canada. The ISED currently plans to make the 3800 MHz spectrum band available for wireless services following an auction that will be held starting October 24, 2023. Videotron plans to participate in this auction and to continue to add spectrum to its portfolio. This is an important part of planning for the network and its optimization.

55. Videotron owns a total of 130 MHz in mobile frequencies in the majority of the regions in Quebec and 90 MHz in the greater Ottawa region, divided between the bands SSFE-1, SSFE-3, 600 MHz, 700 MHz and 2500 MHz. In July 2021, Videotron acquired 294 spectrum blocks from the 3500 MHz band at the country level. More than half of them are focused outside of Quebec in four Canadian provinces: eastern and southern Ontario, Manitoba, Alberta and British Columbia.

56. Each of these licenses for the 3500 MHz spectrum blocks in Ontario, Manitoba, Alberta and British Columbia requires that Videotron use the license to attain certain population coverages at a certain time, starting in five or six years.

57. Despite Videotron's recent acquisition of the 3500 MHz spectrum outside of Quebec, Videotron requires a low-frequency spectrum in order to be able to roll out a 5G network outside

of Quebec. The construction of a 5G network outside of Quebec would also be severely limited without access to the low-frequency spectrum, considering the characteristics of 3500 MHz spectrum.

Radio Access Network

58. RAN normally consists of a large number of base stations or cell sites. The cell sites are deployed in places that allow for uniform wireless network coverage to be offered and continue in a defined geographic region.

59. A cell site uses spectrum to communicate with a user's wireless device by transmitting and receiving electromagnetic signals to and from the device and provides wireless network coverage to wireless devices inside that nearby geographic region. The cell site transforms the radio frequency signals received from the wireless devices into digital signals in the backhaul of the cell site and transforms the digital signals received from backhaul into radio frequency signals to be sent to the user's wireless device.

60. The geographic region served by a cell site depends on several factors: the strength of the signal transmitted by the site's radio, the band spectrum used, the height at which the antenna is deployed, the level of interference from neighboring sites, the ambient radiofrequency noise as well as the topography and surrounding environment like the presence of trees, hills or buildings.

61. The following equipment is generally deployed on a cell site:

(a) One or several antenna(s) and radio units which transmit and receive radiofrequency signals from and to the wireless device in the spectrum bands for which the MNO has acquired rights of use;

(b) A baseband unit that transforms the signals from a digital format to analogue format (or vice versa) and communicates between the many radio units installed on the cell site as well as to the core network; and

(c) The infrastructure relating to it such as the air conditioning, electric supply and the backup battery, the monitoring of the site and the backhaul transmission system.

62. In general terms, MNOs deploy two main types of outdoor base stations in a wireless mobile network: RAN macrocell sites and small cell sites. RAN macrocell sites are normally deployed on towers, on the sides or roofs of buildings and they provide coverage for a large geographic area. The RAN macrocell sites are normally located at a height of 30 meters above the ground and overlook a large area where microwaves can transmit above the nearby trees and buildings as well as above the terrain or above other obstacles. RAN macrocell sites generally require equipment that is more powerful, bigger, and heavier compared to small cell sites.

63. Small cell sites are generally deployed on posts or on the sides of buildings at street level. A small cell is an access point to a mobile telecommunications network which consumes little energy and which has a range from 10 meters to at least one kilometer. The range of a small cell is short compared to other cellular antennae whose range is a few kilometers to a few dozen kilometers.

The MVNO decision made by the CRTC dated April 15, 2021

64. The decision made by the CRTC regarding MVNOs dated April 15, 2022 created a framework for mobile virtual network operators. This decision imposes the obligation on national operators to provide access to their mobile network in MVNO mode to operators who hold

spectrum in the targeted regions. This obligation exists for a period of 7 years from the approval of the MVNO framework by the CRTC.

65. As described in the statement made by Mr. Lescadres, given this decision by the CRTC and depending on the final rates established by the CRTC, Videotron might be up for entering in provinces where it acquired 3500 MHz spectrum (other than Quebec) without having its own RAN for a limited period. After the grace period of 7 years, however, Videotron will have to have its own RAN in service to use its spectrum outside of Quebec.

