BEFORE THE CANADIAN RADIO-TELEVISION AND TELECOMMUNICATIONS COMMISSION

IN THE MATTER OF

APPLICATIONS BY BELL CANADA, THE CABLE CARRIERS (BRAGG COMMUNICATIONS INC. COB EASTLINK, COGECO COMMUNICATIONS INC., ROGERS COMMUNICATION CANADA INC., SHAW CABLESYSTEMS G.P. AND VIDEOTRON LTD.), AND TELUS COMMUNICATIONS INC. PURSUANT TO PART 1 OF THE *CANADIAN RADIO-TELEVISION AND TELECOMMUNICATIONS COMMISSION RULES OF PRACTICE AND PROCEDURE* AND SECTION 62 OF THE *TELECOMMUNICATIONS ACT*

SEEKING ORDERS TO REVIEW AND VARY *FOLLOW-UP TO TELECOM ORERS 2016-396 AND 2016-448 – FINAL RATES FOR AGGREGATED WHOLESALE HIGH-SPEED ACCESS SERVICES*, TELECOM ORDER CRTC 2019-288, 15 AUGUST 2019

INTERVENTION OF CANADIAN NETWORK OPERATORS CONSORTIUM INC.

17 FEBRUARY 2020

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EXECUTIVE SUMMARY[1]

ES1. In accordance with Subsection 27(1) of the *Telecommunications Act*, the Order approved just and reasonable final rates for aggregated wholesale HSA services. These rates reflect a correct application of Phase II costing and are informed by an exhaustive factual record developed over a period of several years. The Commission rendered its costing determinations prudently and provided detailed rationale to explain its findings.

ES2. The Applicants have not demonstrated substantial doubt as to the correctness of <u>any</u> aspect of the Order. They have thus failed to meet the test for a review and variance of the Order. Consequently, the Applications and the relief requested therein should be denied.

ES3. CNOC is far from the only voice advocating against the Applications. Already, over 125,000 Canadians wrote letters to government and the Commission requesting swift implementation of the Order. Nothing short of this outcome can ensure efficient competition in downstream retail markets.

The Order will not Prevent Healthy Levels of Investment and Innovation

ES4. There is no merit whatsoever to the Applicants' claims that the Order will reduce investment in telecommunications infrastructure. The rates approved in the Order enable the Applicants to generate a fair return on capital which ensures incentives to make efficient investments.

ES5. *Unjust Enrichment.* The Applicants are not entitled to amounts that were (and continue to be) paid to them in excess of just and reasonable levels. To the extent that Interim Rates allow Applicants to invest more, which is speculative, that increase in investment is directly subsidized by service-based competitors for the sole commercial benefit of the Applicants. The Applicants cannot credibly claim to be prejudiced by a reduction to investment levels that is financed by unjust enrichment.

ES6. *The Brattle Report.* As demonstrated in the Chen Report, the Brattle Report appended to the Cable Carrier Application suffers from three fatal flaws: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the

[1] Capitalized terms are defined in the body of this intervention.

growth rates of service-based competitors' market share and the Cable Carriers' ARPU, and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes. Individually and collectively, these flaws reveal the Brattle Report's conclusions as being unfounded.

ES7. *The Correlation Between Just and Reasonable Rates and Investment.* Wholesale regulation promotes economic efficiency by ensuring utilization of facility capacity to the greatest extent practicable. Just and reasonable rates drive up wholesale connection penetration, which, in turn, further bolsters the Applicants' ability to generate returns on capital. These dynamics of wholesale regulation provide the Applicants with strong investment incentives.

ES8. *Applicant Investments are not Contingent on the Order.* The Applicants suggest that their investment strategies are developed on a moment-by-moment basis. Investment decisions in this industry are made based on a risk adjusted evaluation of future outcomes over an extended time horizon. Going back several years, the Applicants priced the possibility of being required to provide a wide range of final aggregated wholesale HSA rate scenarios – including scenarios featuring substantial rate reductions. There is thus no credibility to the Applicants' suggestion that the rates approved in the Order have vitiated current investment strategies.

ES9. *Threats to Investments are a Tired and Empty Refrain.* The Applicants issue their investment threats in response to virtually any regulatory outcome that is unfavorable to their commercial interests. To date, these threatened consequences have not materialized. There is no evidence to lead one to believe that the threats currently before the Commission are any more credible.

ES10. *Analyst Reactions.* Analysts and observers have expressed a near unanimous assessment that the Order will have little, if any, impact on the Applicants' market share and ability to make investments.

ES11. *Conflicting Messages to the Commission vs. Applicant Shareholders*. The credibility of the Applicants' investment arguments is further undermined by comments by the Applicants' own corporate officers revealing that the wholesale HSA services market is ostensibly of little importance to these carriers. One corporate office of the Applicants has even stated that the Order is "not significant on a go-forward basis". These admissions cannot be reconciled with the positions reflected in the Applications.

ES12. *Videotron's 1 Gig Service Withdrawal.* Contrary to the Applicants' claims, Videotron's 1 Gig service withdrawal is not motivated by the Order. Videotron's claims are contradicted by its own securities filings and its commitment to withdrawing this service notwithstanding the Federal Court of Appeal's interlocutory injunction.

ES13. *The Applicants Threaten Investment While Paying-out Generous Dividends.* Several of the Applicants claim that the Order has left them no choice but to reduce investments. At the very same time, several of them have approved significant dividend increases to shareholders. This conflicting behavior greatly undermines the credibility of the Applications.

ES14. *Other Meaningful Sources of Investment.* Minister of Innovation, Science and Industry, The Honourable Navdeep Bains responded to Applicant threats of reduced investment by indicating his confidence that other competitors will step-up and invest in the place of the Applicants. Indeed, the Order empowers service-based competitors to invest more than at any other time in the history of wholesale HSA regulation. Furthermore, several public funding programs are currently in place to supplement private investments aimed at extending broadband networks to rural and remote areas throughout Canada. Altogether, these sources will ensure a consistent influx of investment now and into the future.

ES15. *No Consequences for the Green Economy.* CNOC does not dispute that broadband investment contributes to the Green economy. However, for all the reasons set out herein, the Order preserves investment incentives. Accordingly, the Order supports a healthy transformation to a Green economy.

The Commission's Retroactivity Determinations are Correct

ES16. *The Commission has Jurisdiction to Apply Rates Retroactively.* The Commission has unassailable jurisdiction to render the retroactivity determinations that were included in the Order. The Commission's jurisdiction in this matter is granted by the *Telecommunications Act* and has been confirmed by the Supreme Court of Canada. The Applicants fail to demonstrate any grounds upon which this jurisdiction can be challenged or qualified.

ES17. *The Applicants Are Responsible for Delayed Approval of Final Rates.* The Applicants disregarded costing and disclosure requirements throughout the entire proceeding leading up to the Order. At virtually every turn, they frustrated the ability of interested parties and the Commission to scrutinize their cost filings. This disruptive conduct significantly prolonged the proceeding and, therefore, the period of retroactivity. There is therefore no merit whatsoever to the Applicants' criticisms of the Commission's determinations considering the period of retroactivity. Moreover, CNOC urges the Commission to take proactive steps to remove the incentives of Applicants to delay and obfuscate the Commission's ratemaking processes when conducting the Rate Setting Review that is expected to commence this year.

ES18. *The Retroactivity Determinations were by No Means Unanticipated.* There is no substance to criticisms of the Cable Carriers that the period of retroactivity was unanticipated. At every milestone leading to the Order, the Commission explicitly stated that it would assess the extent to which retroactivity would apply when wholesale HSA services are set on a final basis. Several Cable Carriers even advocated for a similar period of retroactivity to what was ultimately reflected in the Commission's determinations.

ES19. *The Retroactive Adjustments Will Have no Impact on the Market Positions of the Applicants.* The retroactive refunds represent a miniscule fraction of the Applicants' respective revenues. The Order will have no impact on the market positions of the Applicants, a fact that is confirmed by: (1) analysis of the Applicants' securities filings; (2) commentary from high-ranking corporate officers of some of the Applicants; and (3) financial analyst and observer commentary. The Commission should accord no weight to claims that retroactivity determinations included in the Order are somehow "punitive" against the Applicants, who benefited from years of unjust enrichment while rates were in excess of just and reasonable levels.

ES20. *The Applicants' Inappropriately Speculate About How Service-based Competitors will Allocate Refunds.* The Applicants allege that service-based competitors will allocate all retroactive refunds to the payment of dividends to shareholders. There is no substance to such claims. Refunded amounts belong to service-based competitors, as a right. The overpayment made by service-based competitors to the Applicants over a multi-year period constitute interest-free loans and it is time for the Applicants to stop free-riding on the backs of their wholesale customers who are also their downstream competitors. The Applicants make strategic decisions about the allocation of capital – so do competitors. Several CNOC members announced rate reductions for retail Internet access and other related benefits for Canadian consumers in the days after the Order was issued. The letters of over 125,000 Canadians express confidence that the Order will allow service-based competitors to generate substantial benefits for consumers. CNOC members look forward to proving them right.

ES21. *No Error Regarding Retroactivity and Bell's FTTN Technology*. Bell's characterization of FTTN technology as a "legacy technology" is irrelevant to the nature of the Commission's adjustments to GAS-FTTN access services. There is no doubt whatsoever as to the correctness of the Order's retroactive adjustments to Bell's GAS-FTTN service.

ES22. *Bell's International Comparisons are Flawed.* The Gilbert and Tobin Report simply demonstrates that other jurisdictions have different regulatory regimes for telecommunications and their respective telecommunications regulators operate under different enabling statutes that grant them different powers, including with respect to retroactive rate-setting. These observations are irrelevant to a consideration of whether the Commission appropriately used lawfully granted retroactive rate-setting in the Order.

ES23. *The balance between retroactive ratemaking and functional/structural separation*. The regulatory regimes of Australia, New Zealand, and the United Kingdom have made use of functional and/or structural separation of their incumbent telecommunications operators as a remedy for insufficient competition. Functional and/or structural separation incentivizes wholesale providers to offer just and reasonable terms and conditions for access to service-based competitors. Thus, to the extent that retroactive rate-setting is relatively rare in all three jurisdictions, it may simply be because it is not needed due to the use of functional/structural separation as a more robust and efficient regulatory remedy. If such measures were adopted in Canada, perhaps a reduced emphasis on retroactive ratemaking would be appropriate here as well.

The State of Competition does not Justify the Relief Sought by the Applicants

ES24. An analysis of prevailing market conditions is irrelevant to the setting of just and reasonable rates for mandated wholesale services. Those considerations are germane to forbearance applications and the Commission's periodic review of wholesale service frameworks. The issue of whether wholesale HSA services should be forborne does not arise in the Order.

ES25. The Order is solely concerned with the setting of just and reasonable final rates for these mandated services. As far as the rate-setting approach is concerned, what matters is an analysis of the underlying costs that are incremental to the provisioning of the service and applicable mark-up. The Commission performed such an analysis and did so in accordance with proper application of Phase II methodology and its established policies for applying mark-ups to Phase II costs.

Bell's Costing Arguments do not Raise Substantial Doubt as to the Correctness of the Order

ES26. Bell fails to raise substantial doubt as to the correctness of any of the costing determinations included in the Order. Bell's costing arguments are contrary to Phase II costing methodology, as reflected in the Manual and informed by prior Commission decisions. Bell's arguments also repeat submissions that were expressly considered and rejected by the Commission for the correct and evidence-backed reasons that are set out in the Order.

ES27. By way of summary, Bell fails to demonstrate:

- any grounds to discredit Phase II costing as inappropriate "theory"
- any error relating to the Commission's use of the service attribution factor
- any error in applying Phase II costing to "legacy" services
- any error regarding benchmarking of DSLAM costs
- any error relating to the recovery of project costs
- any error relating to pole and conduit costs
- any error relating to unrecovered causal to service costs
- any error relating to WFFs for Traffic Driven Equipment
- any error relating to the Cost Increase Factor for Traffic Driven Equipment
- any error relating to occurrence rates in the GAS-FTTN Bonded Access Cost Study
- any error relating to the occurrence rates in the GAS-FTTN Bonded Access Installation Charge Cost Study

ES28. *Bell's Alternative Costing Scenarios Are Irrelevant.* Bell also does not provide any evidence to establish that the Commission "ignored" its 40 alternative costing scenarios, which were distorted by the various costing deviations that were proposed by Bell and rejected by the Commission.

The Cable Carriers' Costing Arguments do not Raise Substantial Doubt as to the Correctness of the Order

ES29. The Cable Carriers fail to raise substantial doubt as to the correctness of any of the costing determinations included in the Order. The Cable Carriers' costing arguments are contrary to Phase II costing methodology, as reflected in the Manual and informed by prior Commission decisions. The Cable Carriers' arguments also repeat submissions that were expressly considered and rejected by the Commission for the correct and evidence-backed reasons that are set out in the Order.

ES30. By way of summary, the Cable Carriers fail to demonstrate:

- that Phase II costing does not assess the actual cost of cable carrier HSA infrastructure and operations
- that Phase II costing does not fully capture the costs associated with deploying higher service speeds
- that Phase II costing is not technologically neutral

ES31. *The Cable Carriers' International Evidence is Irrelevant.* The Cable Carriers note that the European Commission ("EC") recommended amendments to the European Union regulatory framework for electronic communications. However, this example is irrelevant as it has nothing to do with costing and rate setting, which are the sole focus of the Order. Furthermore, the EC proposed a holistic set of recommendations that were intended to protect consumers and improve competition. Taken together, those recommendations are inconsistent with the positions of the Cable Carriers.

TELUS' Costing Arguments do not Raise Substantial Doubt as to the Correctness of the Order

ES32. TELUS fails to raise substantial doubt as to the correctness of any of the costing determinations included in the Order. TELUS' costing arguments are contrary to Phase II costing methodology, as reflected in the Manual and informed by prior Commission decisions. TELUS' arguments also repeat submissions that were expressly considered and rejected by the Commission for the correct and evidence-backed reasons that are set out in the Order.

ES33. By way of summary, TELUS fails to demonstrate:

- any error relating to the application of a service-based attribution factor
- any error regarding cash flow timings
- any error regarding retroactive mark-up changes

The Final Relief Proposed by the Applicants would have Profoundly Negative Consequences

ES34. Given that the Applicants have not made a case for a review and variance of the Order, there is no need for the Commission to assess the final relief that is requested in the Applications. Nevertheless, it bears noting that the final relief they seek would have profound consequences if implemented.

ES35. The proposed relief includes final approval of Interim Rates, which the Commission made interim on the basis that they were likely not just and reasonable. To suddenly approve these rates is simply incomprehensible and contrary to the requirements of Subsection 27(1) of the *Telecommunications Act.*

ES36. The Applicants request elimination of the retroactive application of the rates approved in the Order. Yet, as demonstrated in this intervention, they have not raised any valid objection to the Commission's retroactivity determinations. The Applicants' request is no more than a plea for the Commission to rubber stamp three years' worth of wrongful transfer of wealth from service-based competitors to the Applicants. The Applicants are not entitled to these funds. Repayment of these amounts will meaningfully contribute towards repairing competitive dynamics of the marketplace that remain distorted due to Interim Rates that are extremely inflated.

ES37. The Applicants also request deferral of final approval of the rates and a resequencing of future proceedings. These requests are transparent attempts to delay indefinitely the setting of just and reasonable final rates, to the benefit of the Applicants and the severe detriment of service-based competitors and Canadians.

The Applicants have not Satisfied the Test for Interim Relief

ES38. Bell and the Cable Carriers request a stay of the Order if the interlocutory injunction granted by the Federal Court of Appeal is lifted for any reason. The Commission should deny this interim relief.

ES39. To the extent that Bell and the Cable Carriers are relying on the Federal Court of Appeal's granting of the interlocutory injunction as a basis for the Commission to grant similar relief, the Federal Court of Appeal's lifting of the interlocutory injunction for any reason would imply that the conditions giving rise to the Federal Court of Appeal's stay are no longer present.

ES40. Bell and the Cable Carriers also do not satisfy the three elements of the *RJR* test for interim relief, as covered below and in the body of this intervention.

No Serious Issue to be Tried

ES41. The Commission exercised its broad statutory jurisdiction to set rates and to do so retroactively. The Applicants have not shown that the Commission operated outside of this broad jurisdiction. There is therefore no serious issue to be tried.

No Irreparable Harm

ES42. *No Wholesale Market Distortion.* Bell claims speculative harms to wholesale markets that are divorced from reality. Bell greatly exaggerates the likelihood of wholesale end-user migration to cable carriers based on speed alone. Bell also unreasonably discounts the very significant capacity costs associated with end-users who demand higher speeds and commensurately higher usage. What's more, the Order set capacity rate components for the Cable Carriers that are more **than two times** higher than Bell's rates. Finally, Bell could avoid alleged wholesale end-user losses by simply offering access to its faster FTTH facilities on reasonable commercial terms. However, it self-servingly chooses not to do so in order to preserve market power over FTTH based services.

ES43. *No Retail Market Distortion.* The Applicants argue that they will suffer retail harms if a stay is not granted. These alleged harms are purely speculative. The Applicants do not attempt to quantify their claims of financial losses. The Applicants also fail to consider that non-price factors can be more important than price to consumers. In addition to all the above, history proves that wholesale HSA rate reductions do not distort retail markets. Indeed, in TO 2016-396, the Commission made a rate reduction to Bell's CBB rates that was twenty-six times greater than the most significant rate reduction imposed on Bell in the Order – with no resulting changes to market share distribution one year after the fact.

ES44. *Retroactive Repayments are not Unrecoverable.* Bell relies on the *CBC v. SODRAC* case, which is distinguishable from the facts that are before the Commission. The alleged impossibility of recovering reimbursements is a fiction. Bell has not demonstrated any risk regarding repayment.

ES45. *No Investment Harm.* The cost-based rates which include a reasonable mark-up over Phase II costs, as established by the Order, allow the Applicants to generate a fair return on capital that ensures appropriate incentives to make efficient investments. Service-based competitor deployments and public funding initiatives will also ensure healthy levels of investment and innovation. There is therefore no credibility regarding the Applicants' claims relating to investment harm.

The Balance of Convenience Favors Denial of Interim Relief

ES46. If a stay is not granted, Bell and the Cable Carriers will merely be required to offer wholesale HSA services pursuant to rates that the Commission has confirmed to be just and reasonable. The Order does not prevent Bell from competing in the retail markets. Instead, it levels the playing field for the smaller service-based competitors.

ES47. Conversely, a stay of the Order would subject the service-based competitors to significant harm and inconvenience in two main ways: (a) it would prolong the market distortions that have disadvantaged service-based competitors for years; and (b) it would delay service-based competitors' ability to recover the payment of retroactive refunds.

ES48. The public interest militates heavily in favor of denying the relief. Gauging the public interest in this matter is a simple task. Already more than 125,000 letters from Canadians to the government and the Commission call for swift implementation of the Order. By extension, this calls for denial of the interim relief.

Telecommunications Policy Objectives and Policy Directions

ES49. The Order is fully consistent with, and advances, Canada's telecommunications policy objectives as they are articulated in the *Telecommunications Act* in a manner that is consistent with the 2006 Policy Direction and the 2019 Policy Direction.

ES50. The Order sets just and reasonable final rates for aggregated wholesale HSA services. The rates set by the Order allow service-based competitors to compete effectively in retail markets while also ensuring that the Applicants earn a fair return on capital that preserves healthy incentives to make efficient investments. The Order also ensures that rates are always just and reasonable by making them effective retroactively to the dates that they were first made interim.

ES51. The Applications request relief that will directly interfere with the attainment and furtherance of the telecommunications policy objectives. The relief sought by the Applicants is also contrary to both Policy Directions.

ES52. CNOC urges the Commission to dismiss the Applications.

1.0 INTRODUCTION AND STRUCTURE OF SUBMISSION

1.1 Introduction

1. After an extremely thorough review of costs spanning several years and involving extensive procedural steps and a robust factual record, the Commission established long awaited just and reasonable final rates for aggregated wholesale high-speed access ("HSA") services and did so retroactively to the dates that those rates were first made interim. In doing so, the Commission satisfied its mandate of ensuring that regulated rates for mandated telecommunications services are always just and reasonable, pursuant to Subsection 27(2) of the *Telecommunications Act*[2] ("*Telecommunications Act*").

2. Telecom Order CRTC 2019-288 ("TO 2019-288" or the "Order") resulted in an immediate and profound response from service-based competitors who, for the first time in several years, benefited from a cost structure built on a foundation of just and reasonable rates for wholesale HSA services. Free from the burden of severely inflated regulated rates, service-based competitors were empowered to render their services even more affordable for Canadians – and that is exactly what they did. A significant number of service-based competitors announced that, as a direct result of the Order, upstream wholesale savings would be transferred downstream to consumers in the form of meaningful retail price reductions for broadband and other telecommunications services.[3]

3. Unfortunately, these powerful effects of the Order were abruptly interrupted by a first wave of appeals to the Federal Court of Appeal[4] ("FCA") from incumbent providers of wholesale HSA services, which included a stay of the Order[5]. There are now eight concurrent appeals of the Order, all of which are devoid of substance and motivated by the same singular and common goal: delaying the implementation of the Order for as long as possible, to the commercial benefit of the Applicants and the detriment of competition and Canadian consumers.[6]

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2 S.C. 1993, c. 38.

3 Examples of these announcements are set out in Section 5.2.5 of this intervention.

4 *Bell Canada et al* v. *British Columbia Broadband Association et al*, FCA Dockets A-456-19 and A-457-19.

5 Orders of Boivin J.A. dated November 22, 2019 in *Bell Canada et al* v. *British Columbia Broadband Association et al*, FCA Docket 19-A-59 and *Bragg Communications Inc. et al* v. *British Columbia Broadband Association et al*, FCA Docket 19-A-58.

6 In addition to two appeals that have been consolidated into one proceeding and the three applications to the Commission to review and vary the Order that have been consolidated in this proceeding, three Petitions to review and vary the Order have also been filed with the Governor-in-Council ("GiC") by: (1) Bell Canada; (2) Bragg Communications Incorporated (carrying on business as Eastlink) ("Eastlink"), Cogeco Communications Inc. ("Cogeco"), Rogers Communications Canada Inc. ("Rogers"), Shaw Communications Inc. ("Shaw") and

4. The three Part 1 Applications directed to the Commission to review and vary the Order are the subject of this intervention by the Canadian Network Operators Consortium Inc. ("CNOC"). Specifically, CNOC addresses the applications (collectively, the "Applications") of Bell Canada[7], the Cable Carriers[8] and TELUS[9] (collectively, the "Applicants").

5. The Applications do not meet the criteria for review and vary of the Order. The Applicants have not demonstrated any grounds whatsoever to raise substantial doubt as to the correctness of the Order. Instead, the Applications merely conjure familiar costing arguments that have been repeatedly rejected by the Commission for being inconsistent with proper Phase II costing methodology, principles and rules.

6. In the absence of an evidentiary basis to review or overturn the Order, the Applicants make speculative and unsupported claims that the final rates for wholesale HSA services will cause them to reduce investments in telecommunications facilities. They allege that resulting harms will befall Canadians, especially those in rural and remote parts of the country. This too is a familiar and unsubstantiated argument. In fact, it is the same messaging that the Applicants deliver in response to virtually any regulatory outcome that is unfavorable to their commercial interests. Experience has shown time and time again that such threats are empty – this case is no different.