Backhaul and backbone

66. In a wireless mobile network, the transmission networks or the backhaul provides a link between the RAN and the core network and transmits control signals from base stations as well as information (voice and data traffic) between the two of them.

67. Backhaul can use a range of technologies—primarily fiber optics and microwave links. For example, the majority of Videotron's RAN is connected to its fiber optics network, while a low percentage of sites are connected by the microwave links.

68. There are three different types of backhaul that can be used to connect RAN to the core network:

(a) Wired backhaul between towns for long distances and high capacity transmission. This transmission link combines the traffic from several sites and different technologies to transmit them to a destination in another town;

(b) The wired intra-city backhaul which consists of local loops for transmission at an average distance at high capacity. This backhaul collects and distributes different types of data from different nodes in one local spot; and

(c) The backhaul of the last mile to the cell site is a wired transmission of a short distance starting from a node. The backhaul of the last mile is normally dedicated to the transmission of wireless data. As an alternative to the wired backhaul of the last mile, there is backhaul in microwaves which is an appropriate solution for a transmission of low or medium capacity. Microwave technology uses directed, high-frequency radio waves and requires a direct line of site between the transmitting and receiving antennae.

69. Additionally, cell sites are connected to the core network by means of the backhaul of the last mile, which connects to an intra-city line which in turn connects to the backhaul between the cities, which finally connects to the core network.

70. Backhaul transmission is used to connect regionalized cores amongst each other, the core or cores of the network to other external networks, such as other wireless networks and domestic and international landlines, and to the internet by means of access points and a Point of Presence (PoP) of one or several internet service providers.

71. The MNOs can have their own backhaul service. Alternatively, the MNOs can use the backhaul infrastructure of third parties. When third parties' infrastructures are used, an MNO can either acquire transmission services from this third party or rent dead fibers instead (the filaments of unused fibers in fiber-optic cables that are deployed by a third party) and use its own optic transmission equipment to provide transmission services on those dark fibers.

72. At the current time, Videotron does not hold and does not rent backhaul in British Columbia, Alberta or Manitoba; so, we would have to build our own transmission network or rent the infrastructure of third parties to roll out a wireless 5G network in those provinces. In addition, Videotron could make use of its own fiber networks existing in Ontario to take advantage of the opportunity to connect Freedom's wireless sites, which are near the infrastructures which Freedom has at its disposal.

73. In the absence of an existing network or an existing fiber-optics backbone, analyses have shown that a long-term lease approach is preferable to building a dedicated backhaul network.

The core network

74. Finally, all telecommunication networks are organized around a central core that is called the core network or backbone. The core network manages voice, text messages and data traffic. It connects and manages different components of the network and connects to other networks (including the internet). The installations and machines used for central networks are routers, switches and servers, among others things. The core network acts as a control tower and, in particular, allows calls to be sent to their destinations.

75. Without a core network, devices cannot be authenticated and connected to the network, and network users cannot communicate or access the internet.

[redacted].

EVALUATION OF FREEDOM'S NETWORK AND INTEGRATION PLANS

76. Within the framework of this analysis, we have issued three important documents, namely:

[redacted]

These three documents are attached to this statement as **Annexes 5, 6 and 7**.

Technical evaluation of Freedom's wireless network

[redacted]

[redacted]

Operation and integration of Freedom's network and 5G roll out after the sale

83. Videotron foresees a roll-out plan in three phrases, namely:

(a) The first phase from [redacted] to pursue Freedom's planned roll out of the 600 MHz spectrum, pursue the roll out of LTE-A/5G to increase the capacity of the network, and to start roll out of Videotron's 3500 MHz spectrum in [redacted] and to roll out Videotron's 2500 MHz spectrum and AWS3 in eastern [redacted]

(b) The second phase from [redacted] to complete the LTE-A/5G roll out, to pursue roll out of the 3500 MHz spectrum in [redacted] and to increase the density of the territory according to the clientele's needs; and

(c) The third phase [redacted] and the following years: to increase the capacity where required, to roll out future spectrum that will have been acquired, to make investments that will be required to satisfy the needs of the clientele and to ensure expansion of coverage.