7. The Applicants have twice failed to substantiate their proposals for costing parameters that would inflate rates above the just and reasonable levels approved in the Order.[10] Understandably, they lament the fact that they must forgo the unjust enrichment that they enjoyed while Interim Rates were (and continue to be) in effect[11]. The Applicants go further, however, and contend that

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Videotron Ltd. ("Videotron") (collectively, "Cable Carriers" and each a "Cable Carrier"); and (3) TELUS Communications Inc. ("TELUS").

7 Bell Canada Part 1 Application Seeking Order to Review and Vary Telecom Order CRTC 2019-288, Follow-up to Telecom Orders 2016-396 and 2016-448 – Final Rates for Aggregated Wholesale High-Speed Access Services, dated 13 December 2019, ("Bell Canada Application").

8 Joint Part 1 Application of Bragg Communications Incorporated (carrying on business as Eastlink), Cogeco Communications Inc., Rogers Communications Canada Inc., Shaw Cablesystems GP and Videotron Ltd. for Review and Variance and a Stay of Telecom Order CRTC 2019-288, Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for Aggregated Wholesale High-Speed Access Services, 13 December 2019, ("Cable Carrier Application").

9 TELUS Part 1 Application to Review and Vary Follow-up to Telecom Orders 2016-396 and 2016-448 – Final Rates for Aggregated Wholesale High-Speed Access Services, Telecom Order CRTC 2018-288 and Telecom Order 2019-288-1, 13 November 2019, ("TELUS Application").

10 *I.e.*, in the proceeding leading to the Order and in this present proceeding initiated by the Applications.

11 The final rates for all aggregated wholesale HSA services were made interim in *Review of costing inputs and the application process for wholesale high-speed access services*, Telecom Decision CRTC 2016-117, 31 March 2016 ("TD 2016-117") and the interim rates for some of those services were further reduced in *Tariff notice*

they and the Canadian public would be harmed by reductions in investment that are equal to the level of unjust enrichment that has been eliminated by the just and reasonable rates approved by the Order. This position is simply not tenable.

8. The best interests of Canadians are served by giving immediate effect to the Order, as it was issued by the Commission on 15 August 2019. That is the only outcome that ensures just and reasonable rates that can support <u>both</u> healthy levels of investment and competition in downstream retail markets for telecommunications services. CNOC is far from the only voice advocating for this critical outcome. Already, more than 125,000 Canadians have sent letters to their Members of Parliament ("MPs"), the GIC consultation, the Chair of the Commission and the Minister of Innovation, Science and Industry. These letters urge the government to support the Order with a view to ensuring competition, affordability and choice of broadband service providers.

9. CNOC therefore requests that the Commission reaffirm its commitment to the just and reasonable final rates for wholesale HSA rates established by the Order, with retroactive effect to the date that those rates were first made interim. Doing so requires nothing short of full dismissal of the Applications and rejection of the relief requested therein.

1.2 Structure of Submission

10. CNOC's intervention is structured as follows:

- Part 2.0 sets out the Commission's criteria for review and variance of a Commission decision.
- Part 3.0 outlines the factual and regulatory background leading to the Order and the Applications.
- Part 4.0 describes the Applications and the relief requested therein.

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applications concerning aggregated wholesale high-speed access services – Revised interim rates, Telecom Order CRTC 2016-396, 6 October 2016 ("TO 2016-396") and *Bragg Communications Incorporated, operating as Eastlink – Revised interim rates for aggregated wholesale high-speed access service,* Telecom Order CRTC 2016-448, 10 November 2016 ("TO 2016-448"). These interim rates together with interim rates for additional aggregated wholesale HSA services introduced by Applicants and approved by the Commission since those three determinations were made are hereinafter called "Interim Rates".

- Part 5.0 demonstrates why general policy-based arguments in the Applications have no merit and should be rejected.
- Part 6.0 refutes the Applicants' criticisms of Phase II and the Commission's application of the methodology in support of the rates approved in the Order.
- Part 7.0 explains the profound consequences that would result from the final relief proposed by the Applicants.
- Part 8.0 makes the case that the Applicants have not met the test for an interlocutory stay of the Order.
- Part 9.0 demonstrates that the Commission's rejection of the Applications and commitment to the Order will advance the telecommunications policy objectives in a manner that is consistent with both Policy Directions[12].
- Part 10.0 sets out CNOC's conclusions.

11. CNOC's intervention also includes the expert report prepared by Dr. Zhiqi Chen entitled "Assessment of an Expert Report by the Brattle Group Regarding Telecom Order CRTC 2019-288" (the "Chen Report"). As suggested by its title, this report rebuts the Brattle Group report that is included in the Cable Carrier Application. The Chen Report is included as an Attachment to this intervention.

2.0 CRITERIA FOR REVIEW AND VARY OF A COMMISSION DECISION

12. Prior to reviewing the factual and regulatory background leading to the Order and Applications, it is helpful to recite the test and criteria that applicants must satisfy in applications requesting review and/or variance of a Commission decision.

13. Telecom Information Bulletin CRTC 2011-214[13] ("TIB 2011-214") clarifies that in order for the Commission to exercise its discretion pursuant to Section 62 of the *Telecommunications*

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[12] *I.e.*, the *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation,* SOR/2006-355 (the "2006 Policy Direction") and the *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation,* SOR/2019-227 (the "2019 Policy Direction") (together the "Policy Directions").

[13] *Revised guidelines for review and vary applications,* Telecom Information Bulletin CRTC 2011-214, 25 March 2011.

Act, applicants must demonstrate that there is substantial doubt as to the correctness of the original decision, for example due to:[14]

(i) an error in law or in fact

(ii) a fundamental change in circumstances or facts since the decision

(iii) a failure to consider a basic principle which had been raised in the original proceeding or

(iv) a new principle which has arisen as a result of the decision.

14. In this case, the Applicants have failed to establish substantial doubt as to the correctness of the Order based on any of the above-listed criteria or for any other reason. Thus, the Applications have not presented a case that would justify the Commission's exercise of Section 62 with respect to the Order.

3.0 REGULATORY AND FACTUAL BACKGROUND

3.1 The Commission's Statutory Authority to Set Rates

15. In accordance with Subsection 27(1) of the *Telecommunications Act*[15], the Commission must ensure that rates for regulated services, including wholesale HSA services, are always just and reasonable. Furthermore, Subsection 27(5) of the *Telecommunications Act* empowers the Commission with broad discretion to determine just and reasonable rates by adopting "…any method or technique that it considers appropriate, whether based on a carrier's return on its rate base or otherwise."[16] Subsection 37(1) of the *Telecommunications Act* goes on to authorize the Commission to "require a Canadian carrier … to adopt any method of identifying the costs of providing telecommunications services…"

16. Consistent with the broad statutory discretion conferred by Subsections 27(5) and 37(1) of the *Telecommunications Act,* the Commission applies Phase II costing methodology to establish just and reasonable rates for wholesale HSA services. Phase II costing relies on established

[14] TIB 2011-214, at para 5.
[15] Subsection 27(1) of the *Telecommunications Act*.
[16] Subsection 27(5) of the *Telecommunications Act*.

principles, methodologies and assumptions that were developed four decades ago.[17] The methodology is technologically neutral at its foundation.

17. Phase II costing allows the Commission to establish rates that enable the Cable Carriers and ILECs[18] to recover costs causal to the service and a mark-up for the recovery of a contribution towards their fixed and common costs. This results in rates for regulated services that are compensatory and thus, by definition, maintain the Cable Carriers' and ILECs' incentive to invest in telecommunications facilities.

3.2 The Order and the History Leading to it

18. In the years leading up to 2015, CNOC expressed significant concern that the rates for wholesale HSA services were severely inflated and thus, no longer just and reasonable in accordance with Subsection 27(1) of the *Telecommunications Act*. CNOC and other competitors submitted that several Phase II costing parameters that informed the rates for wholesale HSA services at the time were no longer appropriate.[19] In response, the Commission initiated a proceeding to review the costing inputs and application process for wholesale HSA services.[20] This proceeding triggered a series of successive Commission decisions from 2016 to 2019.

19. The history of these Commission proceedings leading up to the Order is set out below, in chronological order. This history underscores a clear and consistent pattern whereby the Applicants have not adhered to the Commission's established and accepted costing principles and methodologies.

20. As then Chair and CEO of the Commission commented, the conduct of the Applicants during this period was "very disturbing".[21] The Applicants repeatedly attempted to circumvent

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17 *Tariff notice applications concerning aggregated wholesale high-speed access services – Revised interim rates*, Telecom Order CRTC 2016-396, 6 October 2016, at para 16.

18 The ILECs consist of Bell Canada and its predecessor companies operating in Manitoba, Ontario, Quebec and the Atlantic Provinces, as well as Saskatchewan Telecommunications ("SaskTel") and TELUS.

19 *Review of costing inputs and application process for wholesale high-speed access services*, Telecom Notice of Consultation CRTC 2015-225, 28 May 2015, ("TNC 2015-225"), at para 9. Prior to the launch of the proceeding initiated by TNC 2015-225, the Commission had received a Part 1 application from CNOC, dated 30 April 2015, in which CNOC raised concern that usage-sensitive rates associated with certain wholesale HSA services were no longer just and reasonable. CNOC requested that the Commission make interim various wholesale HSA service rates that received final approval, pending a review by the Commission of the appropriateness of the existing approved rates. See TD 2016-117, at para 7.

20 TNC 2015-225.

21 Commission News Release "CRTC finds proposed wholesale high-speed access rates unreasonable", 6 October 2016.

accepted costing principles and methodologies with a view to leading the Commission to approve severely inflated rates for wholesale HSA services. The Commission correctly identified such proposals as inappropriate and instead applied a careful and principled approach to rate setting, resulting in the just and final rates for wholesale HSA services that were approved in the Order.

Telecom Notice of Consultation CRTC 2015-225

21. On May 28, 2015 the Commission issued TNC 2015-225. This notice of consultation initiated a proceeding to review costing inputs for wholesale HSA services.[22] TNC 2015-225 acknowledged the concerns of service-based competitors that applicable cost parameters for wholesale HSA services were no longer appropriate.[23] The Commission invited interested parties to comment on six issues relating to the Commission's costing approach for wholesale HSA services.[24]

22. The proceeding attracted intense participation from the telecommunications industry, including the filing of detailed interventions and reply comments from the Applicants.

Telecom Decision CRTC 2016-117

23. The Commission issued its decision in the proceeding initiated by TNC 2015-225 when it released TD 2016-117 on March 31, 2016. This decision established a new simplified cost-based approach that allowed wholesale HSA providers to introduce new service speeds within set speed-bands without filing an associated cost study for each speed within a band.[25] The decision also revised specific costing parameters.[26] The Commission then directed all wholesale HSA service providers to file tariff applications reflecting the new costing parameters approved in TD 2016-117.[27]

24. Most notably, the Commission confirmed that because changes were necessary to certain costing assumptions, then current wholesale HSA service rates were not likely just and reasonable.[28] On this basis, the Commission made all wholesale HSA service rates <u>interim</u> as of

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22 TNC 2015-225, at para 12.
23 *Id.*, at paras 9-10.
24 *Id.*, at paras 13-20.
25 TD 2016-117, at paras 19-26.
26 *Id.*, at paras 25-86.
27 *Id.*, at para 105.
28 *Ibid.*

March 31, 2016.[29] Importantly, the Commission also stated that it would assess the extent to which, if at all, retroactivity will apply when new cost studies are submitted in support of revised wholesale HSA service rates.[30]

Telecom Order CRTC 2016-396

25. Forty-five days after the release of TD 2016-117, Bell[31], TELUS and the Cable Carriers, with the exception of Bragg Communications Incorporated c.o.b. Eastlink ("Eastlink"), (the Cable Carriers minus Eastlink hereinafter called "Four Cable Carriers"), filed tariff applications.[32] Having reviewed these tariff applications, the Commission issued TO 2016-396 on October 6, 2016. In this order, the Commission determined that most of the wholesale HSA providers failed to comply with relevant Commission determinations and/or with Phase II costing principles.[33] Since Eastlink's cost studies were filed later,[34] they were subject to a separate order of the Commission, which is described below.