84. I and my team have updated and issued a detailed report relating to network planning and technological architecture of the roll out in the ROC, developed in connection with acquiring Freedom. We gave this report to senior management. [redacted]

85. The first part of this roll-out plan relates to the possibility for Videotron to operate as a mobile virtual network operator (MVNO) in order to establish its presence and to generate revenue while carrying out the roll out of its mobile network.

86. Thereafter, the roll-out plan relates to acquisition of Freedom's mobile network, which would improve the initial strategy based on the MVNO approach. In fact, Freedom's assets allow for a more concrete initial presence with an already established access network. Videotron would thus have easy access to a transmission network. Thus, Freedom's network would be the core and the MVNO would be used to spread services and the network over the course of time.

87. By acquiring Freedom, Videotron intends to spread the roll out of its 5G network to outside of Quebec. Videotron intends to roll out small cells in the ROC, just like in Quebec, to

complete its macrosites. In fact, in the short term and for low and medium frequency bands, the use of small cells makes it possible to address roll-out challenges when the traffic density is very high or if there is no structure that allows for the roll out of a macrosite. In this way, 5G will require more small cells, primarily for millimeter bands whose coverage range is, by nature, very limited.

88. For the time being, Videotron intends to continue the roll-out plan set up by Freedom for 5G that is based on the 600 MHz spectrum, which will allow for 5G to be rolled out to [redacted] sites in Ontario, Alberta and in British Columbia. Thereafter, Videotron intends to use the dynamic benefit of spectrum for 600 MHz to improve the LTE network while keeping its use for 5G.

89. Videotron also intends to use the technology that permits combining spectrum between LTE and 5G technologies to enable the highest peak flow rate.

90. Finally, the roll-out plan of 3500 MHz spectrum will be implemented [redacted] in Ontario, Alberta and British Columbia.

91. Videotron intends to improve Freedom's current network capacity and coverage by adding 2,500 MHz, 700 MHz and 600 MHz frequency layers to macrosites that do not yet have them.

92. To sum up, Videotron's 3500 MHz spectrum combined with Freedom's infrastructure and with Freedom's low-frequency spectrum will enable a quick roll out of 5G.

The capital expenditure and operating expenditures for the next 10 years

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

114. These expenses were established in accordance with Videotron's experience in Quebec, accounting for the higher costs of rolling out a network in western Canada.

Access to the wired network outside of Quebec

115. From a network-engineering perspective, it does not matter if the backhaul infrastructures are owned or rented as long as the network has access to a transmission network that is suitable for the technology of the rest of the network.

116. Given Videotron's plan quickly to roll out a 5G network on Freedom's existing imprint, which covers the important urban centers in British Columbia, Alberta and Ontario, access to a fiber-optics transmission network is necessary.

117. Within the framework of the transaction with Rogers, Videotron will acquire all of Freedom's contracts for the supply of fiber-optic cables, which ensures continuity of services. On the basis of the due diligence carried out by my team, I understand that Freedom currently rents the backhaul from different suppliers, including: [redacted]

121. In fact, in the big cities—where Freedom's network is concentrated—the presence of several optic network operators allows for one to anticipate a competitive service offer, for example

	Ontario	Manitoba	Alberta	British Columbia
Zayo	✓	✓	✓	✓
Acronym (Hydro One Telecom)	✓			
Connected Coast				✓
Shaw	✓	✓	✓	✓
Telus	✓	✓	✓	✓
Rogers	✓	✓	✓	✓
Eastlink	✓		✓	✓
Bell	✓	✓	✓	✓
Metro Optic	✓			
Axia FibreNet (Bell)			✓	

[redacted]

[redacted]

[redacted]

[redacted]

126. The plan is that the rental costs of the existing backhaul that Freedom currently rents from [redacted] in Ontario and from [redacted] in the west will be lowered in time, taking into account the capital expenditures planned for Videotron's construction of its own backhaul network.

127. In addition, Videotron could make use of its own fiber networks existing in Ontario to take advantage of the opportunity to connect Freedom's wireless sites. [redacted]

128. The risk that Freedom's cell sites will be isolated once they are owned by Videotron is not high from my perspective.