26. In addition, the Commission determined that Bell, the Cable Carriers and TELUS did not justify their departures from the Commission's accepted costing principles and methodologies.[35] The Commission also identified several other costing issues in TO 2016-396.[36]

27. The Commission ultimately concluded that the tariff filings of Bell, the Cable Carriers and TELUS were, on a *prima facie* basis, not based on reasonable costs.[37] In order to ensure that interim rates were based on proper costing principles and reasonable costs, the Commission made a number of adjustments to the proposed wholesale HSA costs of Bell, the Four Cable Carriers and TELUS.[38] Based on those costs, the Commission approved new interim rates for wholesale HSA services that were lower than previous rates by as much as 85.6%.[39]

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29 *Ibid.*
30 *Id.*, at para 105.
31 More specifically, the Bell Companies, which include Bell Canada and Bell MTS.
32 TD 2016-117, at para 106.
33 *Ibid.*
34 On September 9, 2016.
35 TO 2016-396, at para 17.
36 *Ibid.*
37 *Id.*, at para 19.
38 *Id.*, at para 23.
39 *Id.*, at para 24.

28. Finally, the Commission once again addressed the issue of retroactivity. The Commission stated that it would assess the extent to which, if at all, retroactivity would apply when wholesale HSA services are set on a final basis.[40]

29. Following the release of TO 2016-396, then Chair and CEO of the Commission commented: "The fact that these large companies did not respect accepted costing principles and methodologies is very disturbing. What's even more concerning is the fact that Canadians' access to a choice of broadband Internet services would have been at stake had we not revised these rates."[41]

Telecom Order CRTC 2016-448

30. On November 10, 2016, the Commission issued TO 2016-448, which adjusted Eastlink's interim rates for wholesale HSA services.

31. Much like in TO 2016-396, the Commission found that Eastlink did not adhere to established Phase II costing principles and methodologies.[42] The Commission then determined that it was necessary to revise Eastlink's interim wholesale HSA service rates to reflect more accurately accepted costing principles.[43] The Commission did so consistent with the approach that it applied in TO 2016-396 with respect to Bell, TELUS and the Four Cable Carriers and approved revised interim rates for Eastlink.[44]

32. Finally, the Commission once again stated that it would assess the extent to which, if at all, retroactivity would apply when wholesale HSA services are set on a final basis.[45]

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[40] *Id.*, at para 28.
[41] Commission News Release "CRTC finds proposed wholesale high-speed access rates unreasonable", 6 October 2016.
[42] TO 2016-448, at para 12.
[43] *Id.*, at para 14.
[44] *Ibid.*
[45] *Id.*, at para 18.

Telecom Decision CRTC 2017-167

33. Unhappy with the outcome of TO 2016-448, Eastlink filed with the Commission an application to review and vary that order.[46] Eastlink claimed that there was significant doubt as to the correctness of TO 2016-448 on the basis that the Commission made errors of fact and law.[47]

34. The Commission rendered its decision regarding Eastlink's application by way of Telecom Decision CRTC 2017-167[48] ("TD 2017-167"). The Commission determined that Eastlink had failed to demonstrate that there was substantial doubt as to the correctness of TO 2016-448 and dismissed Eastlink's application.[49]

The Order (Telecom Order CRTC 2019-288)

35. As a result of TO 2016-396 and TD 2016-448, Bell, the Cable Carriers and TELUS filed revised cost studies for wholesale HSA services.[50] The Commission issued an extensive process to build a factual record surrounding the revised cost studies. This process included multiple Commission issued requests for information to the Applicants and other providers of wholesale HSA services. Parties were also given the opportunity to file final comments and replies.

36. Notably, interested parties, including the Applicants, also filed submissions regarding the extent to which, if at all, retroactivity should apply when the Commission would approve wholesale HSA rates on a final basis.[51]

37. On August 15, 2019, the Commission issued the Order, setting out final rates for wholesale HSA services and related determinations. The Order is a voluminous and comprehensive ruling that references the factual record of the proceeding and provides detailed descriptions of the rationale underlying the Commission's determinations. In addition, Appendix 2 to the Order sets out a clear summary of: (1) every costing proposal of each of the individual Applicants; (2) a

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[46] *Bragg Communications Incorporated,* Application to review and vary and stay Telecom Order CRTC 2016-448, 18 January 2017.

[47] *Id.*, at para 4.

[48] *Bragg Communications Incorporated, operating as Eastlink – Application to review and vary or stay Telecom Order 2016-448 regarding wholesale high-speed access service interim rates*, Telecom Decision CRTC 2017-167, 25 May 2017.

[49] TD 2017-167, at para 41.

[50] Order, at para 6.

[51] *Id.*, at paras 314-326.

description of the Commission's adjustment to those costing proposals; and (3) an explanation of the Commission's rationale for doing so.[52]

38. The Order describes adjustments to Bell's costs that are necessary due to Bell's: (1) use of an alternate costing approach that overestimates costs;[53] (2) reporting of unreasonable costs compared to those of other ILECs;[54] (3) unreasonable allocation of costs to a narrow set of services without correct use of attribution factors;[55] (4) incorrect and unsubstantiated inclusion of productivity improvement costs;[56] (5) failure to provide evidence in support of forecasts projecting a need for additional facilities;[57] (6) failure to provide evidence to justify a departure from the Commission's previous cost determinations;[58] and more.[59]

39. The Order describes adjustments to Cable Carrier costs that are necessary due to Cable Carriers': (1) failure to adhere to previous Commission determinations relating to costs;[60] (2) reporting of costs that were not substantiated by evidence;[61] (3) misclassification of cost elements;[62] (4) miscalculation of certain cost elements by ignoring applicable factors;[63] (5) use of inappropriately low cost factors;[64] (5) failure to provide company-specific data supporting proposed deviations from costing principles and methodologies;[65] (7) errors in calculations;[66] and more.[67]

40. Finally, the Order describes adjustments to TELUS' costs that are necessary due to TELUS': (1) failure to use company-specific evidence that can provide a reliable forecast;[68] (2) use of financial parameters that were not approved by the Commission;[69] (3) inappropriate timing

52 *Id.*, Appendix 2.
53 *Id.*, at paras 206-212.
54 *Id.*, at paras 187-188.
55 *Id.*, at paras 224-233.
56 *Id.*, at paras 238.
57 *Id.*, at paras 250-252.
58 *Id.*, at paras 256-257.
59 *Id.*, at paras 266-270 and Appendix 2.
60 *Id.*, at paras 64-67.
61 *Id.*, at paras 167-169.
62 *Id.*, at paras 156-161.
63 *Id.*, at paras 129-135.
64 *Id.*, at paras 156-161 and Appendix 2.
65 *Id.*, at paras 20-24.
66 *Id.*, Appendix 2.
67 *Id.*, Appendix 2.
68 *Id.*, at para 22 and Appendix 2.
69 *Id.*, at para 272 and Appendix 2.

approach for calculation of present worth for all capital costs;[70] (4) inappropriate use of a 100% attribution factor despite the fact that other services benefit from the access;[71] and (5) proposed a supplementary mark-up of 10% despite the fact that there was no longer a greater investment risk associated with the construction of FTTN facilities.[72]

41. The Commission's adjustments ensure that the wholesale HSA service costs of the Applicants are accurately identified in accordance with established costing principles and methodologies. These adjustments resulted in rate reductions to the Applicants' wholesale HSA rates of between 15% and 43% for the CBB rate component between 3% and 82% for the access rate component.[73]

42. As it had signaled in prior rulings, the Commission also issued determinations on retroactivity. The Commission found that to the extent that the interim rates for wholesale HSA services were based on inappropriate costs and assumptions, those rates are not just and reasonable.[74] Consequently, the Commission ruled that retroactive application of the final rates is necessary to ensure that wholesale HSA service providers apply just and reasonable rates.[75] However, the Commission determined that it would not be appropriate to apply retroactivity to a date that is earlier than the period that is captured in the cost filings that informed the proceeding leading to the Order.[76] On this basis, the Commission determined that the final rates should apply retroactively to January 31, 2017 in the case of Shaw and March 31, 2016 in the case of the other Cable Carriers, Bell and TELUS.[77]

70 *Id.*, Appendix 2.
71 *Id.*, at paras 223-233 and Appendix 2.
72 *Id.*, at paras 306-313 and Appendix 2.
73 *Id.*, Appendix 1.
74 *Id.*, at para 329.
75 *Id.*, at para 330.
76 *Ibid.*
77 *Id.*, at paras 331-332.

Telecom Order CRTC 2019-288-1

43. On 22 August 2019 the Commission issued Telecom Order CRTC 2019-288-1[78] to make two corrections to the Order.[79]

4.0 THE APPLICATIONS AND THE RELIEF REQUESTED

44. The Commission staff issued a letter dated 19 December 2019[80], which merged the Bell Canada Application, the Cable Carrier Application and the TELUS Application. The Commission's consolidation of the Applications was appropriate due to the significant overlap of arguments, evidence and requested relief featured in the respective applications of Bell, the Cable Carriers and TELUS.

45. For ease of reference, this section summarizes the principal grounds for review and vary cited in each of the Applications. CNOC also summarizes the relief requested by the Applications, which should be denied by the Commission for the reasons set out in the balance of this intervention.

46. It should be noted that the relief requested by Bell and the Cable Carriers consists of broad measures to neutralize the Order and unnecessarily rearrange the sequence of upcoming Commission proceedings. TELUS requests broad relief but also more specific, yet equally unsupported, relief targeted at the Commission's costing determinations.

4.1 Relief Requested in the Bell Canada Application

47. Bell argues that errors in fact are incorporated into determinations made in the Order.[81] Bell claims that "the current rate setting approach for wholesale high-speed access (HSA), and notably the underlying costing process and framework are irrevocably broken and yield rates that are below cost."[82] Appendix 1 to the Bell Canada Application outlines the alleged errors of fact committed by the Commission, which relate to the Commission's specific costing

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[78] *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, Telecom Order CRTC 2019-288-1, 22 August 2019.

[79] Namely, the Commission specified a final wholesale HSA service rate that had been omitted from the original Order and added Rogers to the list of parties that were subject to retroactive rate adjustments as of March 31, 2016.

[80] Telecom - Commission letter addressed to the Distribution list dated 19 December 2019, CRTC File No. 8662-C12-201912502, available at: https://crtc.gc.ca/eng/archive/2019/lt191219.htm.

[81] Bell Canada Application, at para 2.