Shaw's Wi-Fi hotspots

129. Shaw offers hotspots to Freedom's customers such that mobile phones automatically connect when they are in the vicinity of a Wi-Fi hotspot connected to Shaw's network.

130. There are two types of hotspots: public/commercial and residential. Public/commercial hotspots are called Go Wi-Fi. These hotspots function as a public Wi-Fi network, except that Freedom's customers do not have to enter a password to connect. Shaw's residential hotspot functions in the same way, i.e., entering a password is not necessary to connect.

131. I understand that Shaw started to offer Go Wi-Fi before it acquired Freedom to lower the cancellation rate of its wired services. In fact, Shaw's internet customers appreciated that they could

automatically connect to the Wi-Fi network of certain businesses without requiring a password. Thus, they were more likely to stay with Shaw for internet rather than change to another provider.

[redacted]

133. [redacted] Since plans that Videotron will offer will also have much more data than what is required by the users, the need to connect to Wi-Fi to reduce data costs will be much less prevalent (compared to 10 years ago).

134. From a network-engineering perspective, residential hotspots have very little effect on the capacity of Freedom's wireless network.

[redacted]

136. In any event, the act of combining Videotron's 3500 MHz spectrum with Freedom's low-frequency spectrum in western Canada (which is the only region served by Shaw's residential

hotspots) will result in a network capacity that is exponentially bigger than when Freedom was the property of Shaw. And this holds even despite the loss of access to residential hotspots. The addition of Videotron's 3500 MHz spectrum to Freedom's network will enlarge Freedom's network capacity (and will allow it to serve more customers) without additional costs.

[redacted]

138. Incidentally, I specify that Wi-Fi hotspots are far from essential for the 5G roll out. In fact, they are more or less compatible with 5G for the reason described below. The locations of Go Wi-Fi access point locations are connected to Wi-Fi coverage of a merchant who is a Shaw customer and with whom a Wi-Fi access agreement is in place. Yet, the objectives pursued by 5G (guaranteed speeds, low latency, coverage), particularly by using millimeter waves, do not coincide with the objectives of a Wi-Fi network primarily serving a business (local coverage, internet access capacity, no priority management). Cases of use where the reliability expectations are not met by a Wi-Fi network, using open frequencies and likely to experience interference from its neighbors. In short, 5G is not Wi-Fi and Wi-Fi is not 5G. Even if a complementary coexistence is possible for some scenarios of use, the typical 5G scenario will perform poorly over Wi-Fi.

[redacted]

[redacted]

[redacted]

THE ADVANTAGES OF UNITING FREEDOM AND VIDEOTRON'S NETWORKS

No technical obstacle

142. The act of combining the two wireless networks of Freedom and Videotron does not cause any technical problem. In fact, it entails advantages.

143. The fact that Videotron is with Samsung for its LTE-A/5G technology and that Freedom is with Nokia for the same technology does not cause any problem. In fact, as mentioned above, Videotron is already doing business with three different providers for these different technologies. With technological development, providers adapt and this represents an advantage for doing business with several providers.

Quality improvements resulting from the combination of Videotron and Freedom's wireless networks

144. Both Freedom's customers and Videotron's will benefit from a larger combined network and, therefore, there will be fewer roaming restrictions within the country and less passing through third-party networks. Thus, customers that are currently with Freedom will benefit from a larger network that extends to Quebec and customers that are currently with Videotron will benefit from a network that extends more broadly in Ontario, British Columbia and Alberta.

145. Qualitative improvements will be experienced in accordance with the geographic regions.

146. For the Ottawa region, the infrastructure and the spectrum will be combined to create a denser and more efficient network, allowing for improved customer experience. [redacted] The components of the network that do not overlap represent that costs that neither Videotron nor Freedom will have to incur for the construction of their network of towers in that region.

147. For eastern Ontario and Outaouais, the population will benefit from optimized coverage combining Videotron's 600 MHz spectrums, AWS-1, AWS-3, 700 MHz, and 3500 MHz with the complementary spectrum bands deployed by Freedom (600 MHz [contiguous to Videotron] and AWS-1 [contiguous to Videotron]). An increase in contiguous spectrum would be advantageous for Videotron and Freedom's customers and would allow for the real potential of 5G technology; owning contiguous spectrum allows for larger channels, which allows for higher speeds for a better customer experience.