[82] *Id.*, at para 3.

determinations.[83] Bell also argues that new information has come to light in the case of the Working Fill Factor ("WFF") that it proposed, which raises substantial doubt to the correctness of the Order.[84]

48. The Bell Canada Application requests relief consisting of:

(1) Making final the rates in effect prior to the issuance of the Order; [85]

(2) Removing any requirement for retroactive adjustments;[86]

(3) Re-sequencing the order of upcoming Commission proceedings such that the review of the wireline wholesale regulatory regime ("Wireline Review") occurs first and is then followed by the Commission's review of its rate setting approach ("Rate Setting Review");[87] and

(4) Granting an interlocutory stay of the Order in the event that the proceeding in the FCA Docket 19-A-59 (or any follow-up appeal) is concluded or dismissed, pending final disposition of the issues in the Bell Canada Application.[88]

4.2 Relief Requested in the Cable Carrier Application

49. The Cable Carriers argue that there is substantial doubt as to the correctness of Phase II methodology and, by extension, the Order, due to new facts and circumstances and errors of fact and principles.[89]

50. The Cable Carriers also claim that the issuance of the Order prior to the Rate Setting Review "…in and of itself, raises substantial doubt as to the correctness of the [Phase II costing] Methodology".[90]

51. According to the Cable Carriers, the new facts and circumstances raising substantial doubt as to the correctness of the Order relate to "…harm that would result from implementation of the

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83 *Id.*, Appendix 1.
84 *Id.*, at para 31.
85 *Id.*, at para 180.
86 *Id.*, at para 180.
87 *Id.*, at para 180.
88 *Id.*, at para 126.
89 Cable Carrier Application, at para 3.
90 *Id.*, at para 5.

rates approved in the Order as well as the failure of the Methodology to respect important rate setting principles and reflect dynamic economic factors."[91]

52. Finally, the Cable Carriers vaguely allege that there is substantial doubt as to the correctness of the Order's retroactivity determination because it punishes Cable Carriers while rewarding service-based competitors.[92]

53. The Cable Carrier Application requests relief consisting of:

(1) Varying the methodology and resulting rates approved in the Order in conjunction with the Rate Setting Review;[93]

(2) Elimination of the Commission's determination regarding retroactive application of wholesale HSA service rates;[94] and

(3) An interlocutory stay of the Order if the proceeding in FCA Docket 19-A-58 is concluded or dismissed, pending final disposition of the issues in the Cable Carrier Application.[95]

4.3 Relief Requested in the TELUS Application

54. The TELUS Application argues that the Commission made three errors when it approved TELUS' costs.[96] According to TELUS, the Commission committed its first error by ignoring cost causality by applying an incorrect attribution factor to TELUS' submitted costs.[97] TELUS claims that the Commission committed a second error when it misinterpreted the labelling and use of a customer cash-flow timing parameter contained within the confidential electronic files submitted by TELUS.[98] The third error alleged by TELUS consists of the Commission's retroactive application of the rates and the Commission's failure to recognize a basic principle by removing the mark-up retroactively.[99]

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91 *Id.*, at para 5.
92 *Id.*, at para 10.
93 *Id.*, at para 2.
94 *Id.*, at para 2.
95 *Id.*, at para 2.
96 TELUS Application, at para 1.
97 *Id.*, at para 3.
98 *Id.*, at para 4.
99 *Id.*, at paras 5-6.

55. The TELUS Application request relief consisting of:

(1) Eliminating the attribution factor to allow 100% of the access costs to be attributed to the wholesale HSA service;[100]

(2) Restoring the setting for the timing of capital costs ("OneTime" setting) in TELUS' submitted cost model to reflect the practical timing of cash outflows required to support both existing and new end-users of the service;[101]

(3) Elimination of the Commission's determination regarding retroactive application of wholesale HSA service rates, so that the rates are applied prospectively from the date of the Order;[102] and

(4) if the Commission does not remove the retroactive application of the rates entirely, then at a minimum, the change in markup to 30% should only be applied prospectively from the date of the decision.[103]

5.0 APPLICANTS' POLICY ARGUMENTS ARE WITHOUT MERIT

56. In this Part 5.0, CNOC addresses the Applicants' policy-based claims that the Order: (1) prevents investment in telecommunications infrastructure; (2) imposes inappropriate retroactive payment obligations on the Applicants; and (3) is not necessary given the allegedly competitive state of broadband markets.

5.1 The Order will not Prevent Healthy Levels of Investment and Innovation

5.1.1 Investment should not be Financed Through Unjust Enrichment

57. The most prominent policy-based argument of the Applicants is the hyperbolic claim that the Order will significantly reduce infrastructure investments.[104] When making these claims, the Applicants attempt to appeal to public sensibilities surrounding important policy priorities including: bridging the digital divide, achieving universal broadband service and deploying next-

100 *Id.*, at para 67.
101 *Ibid.*
102 *Ibid.*
103 *Ibid.*
104 See for example, Bell Canada Application Part 5.0; Cable Carrier Application, at paras 6, 11, 19, 29, 30, 32, 33, 34, etc. and Report of Brattle Group, "Analysis of the CRTC's Final Rates for Aggregated Wholesale High-Speed Access Services: Impact on Broadband Network Investment and Innovation" dated 12 November 2019, ("Brattle Group"); TELUS Application, at paras 15, 20, 21, 53, 54, etc.

generation 5G networks.[105] Such initiatives and end-goals are undoubtedly critical policy priorities. However, pursuit of these policy goals should not blindly trump all other considerations that must be carefully weighed by the Commission in the performance of its duties. It should not be lost on the Applicants that the very purpose of mandated wholesale HSA services is to support retail competition for telecommunications services.[106]

58. Adherence to Subsection 27(1) of the *Telecommunications Act* via a Phase II rate setting approach ensures that regulated rates: (1) are not too low or too high; and (2) provide adequate investment incentives to the providers of those services. This strikes the appropriate balance that was described in the Competition Bureau's recent Market Study Report, which emphasized "the importance of setting wholesale access rates at the correct level to ensure that investment incentives are maintained, while at the same time ensuring sufficient scope for wholesale-based competitors to continue to offer competitive discipline in the marketplace."[107]

59. Even the Applicants seem to acknowledge that the Commission's chosen approach for rate setting is fully capable of leading to rates that ensure adequate investment incentives. For example, TELUS explains that "[i]f properly implemented, Phase II costing should lead to compensatory rates for facilities providers and maintain their incentive to continue to invest in their facilities."[108]

60. Phase II costing is thus readily capable of setting rates that preserve appropriate investment incentives – and that is unquestionably the result of the Order, as reflected in the rates listed in Appendix 1 thereunder and in the cogent and evidence-backed rationale that the Commission provided in explaining its findings. Furthermore, as CNOC demonstrates in Part 6.0 of this intervention, the Applicants have failed to make a case that there is substantial doubt as to the correctness of any of these Commission determinations. It therefore follows that the rates established by the Order are fully compensatory and ensure appropriate incentives to invest in telecommunications facilities.

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105 See for example, Bell Canada Application, at Sections 5.2, 5.3 and 5.6.

106 As noted in the preamble to *Review of wholesale wireline services and associated policies*, Telecom Regulatory Policy CRTC 2015-326, 22 July 2015 ("TRP 2015-326").

107 Competition Bureau, "Delivering Choice: A Study of Competition in Canada's Broadband Industry", at p.8 ("Competition Bureau Market Study Report" or "Market Study Report").

108 TELUS Application, at para 2.

61. As the Commission correctly determined, the Interim Rates, which remain in force due to the interlocutory injunction of the FCA, are significantly above just and reasonable levels. Consequently, the Applicants have been and will continue to be unjustly enriched so long as those rates remain in force.

62. Importantly, it should not be assumed that the Applicants allocate the totality of this unjust enrichment to infrastructure investment. Like any other corporate entity, the Applicants each make their own financial decisions regarding dividends, repayment of debt, operational and administrative expenditures, various other categories of expenditures – and investment. Thus, not only do artificially inflated regulated rates cause significant harm to competition (and by extension, consumers), they are also a highly inefficient means for achieving additional infrastructure investment.

63. Even if the Order does ultimately lead the Applicants to reduce investments on some level, the inherent flaw in the Applicants' position is obvious: they seek to perpetuate a level of investment that is funded by unjust enrichment.

64. Applicants are not entitled to amounts that were (and continue to be) paid to them in excess of just and reasonable levels. To the extent that Interim Rates allow Applicants to invest more, which is speculative, that increase in investment is directly subsidized by service-based competitors for the sole commercial benefit of the Applicants. Not surprisingly, the Applicants wish for this arrangement to continue. However, even if this arrangement might have the potential to lead to more raw investment in telecommunications infrastructure, the corresponding benefits to the Canadian public are greatly overshadowed by the economic distortions and significant harm to competition caused by wholesale HSA rates that are not just and reasonable.

65. Implementing the Order as soon as possible is the only outcome in this proceeding that truly benefits Canadians. As aforementioned, the Order establishes just and reasonable cost-based rates that allow service-based competitors to compete effectively while also ensuring that the Applicants generate a fair return on capital that can then be allocated to efficient investments.

66. For all these reasons, the Applicants cannot credibly claim to be prejudiced by a reduction to investment levels that is financed by the unjust enrichment that the Order requires them to forgo. The interest of Canadians is furthered by timely implementation of the Order.

5.1.2 The Brattle Report Suffers from Fatal Flaws

67. The Brattle Report filed by the Cable Carriers is the most determined attempt by any of the Applicants to support the notion that the Order will reduce investments. However, as highlighted throughout the Chen Report, the Brattle Report suffers from fatal flaws.

68. As summarized in the Cable Carrier Application, the Brattle Report purports to assess the impact of the wholesale HSA access rates approved in the Order relative to the interim rates established by TO 2016-396 and TO 2016-448 on the operating margins of the Cable Carriers for the five-year period between 2020 and 2024.[109] The Brattle Report presents three scenarios featuring different levels of: (1) service-based competitor market share growth relative to Cable Carriers; and (2) annual growth in Cable Carrier average revenue per user ("ARPU").[110] Scenarios A and B attempt to factor, respectively, "moderate" and "higher" service-based competitor growth scenarios.[111] Scenario C purportedly measures an alternative to Scenario B that contemplates additional downward pressure on Cable Carrier ARPU resulting from service-based competitor growth.[112]

69. The Brattle Report concluded that, in all scenarios, the Cable Carriers would experience material reductions in their ability to make capital expenditures ("CAPEX") and thus, network investment.[113] Specifically, the Brattle Report calculated an impact varying from a net present value $2.6B reduction in operating margins representing 38% of planned Cable Carrier CAPEX over the five-year period under the most conservative scenario, to a reduction of approximately $3.7B in operating margins representing 54% of planned CAPEX over that period.[114] The Brattle Report also asserts that these estimates understate the impact of the Order for several reasons.[115]

70. As identified in the Chen Report, the cash flow analysis set out in the Brattle Report suffers from three significant deficiencies:[116] (i) inadequate disclosure of information about the method and data used in the analysis: (ii) unrealistic assumptions about the growth rates of service-based

[109] Cable Carrier Application, at para 34; Brattle Report, at para 7.
[110] Cable Carrier Application, at para 34; Brattle Report, at paras 8-9.
[111] Brattle Report, at para 9.
[112] *Id.*, at para 9.
[113] Cable Carrier Application, at para 36; Brattle Report, at para 11.
[114] Cable Carrier Application, at para 36; Brattle Report, at paras 11 and 43.
[115] Cable Carrier Application, at para 36; Brattle Report, at para 42.
[116] Chen Report, at para 11.

competitors' market share and the Cable Carriers' ARPU; and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes. Each of these deficiencies is addressed below, in turn and in greater detail in the Chen Report. Thereafter, CNOC addresses the implications of these deficiencies with respect to the conclusions reached in the Brattle Report.

Inadequate Disclosure of Information

71. First, the methodology and data used in the Brattle Report's cash flow analysis is overly broad and ambiguous.[117] For example, the Brattle Report states that operating cash flows are calculated on the basis of "costs that are incremental to broadband only"[118], but does not provide any information about the cost items that are actually included in those calculations.[119] The Brattle Report also fails to disclose the assumptions that were used to estimate these costs in the five-year period between 2020 and 2024.[120] Finally, the Brattle Report lacks disclosure of critical statistics associated with the *status quo* and the three scenarios used in the cash flow analysis: growth rate of service-based competitors' market share and growth rate of Cable Carrier ARPU.[121]

72. From the perspective of the Commission and interested parties in this proceeding, the absence of the above-listed information is a significant impediment to testing the reasonableness of the assumptions embedded in the Brattle Report.[122] This is especially concerning given that other indicators reveal that certain assumptions made in the Brattle Report are not reasonable.[123]

73. Given the absence of transparent and intelligible evidence to justify the cash flow conclusions reached in the Brattle Report, those conclusions should be afforded no weight by the Commission.