148. Adding radio frequencies in these frequency bands to existing Freedom sites will improve coverage and customer experience especially in the cities of Pembroke, Ottawa, Cornwall, Brockville, Kingston, Belleville, Peterborough, Cobourg, Gatineau, Papineauville and Hawkesbury.

149. The combination of the spectrums owned by the parties will increase the capacity of their existing network and will reduce the additional costs to expand capacity. Moreover, regardless of capacity or cost advantages, the combined entity will provide better coverage than what the parties' customers currently have. Having a larger range of spectrum will enable the combined entity to dedicate each spectrum band to its best use (for example, by prioritizing usage of low-frequency spectrum in regions that cannot be reached by medium frequency, while prioritizing cell sites closest to the regions).

150. Videotron also plans to improve Freedom's existing network by adding the 3500 MHz spectrum to the sites. This will be accomplished by adding its new 3500 MHz spectrum to Freedom's ordinary sites by means of Videotron's planned roll out of the 5G network. Videotron's plan to improve the network also involves the roll out of new sites in order to make the network denser, which will enable improved coverage and increased network capacity. This expansion will be carried out in connection with the expected increase of Videotron's customers and use.

[redacted]

152. For the core network, the network cores of each of the parties are complementary, given their geographic location and their different time zone. The integration of the parties' core networks will result in a geographic redundance which will optimize the overall performance of the combined network and will improve the network's resilience.

153. Finally, Videotron has an excellent history of operational performance when it comes to rolling out a wireless network, its operation and its optimization. The combination of the parties' best practices and their operational excellence will enable improved network availability and ultimately a more robust network for the combined customers of the entities.

Anticipated synergies and cost savings

154. The combination of Freedom and Videotron's wireless networks will allow for substantial network synergies and cost savings. Since the spring of 2022, my team has worked close up and has contributed to Mr. Lescadres' analysis of synergies relating to RAN, to core network and to IT systems, as is apparent in the latter's statement and the documents that are enclosed with it.

155. As indicated above, Freedom and Videotron's wireless networks are broadly complementary and only overlap in the Ottawa region. Thus, in that region, there are substantial gains in efficiency and costs savings to be created.

156. First, my team determined that [redacted] cell sites in the Ottawa region are going to become redundant after integration of the parties' networks. Videotron will avoid improvement costs for these [redacted] sites, which includes equipment costs and improvements to the structure.

157. Moreover, we expect recurring savings in operational costs resulting from dismantling these [redacted] sites. Those savings correspond to the annual rental costs connected to these [redacted] sites as

well as to cost savings for electricity and maintenance. Videotron will also save on recurring costs relating to the RAN in the Ottawa region.

158. Videotron also plans to realize significant savings by eliminating the doubled engineering systems (technologies, suppliers, systems) connected with RAN and core network assets.

159. Videotron and Freedom both have their own core network infrastructure. [redacted] The core networks of the two parties must be modernized to enable the roll out of 5G networks; thus, the act of unifying the parties' core networks and using Freedom's core network for our roll out of 5G will result in cost savings for Videotron.

161. In addition, the combined entity will save recurring investment expenditure by migrating Freedom's IT systems to Videotron's Fizz stack system.

162. Finally, we plan on abating non-recurrent costs for Freedom by providing access to Videotron's Fizz stack. On the basis of the due diligence conducted by my team, Freedom's IT systems must be improved and the cost of [redacted] is based on the costs that Videotron incurred to develop the Fizz stack system.

[signature]

Mohamed Drif

TRANSPERFECT

I, Mr. Timothy L. Wood, hereby certify that I am competent to translate from French to English and that the attached translation is, to the best of my knowledge and belief, a true and accurate translation of the document entitled "Witness Statement of Mohamed Drif" from French to English.

Timothy L. Wood
[name]

Sworn to before me this
[DATE] 10/10/2022

Signature, Notary Public

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