[117] Brattle Report, at para 38 and footnotes 8 and 9; See Chen Report, at para 12.
[118] Brattle Report, at footnote 8; See Chen Report, at para 13.
[119] As noted in footnote 14 of the Chen Report, the Brattle Report lacks a qualitative description of the cost items included in the calculations of operating cash flows.
[120] Chen Report, at para 13.
[121] *Id.*, at para 14.
[122] *Id.*, at para 16.
[123] For example, the Brattle Report assumes a 1.9 percent APRU growth rate for the Cable Carriers, which as indicated in the Chen Report, at para 16, is substantially lower than the recent Cable Carrier APRU growth trend.

<u>*Unrealistic Assumptions*</u>

74. Scenarios A and B of the Brattle Report assume that the growth rate of the Cable Carriers' APRU will be reduced by 4.95 percentage points,[124] which is a reduction of more than 72 percent.[125] The Chen Report concludes that the magnitude of service-based competitors' impact on the Cable Carrier ARPU growth rate assumed in each of the Brattle Group scenarios is grossly out of proportion with the relatively small market share of service-based competitors (8.9 percent as reported in the 2019 Communications Monitoring Report ("CMR")[126]).[127] Put simply, it is not realistic to assume that the rates established in the Order will enable service-based competitors with 8.9 percent market share to drive down Cable Carrier ARPU by more than 72 percent.[128] The Brattle Report also fails to account for the fact that decreases in ARPU (relative to the *status quo*) caused by declines in prices will be offset by increased usage per user.[129]

75. In addition to its problematic ARPU assumptions, The Brattle Report also makes plainly unrealistic assumptions with regards to service-based competitor market share growth. For example, the Brattle Report's Scenario A implies that service-based competitors' market share will grow at an annual rate of 10.84 percent in the five-year period of 2020-2024 – that is more than twice the growth rate of the *status quo*, which is 3.93 percent.[130] Worse yet, Scenarios B and C imply an annual growth rate of 16.65 percent – more than four times the growth rate of the *status quo*.[131] Dr. Chen concludes that such market share assumptions are unrealistic and fail to account for the fact that facilities-based providers will respond to service-based competitors' retail price reductions. In this regard, it is also important to emphasize the Competition Bureau's conclusion that service factors other than price are actually more important to consumers, in aggregate.[132] Such non-price factors include upload and download speeds, monthly download limits, whether

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124 Brattle Report, at para 38.
125 Chen Report, at para 20.
126 CMR 2019, Infographic 9.2.
127 Chen Report, at para 21.
128 *Id.*, at para 21.
129 *Id.*, at para 22.
130 *Id.*, at para 24.
131 *Id.*, at para 25.
132 Competition Bureau Market Study Report, at p. 23.

the ISP is wholesale or facilities-based, average wait times for customer service and reliability of service.[133]

76. Overall, the Chen Report concludes:

> "…the unrealistically large reductions in the growth rate of the Cablecos' ARPU and unrealistically large increases in the growth rate of service-based competitors' market share assumed in the three scenarios have led to a vast overstatement of the negative impact that the Order may have on the operating cash flows of the Cablecos."[134]

77. Looking solely at the effect of the unrealistic ARPU assumptions, Dr. Chen calculates the Brattle Report overestimated the negative impact of the Order on operating cash flows in Scenario A by approximately $2 billion dollars.[135] This represents 79 percent of the Cable Carrier operating cash flow losses that the Brattle Report calculated under Scenario A – without even factoring the overstatement attributable to the Brattle Group's unrealistic assumption about the growth rate of service-based competitors market share and the rate of subscription growth.[136]

Failure to Consider Increases in the Rate of Subscription Growth

78. All three scenarios presented in the Brattle Report assume that the Order will cause retail prices to fall relative to the *status quo*. Thus, decreases in retail prices should lead to an increase in demand for Internet services. In other words, a competitive response by the Cable Carriers in terms of lowering prices will allow them to attract more subscriptions than they would otherwise.[137] Additional subscriptions won in this manner would serve to offset revenue reductions resulting from downward retail price adjustments. The Brattle Report does not contain any discussion about how this basic economic principle was factored into its analysis.[138] Failure to take into account the increase in the rate of subscription therefore overstates the estimated loss in operating cash flows in all three of the scenarios presented in the Brattle Report.[139]

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133 *Id.*, at pp.23 and 26.
134 Chen Report, at para 28.
135 *Id.*, at para 30 and Appendix A.
136 *Id.*, at para 31.
137 *Id.*, at para 32.
138 *Id.*, at para 34.
139 *Id.*, at para 35.

<u>The Brattle Report's Conclusions Regarding Investment Incentives are Unfounded</u>

79. The Brattle Report relies on its cash flow analysis to conclude that the Cable Carriers' incentive and ability to invest will be decreased significantly due to the Order.[140] However, as shown in the Chen Report and as summarized above, the Brattle Report's cash flow analysis suffers from fatal flaws. Just as the Brattle Report drastically overstates potential effects (if any) of the Order on Cable Carrier cash flows, so too does it overstate the effects on investment incentives.

80. Even if a reduction in Cable Carrier operating cash flows could decrease the rate of return on investment, it does not mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentives. As will be shown in Part 6.0, the final rates established by the Order are unequivocally reflective of an appropriate application of Phase II costing and reasonable mark-up. This results in cost-based rates that inherently provide the Applicants, including the Cable Carriers, with adequate incentives to invest. As explained in the preceding Section 5.1.1, the Cable Carriers cannot credibly claim to be prejudiced by a reduction to investment levels that is funded by unjust enrichment (in the form of what is essentially a multi-year interest-free loan of funds to which they were not ultimately entitled) that has been eliminated by the Order.

81. On a final note, the Brattle Report concludes, by way of a quote from the Competition Bureau, that the strongest reduction in investment caused by the Order will most likely be felt in rural and remote areas where population density is relatively sparser.[141] Yet, the Brattle Report provides no evidence to substantiate this conclusion.

82. Ironically, the Brattle Report's cash flow theory runs counter to the conclusion that rural and remote areas will face the strongest reduction in investment.[142] Recall that this theory posits that lower wholesale rates will induce service-based competitors to become more aggressive with retail pricing, with the result of larger market share for service-based competitors and lower ARPU for the Cable Carriers.[143] However, as noted by the Competition Bureau, service-based competitors tend to "focus their marketing efforts on highly populated areas in Southern Ontario and Southern

140 Brattle Report, at paras 43-44.
141 *Id.*, at paras 37 and 44.
142 Chen Report, at paras 57-78.
143 *Id.*, at para 57.

Quebec."[144] Consequently, the price discipline created by service-based competitors and the alleged corresponding impact on Cable Carrier ARPU will be lower in rural and remote areas where service-based competitors have little or no presence. It is expected that this consideration, which favors investment, would undoubtedly be factored into the Cable Carriers' investment decisions.

83. In conclusion, the Brattle Report suffers from fatal flaws. Consequently, that report, which constitutes the most determined attempt by any of the Applicants to substantiate their submissions with actual evidence, fails to establish a correlation between the Order and alleged drastic reductions to broadband network investment incentives. It should be given no weight by the Commission.

5.1.3 Just and Reasonable Wholesale Rates Ensure Efficient Investment

84. The Applications ignore important linkages between just and reasonable wholesale HSA service rates, overall broadband penetration rates, investment incentives and economically efficient investments from a societal perspective.

85. Mandated access to wholesale HSA services is a regulatory policy that promotes economic efficiency by utilizing the significant capacity of the underlying infrastructure to the greatest extent practicable. Wholesale customers contribute to the wholesale HSA service provider's overall broadband penetration. In doing so, the regulatory policy avoids inefficient duplication of facilities that would inevitably lead to increases in infrastructure costs that are eventually borne by consumers.[145]

86. As demonstrated in the preceding section, the Brattle Report has not demonstrated that the Order will lower the Applicants' ARPU or that those unsubstantiated reductions in ARPU would reduce investment incentives. To add to that, even if the Applicants' ARPU is reduced due to the Order, the Cable Carriers fail to account for the countervailing effect of broadband penetration that is facilitated by wholesale connections. That significant additional level of broadband penetration that is subject to just and reasonable wholesale rates established by the Order ensures that

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144 Competition Bureau Market Study Report, at p.19.

145 This point was emphasized by Dr. Markus von Wartburg in the oral hearing in the proceeding leading to TRP 2015-326, See Transcript Volume 2, 25 November 2014, at paras 1658 to 1660 and 2286-2288.

Applicants can generate a fair return on capital. In turn, these dynamics provide the Applicants with strong investment incentives.

87. Regardless of HSA service rate levels, it is true that the business case for rural and remote investments is heavily influenced by the significantly lower penetration that is inherent in parts of the country with lower population density. However, as demonstrated in Section 5.1.10., this adverse factor to a positive business case can be completely offset by access to public funding through the expansive government programs that are currently ongoing. Furthermore, service-based competitors will have a significantly reduced presence in rural and remote areas. It therefore follows that, in accordance with the theory posited in the Brattle Report, service-based competitors will have little or no effect on the Applicants' ARPU in these areas – thereby preserving investment incentives.

5.1.4 Applicant Investments are not Contingent on the Order

88. The Applicants suggest that their investment strategies are developed on a moment-by-moment basis. Investment decisions in this industry are made based on a risk adjusted evaluation of future outcomes over an extended time horizon. Going back several years, the Applicants priced the possibility of being required to provide a wide range of final aggregated wholesale HSA rate scenarios – including scenarios featuring substantial rate reductions. If they evaluated the risk as being too high, they would not have invested in 5G and other infrastructure. However, not only did the Applicants continue to invest substantially leading up to the Order, they also continue to do so during the appeals of the Order. Indeed, the fourth quarter financial statements of each of the Applicants boast expansive investment plans.[146] No portion of these investment plans are hinged on the outcome of the appeals of the Order. Rather, these decisions were made will full knowledge and appreciation of the possibility that all appeals of the Order will be denied.

5.1.5 Threats to Investment are a Tired and Empty Refrain

89. The Applicants' threats of reduced investments are not novel. The Applicants raise these concerns in all major proceedings to consider mandated access to wholesale services. The Applicants also issue their investment threats in response to virtually any regulatory outcome that

[146] See for example Rogers fourth quarter financial statement press release, at p.4; Bell fourth quarter financial statement press release, at p.2.; Shaw fourth quarter financial statement press release, at p.1.

is unfavorable to their commercial interests. To date, these threatened consequences have not materialized.

90. For example, in Telecom Regulatory Policy CRTC 2010-632[147] ("TRP 2010-632"), the Commission determined, among other things, that the ILECs would be required to provide wholesale HSA services over their FTTN facilities.[148] This took place despite warnings from Bell and TELUS that "investment incentives would be reduced in all markets, regardless of size, for any broadband infrastructure subject to wholesale service requirements".[149]

91. In that same proceeding, the Cable Carriers submitted that "their investments in Internet infrastructure are driven by market opportunity and intense retail service competition from the ILECs. They also submitted that both they and the ILECs have been building fibre in their networks closer to homes and business premises for at least a decade…"[150]

92. Since then, the ILECs have moved on from FTTN deployments to deploying FTTP facilities "given the important benefits associated with higher speeds and long-term service reliability"[151]. Their warnings in 2010 about reduced investment did not come to fruition.

93. In the proceeding leading up to TRP 2015-326, a central question under examination was whether to mandate wholesale HSA access over FTTP facilities. Throughout this proceeding, Bell threatened[152] reductions to FTTP investment while simultaneously committing to massive investments in FTTP, including a $1.1 billion investment to deploy FTTP throughout the City of Toronto.[153] Despite Bell's empty warnings and also those of TELUS,[154] the Commission ultimately went on to issue determinations requiring ILECs to provide wholesale HSA services

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[147] *Wholesale high-speed access services proceeding*, Telecom Regulatory Policy CRTC 2010-632, 30 August 2010.
[148] TRP 2010-632, at para. 78.
[149] *Id.*, at para. 34
[150] *Id.*, at para. 38
[151] Order, at para. 307.
[152] See Final Comments of Bell Aliant and Bell Canada dated 19 December 2014 in the proceeding leading to TRP 2015-326, at para 5.
[153] Bell News Release "Bell Gigabit Fibe bringing the fastest Internet to Toronto residents with a billion-dollar+ network investment, creation of 2,400 direct jobs" https://www.bce.ca/news-and-media/releases/show/bell-gigabit-fibe-bringing-the-fastest-internet-to-toronto-residents-with-a-billion-dollar-network-investment-creation-of-2-400-direct-jobs-1.
[154] TRP 2015-326, at paras. 109-110.

over their FTTP facilities in order to facilitate competition in the provision of retail broadband services at the greater speeds that ILECs can only provide over those facilities.[155]

94. In October 2015, Bell even filed a petition[156] requesting that the Governor in Council vary TRP 2015-326 so that wholesale regulation does not extend to FTTP facilities (the "Bell Petition").[157] The Bell Petition exclaimed: "[t]here should be no doubt that going forward, as a result of the CRTC's decision, each fibre-to-the-home investment opportunity will be reviewed and the pace and scale of our investment will unequivocally be affected"[158]. The Bell Petition was rightfully **denied** by the Governor in Council. And yet, in the very Application from Bell that is currently before the Commission in this proceeding – Bell boasts of its accomplishments in FTTP investment and deployment since TRP 2015-326.[159] What's more, the 2019 CMR reports that FTTP Internet services are available to 44% of homes.[160] That is up from 6.2% of homes passed by fibre in 2014.[161] Thus, yet again, Bell's threats about reduced investment did not come to fruition.

95. Altogether, history shows that the Applicants' investment threat is a tired refrain that has lost all credibility.

5.1.6 Threats of Investment Reductions are Inconsistent with Analyst Reactions

96. The release of the Order sparked commentary from Applicants, service-based competitors, and third-party analysts alike. Except for certain cherry-picked sources cited by the Applicants,[162] the near-unanimous assessment is that the rates approved by the Order will have little, if any, impact on the Applicants' market share and competitive position in the broadband market.

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155 *Id.*, at paras. 97 and 143.
156 Petition of Bell Canada to the Governor in Council to Vary Telecom Regulatory Policy CRTC 2015-326, *Review of wholesale wireline services and associated policies*, 20 October 2015.
157 *Id.*, at para 8.
158 *Id.*, at ES22.
159 Bell Canada Application, at para 56.
160 2019 CMR, at p.201.
161 2015 CMR, at Figure 5.1.6.
162 For example, Bell Canada Application, at paras 8, 67, 69, 70; See also Cable Carrier Application, at para 38; See also TELUS Application, at paras 56 and 58.

97. Specifically, third-party analysts opined that: “the cablecos and the telcos have many competitive advantages” which will limit the impact of new rates;[163] the Order is “unlikely to have a large impact on the big publicly traded telecoms”;[164] and “the ongoing financial impact on the bottom-line [will] be minimal”.[165] A Scotiabank note concluded that “[t]he facilities-based providers can also leverage their owners’ retail pricing flexibility, flex their marketing muscle, and take advantage of their distribution and scale to maintain share in the ISP market”.[166] Likewise, Desjardins determined that the Order will not significantly change the industry’s competitive profile.[167] In an October 11, 2019 report, RBC predicted that the Applicants will, “through the use [of] discount and flanker brands, next-generation WiFi, television and smarthome platforms and/or wireless/wireline bundling … be capable of competing effectively” against service-based competitors after lower rates come into effect.[168]

98. Numerous commentators have also disagreed with the Applicants’ claims that the Order will cause them to reduce investments in rural areas:

- Byron Holland, the President of the Canadian Internet Registry Association, remarked that “[c]ompanies like Bell have benefited from decades’ worth of public subsidies and protections from competition, and now they’re threatening to abandon rural Canadians because the CRTC is forcing them to compete.”[169]

- Former Commissioner Timothy Denton opined that “[t]he [incumbent] carriers have backed themselves into this corner by constantly proclaiming that rural investment depended on high rates of profit, and that the CRTC and wholesale competitors have or will cut into those high levels of profit. But the financial analysts do not seem to be concerned.”[170]

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163 Jeff Fan, Scotiabank Converging Networks, August 19, 2019, at p. 1.
164 “New rates to have marginal impact on big telecom bottom lines: analyst”, *The Wire Report*, August 16, 2019.
165 David McFadgen & Siddhant Dilawari, “Q2/19 Wrap: Competitive Intensity Grows”, September 16, 2019, at p. 10.
166 Michael Lee-Murphy and Ahmad Hathout, “On wholesale rates, companies cry foul, but analysts aren’t convinced”, *The Wire Report*, August 21, 2019.
167 Yahgi and Dubrueil, Desjardins Express Pulse, August 15, 2019.
168 RBC Dominion Securities Inc., “Canadian Telecommunications Services”, October 11, 2019, at pp. 25.
169 “More Telcos raise concern over CRTC’s new wholesale broadband rates”, The Canadian Press, 21 August 2019.
170 Timothy Denton, “The crocodiles are thrashing in the river”, tmdenton.com, 22 August 2019.

- Rita Trichur for The Globe and Mail wrote that "[i]nstead of accepting the ruling, big communications companies had a collective conniption. Together BCE, Rogers, [Quebecor Media Inc. ("Quebecor"], Shaw and Cogeco say they expect to fork out about $325-million in retroactive payments as a result of the CRTC decision. That sum total is a minor inconvenience when one considers those same companies earned aggregate profits of more than $5.8-billion last year alone."[171]

99. It also bears noting that Bell Canada quotes an article by David Colville as evidence that the Order is short-sighted and will have the effect of reducing investment in Internet networks and stifle rural development.[172] Mr. Colville is not a neutral commenter with respect to this subject matter. He is on the advisory board of Bragg Communications Incorporated., who are among the Cable Carriers that are appealing the Order. Accordingly, the Commission should accord no weight to the opinion of Mr. Colville.

100. In light of all of the above, there is no plausible explanation why the Applicants, whose market positions are unchanged going forward, would not act on the appropriate incentives to invest that are inherent in the cost-based rates established by the Order.

5.1.7 The Applicants Play Down the Impact of the Order to their Shareholders

101. The credibility of the Applicants' investment arguments is further undermined by comments by the Applicants' own corporate officers revealing that the wholesale HSA services market is ostensibly of little importance to these carriers.

102. Take for example, the following quote from Mr. George Cope, then President of BCE, in response to a question asking why Bell had removed wholesale subscribers, constituting 15% of its subscribers from its subscriber base:

> "Yes, it is interesting. It is one of the things we did the last year, if you watch. I was very transparent with the investment community and talking to our retail subscriber base. The revenue will always be in our revenue. <u>Wholesale subscribers are not strategic for us. It is not a market we approach. It is not a market that we have, frankly, any interest in pursuing, other than regulatory requirements</u>. The ARPU from that base is literally 32% of what it is

[171] Rita Trichur, "Telecom companies are slashing broadband internet in rural communities, and Canadians should be furious", The Globe and Mail, 29 August 2019.

[172] Bell Canada Application, at para 69.

> for retail. So, to compare that <u>net addition to any of our actual performance, from our perspective, in the whole industry, creates bad behaviour, in terms of creating subscribers that are not of value to investors</u>, and so, from our perspective, we will always be reporting retail net additions consistently going forward. Of course, it is always in our revenue numbers in wireline, so it is there, but the subscriber information. Finally, given it is immaterial from a revenue perspective, we, quite frankly, do not want our competitors to know what is happening in the wholesale sector through us."[173] (emphasis added)

103. When facing investors, Bell belittles the wholesale market as "not strategic" and not something that it has any interest in pursuing. However, when facing the Commission, as in the present proceeding, Bell tells a wholly different story – one, where the wholesale market is critical to Bell's ability to make investments in telecommunications infrastructure. Bell cannot have it both ways.

104. Bell is not the only Applicant that has downplayed the significance of the Order when addressing shareholders while simultaneously making contradictory statements to the Commission. Rogers' Chief Financial Officer, Anthony Staffieri, also made revealing comments to investors in a Q&A session on 10 September 2019.[174] When asked to comment on the Order, Mr. Staffieri began by expressing disappointment on a number of fronts. Mr. Staffieri noted his view that: the rates were below costs; that the retroactive impact of the rates was disappointing; and that the Order "can't be good for foreign investment in Canada".[175] Then, Mr. Staffieri characterized the impact of the Order as follows:

> "So, the retroactive impact we've disclosed is, as you said, [ph]Tim (00:24:49), up to the date of the announcement mid-August, the cumulative impact retroactive is CAD 140 million. **<u>It's not significant on a go-forward basis. And the wholesale piece of it overall is not a big part of it</u>**…"[176] (emphasis added)

105. Much like the comments of Mr. Cope, above, Mr. Staffieri's statements underscore the fact that the Order will have little, if any, impact on the commercial position of the Applicants, which continues to be a position of commanding market power. Such reassurances to the investor community simply cannot be reconciled with the 'sky is falling' tone and narrative of the Applications. More specifically, the above-quoted statements are incontrovertibly at odds with the

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173 BCE Q1 2019 Results Conference Call, May 2, 2019.
174 Rogers Communications Inc. BMO Media & Telecom Conference dated 10 September 2019, at p.8.
175 *Id*, at p.9.
176 *Id*, at p.9.

Applicants' claims before the Commission that the Order will result in serious investment reductions and material regulatory uncertainty and market destabilization.

5.1.8 No Correlation Between the Order and Videotron's 1 Gig Service Withdrawal

106. In an earnings conference call, Jean François Pruneau, Videotron's Chief Executive Officer, explained that Videotron has withdrawn its 1 Gig service (up to 940 Mbps download / 50 Mbps upload) as a direct result of the Order.[177] According to Mr. Pruneau:

> We will no longer offer the one gig service because it requires investments. With the new regime, we can't afford it. We have to take decisions. We've taken that decision. It's probably the most material one that we've taken so far, but it's going to be followed by others.[178]

107. In their respective applications, Bell[179] and the Cable Carriers[180] cite Videotron's 1 Gig service withdrawal as an example of investment reductions attributable to the Order.

108. CNOC seriously doubts that there is any correlation between Videotron's service withdrawal and the Order. Videotron undoubtedly has valid commercial reasons for withdrawing this service, but they are unrelated to the Order. Blaming the final HSA service rates approved by the Commission is a self-serving strategy that is intended to create leverage for Videotron and the Applicants in the ongoing appeals of the Order. The evidence confirms this transparent motive.

109. In particular, Quebecor's securities filings undermine the credibility of claims surrounding Videotron's withdrawal of its 1 Gig service. For example, Quebecor's 2019 third quarter management discussion and analysis acknowledges the Order and the ongoing appeals as a contingency,[181] but then makes the following representation with respect to Quebecor's financial position:

> "**Management of the Corporation believes that cash flows and available sources of financing should be sufficient to cover committed cash requirements for capital**

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[177] Jean-François Pruneau, CEO of Videotron, during the earnings call relating to Quebecor's 3rd quarter of 2019, as cited in Bell Canada Application at paras 10, 61-63 and Cable Carrier Application, at para 39(e).

[178] *Ibid.*

[179] Bell Canada Application, at paras 10 and 61-62.

[180] Cable Carrier Application, at para 39(e).

[181] Quebecor's Third Quarter Management Discussion and Analysis, at p. 27; Notably, an identical statement is made in Quebecor's Second Quarter Management Discussion and Analysis, at p. 20; These statements are also included in Videotron Ltd.'s Form 6-K filings with the United States Securities and Exchange Commission.

> **investments**, working capital, interest payments, income tax payments, debt repayments, pension plan contributions, share repurchases, dividend payments to shareholders, and dividend payments (or distributions) to non-controlling interest."[182] (emphasis added)

110. If Mr. Pruneau's claims are to be believed, a consequence of the Order is that cash flows and financing **are not** sufficient to cover committed cash requirements for capital investments in Videotron's 1 Gig service. And yet, this seemingly key financial impact of the Order is completely omitted from – and even contradicted by – Videotron's securities filings. On this basis, CNOC submits that there is no correlation between the Order and Videotron's withdrawal of its 1 Gig service. Videotron's claim to the contrary is blatantly self-serving.

111. It also bears noting that the tariff proceeding concerning Videotron's 1 Gig service withdrawal is still ongoing at a time when the FCA has granted a stay of the Order. Even under an expedited FCA schedule for the appeals of the Order, it will take several months for the Court to issue a decision in the consolidated appeals. Throughout this lengthy delay, the stay of the Order will remain in effect. If Videotron truly had a strategy and positive business case for its 1 Gig service before the Order, then effectively nothing has changed for the extended period during which the FCA's interlocutory injunction is in effect.[183] Videotron could have cancelled its tariff application as soon as the FCA granted the stay of the Order. This would have allowed Videotron to continue providing its retail 1 Gig service while also offering its equivalent wholesale service pursuant to Interim Rates. Instead, Videotron has decided to proceed with the withdrawal of its 1 Gig service. Its decision in this respect strongly suggests that Videotron's tariff notice is not at all motivated by the implications of the Order.

5.1.9 The Curious Matter of the Applicants' Dividend Payouts

112. The Bell Canada Application recounts that Bell, in response to the Order, immediately announced that it would reduce broadband deployment by 200,000 households in rural areas.[184] And yet, in its fourth quarter investor call, BCE announced that it would increase its common

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182 Quebecor's Third Quarter Management Discussion and Analysis, at p.22.

183 The issue of retroactivity for interim rates was raised repeatedly beginning in 2016, as outlined in Part 2.0 of this intervention.

184 Bell Canada Application, at para 77.

dividend by 5% in 2020.[185] This begs the question: what portion of the investment pulled from rural areas is being redirected to shareholders in the form of dividends?

113. Bell is not the only Applicant that boasts of significant dividends in the wake of the Order. For example, Rogers reported that it returned $1,671 million in 2019 to shareholders through dividends and share repurchases, up 69%, including $655 million in share repurchases.[186] After the release of the Order, TELUS also increased dividends by 3.5%.[187]

114. The Applicants raise dividends while simultaneously claiming that the Order has left them with no choice but to reduce investments. This conflicting behavior greatly undermines the credibility of the Applications.

5.1.10 Service-based Competitor Deployments and Public Funding will Ensure Healthy Investment Levels

115. The preceding sections of CNOC's intervention clearly demonstrate that the Applicants' investment claims do not withstand scrutiny. Moreover, Part 6.0 of this intervention confirms that the Order sets rates that are undoubtedly cost-based as reflected by a correct application of Phase II costing and a reasonable mark-up. Thus, by definition, the just and reasonable final rates established by the Order provide the Applicants with a fair return on capital, which ensures an appropriate incentive to invest. In these circumstances, any conceivable reduction to investment by Applicants would be proportionately limited to the unjust enrichment that these carriers enjoyed while Interim Rates were higher than just and reasonable levels. Fortunately, there are other significant sources of investment that can offset the reductions that are claimed by the Applicants.

116. The Applicants strategically voiced their threats of reduced investment in the immediate aftermath of the Order. In response to such threats, The Honourable Navdeep Bains, Minister of Innovation, Science and Industry[188] said in a statement: "This will not distract from our government's commitment to connect every Canadian to affordable high-speed internet by 2030, and I am confident new competitors will step up to make these investments."[189]

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[185] BCE Q4 2019 Results & 2020 Financial Guidance Call, at p.7.

[186] Rogers fourth quarter financial statement, at p.1.

[187] TELUS Dividend information, https://www.telus.com/en/about/investor-relations/dividend-information.

[188] Then, Minister of Innovation, Science and Economic Development ("ISED").

[189] "Telcos threaten to pull rural internet investment after CRTC lowers wholesale rates", Financial Post, 21 August 2019.

117. Indeed, service-based competitors like CNOC members make investments in telecommunications infrastructure, including fibre-based networks, and will continue to do so. The Bell Canada Application attempts to belittle these investments by contrasting service-based competitor investments with those of facilities-based carriers.[190] In support of this argument, Bell cites CMR data from 2013 to 2017.[191] Bell's submissions should be rejected for at least the four reasons that are set out below.

118. First and foremost, Bell is comparing the investments of facilities-based carriers and service-based competitors during a period where wholesale HSA service rates were not just and reasonable.[192] This factor alone completely undermines the validity of the comparison. On the one hand, inflated rates suppressed the ability of service-based competitors to invest. On the other hand, facilities-based carriers enjoyed a level of unjust enrichment that ostensibly financed additional broadband investment.

119. Second, it should be plainly obvious that Bell's comparison conveniently ignores the size disparity between facilities-based carriers and service-based competitors. Facilities-based carriers account for 91.1% of all residential Internet subscriptions. Service-based competitors account for only 3.6% of total telecommunications revenues in Canada.[193] It is little wonder that the radical size and scale disparity between these two classes of providers translates into a markedly different capacity to invest.

120. Third, the comparison does not account for other valuable investments made by service-based competitors in non-transmission facilities, systems, equipment, the establishment of points of presence and more.

121. Fourth and finally, the 2019 CMR reported that growth in wholesale-based provider investments in telecommunications plant and equipment increased by 66.7% from 2017 to 2018.[194]

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190 Bell Canada Application, at paras 85-90.
191 *Id.*, at para 85.
192 While the Commission only set interim rates as of TO 2016-396 and TO 2016-448, rate issues were apparent long before those decisions. For example, CNOC filed an Application identifying rate issues in April 2015 (CRTC File No. 8661-C182-201503946) and the Commission identified possible areas of concern in TNC 2015-225, which resulted in adjustments to costing parameters in TD 2016-117.
193 2019 CMR, Infographic 8.2.
194 2019 CMR Open Data Portal, T8.10(S).

This significant increase demonstrates that service-based competitors are poised to step up and invest in accordance with Minister Bains' expectations.

122. For many service-based competitors, the Order will allow them to operate on a cost structure that, for the first time, opens the door to investment in more capital-intensive facility deployments. For other competitors whose investments have long been artificially suppressed by the effect of inflated wholesale HSA rates, the Order will serve as a catalyst for new deployment projects, expansions and upgrades. By denying the Applications and reaffirming its commitment to the rates established in the Order, the Commission will pave the path to a future marked by consistent growth in service-based competitor investments to the ultimate benefit of Canadians.

123. CNOC notes that many of its members have already made, and are continuing to make, substantial investments in telecommunications infrastructure, including in rural and remote areas.

124. For example, Iristel, through its affiliate, Ice Wireless, has built a mobile wireless network throughout Canada's northern territories and recently spent over $2.5 million acquiring additional spectrum that will allow it to serve Newfoundland and Labrador.[195]

125. Similarly, the Competition Bureau in its Market Study Report highlighted the examples of CNOC members Start.ca, which is deploying a fibre-network in London, Ontario, and TekSavvy, which is deploying a fibre network in Chatham, Ontario, as further examples of service-based competitors investing in facilities.[196]

126. Execulink Telecom, another CNOC member, has operated as a telecommunications service provider since 1904 and has deployed extensive facilities, including a mobile wireless network, in many rural communities throughout Ontario.[197]

127. Storm Internet, another CNOC member, has deployed an extensive fixed wireless network in order to provide wireless Internet service to rural Canadians in Eastern Ontario that otherwise would not be able to access high-speed Internet.[198]

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[195] ISED, "600 MHz Auction – Final Results", https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11499.html.
[196] Competition Bureau Market Study Report, at pp. 53-54.
[197] Execulink Telecom, "Why Execulink", https://www.execulink.ca/about-us/why-execulink/.
[198] Storm Internet, "Residential/Rural Wireless", https://www.storm.ca/residential-wireless/.

128. The investment reductions threatened by the Applicants would also be offset by public funding programs. The Commission is well underway in its administration of the $750 million broadband infrastructure development program that is expressly intended to facilitate the participation of Canadians in the digital economy.[199] In parallel, ISED is also managing an initiative to deliver $5 billion to $6 billion in investments to help every Canadian access high-speed Internet at minimum speeds of 50 Mbps download and 10 Mbps upload.[200] ISED's Connect to Innovate program will also have a significant impact. As described in the Broadcasting and Telecommunications Legislative Review Panel's recently released final report, the Connect to Innovate Program ("BTLRP Report"), "… will install over 19,500 km of fibre. That is approximately the distance from St John's to Vancouver, through Whitehorse, Yellowknife, Iqaluit, Labrador City, and back to St John's. These projects are intended to improve connectivity for more than 900 communities, 190 of which are Indigenous."[201]

129. All of the above-listed public funding programs will further stimulate private investment from a diverse group of funding recipients that includes the Applicants and service-based competitors. This consistent influx of investment now and into the future will greatly overshadow any speculative investment reductions resulting from the Order.

130. In summary, the Applicants have not presented any grounds that could persuade the Commission to adopt the bleak infrastructure investment outlook depicted in the Applications. The Order will ensure healthy investment and innovation levels by providing the Applicants with appropriate incentives to invest while also empowering service-based competitors to make more investments.

5.1.11 The Order will have no Consequences for the Green Economy

131. Bell argues that the Order undermines the transformation to the Green economy.[202] CNOC does not dispute that broadband investment contributes to the Green economy. CNOC agrees with Bell that broadband technologies have the potential to enable carbon abatement.[203] However, the

[199] *Modern telecommunications services – The path forward for Canada's digital economy*, Telecom Regulatory Policy 2016-496, 21 December 2016, at paras 143-147.
[200] See "Universal Broadband Fund" at https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00006.html**.**
[201] BTLRP Report, at p.76. (footnote omitted).
[202] Bell Canada Application, at para 81.
[203] *Id.*, at para 82.

premise for this argument is fundamentally flawed for all of the reasons set out in the preceding subsections of this Section 5.1. Contrary to Bell's position, the Order will ensure healthy levels of investment and innovation. In turn, this will ensure that the Green benefits of broadband technology are fully realized.

5.2 The Commission's Retroactivity Determinations are Correct

5.2.1 The Commission has Jurisdiction to Apply Rates Retroactively

132. The Applicants argue that the Commission's retroactivity determinations are incorrect and request relief that would eliminate the retroactivity obligations established by the Order.[204] The Applicants provide no evidence in defense of this untenable position.

133. The Commission's jurisdiction to apply adjustments to interim rates retroactively is unassailable. In *Bell Canada v. Canadian Radio-Television & Telecommunications Commission* ("*Bell 1989*"), the Supreme Court of Canada explicitly recognized that the power to order the return of improperly charged revenues is squarely within the Commission's jurisdiction, finding that this power is a "necessary adjunct" to the "regulatory scheme established by" its governing statute.[205]

134. By way of background, *Bell 1989* concerned an interim rate-setting by the Commission which took effect at the beginning of 1985. After final rates were set in October 1986, the Commission determined that Bell had earned excess revenues of approximately $200 million over the course of the rate-setting process.[206] The Commission ordered Bell to return those excess revenues to its customers.[207]

135. The Supreme Court of Canada upheld this order, finding that the Commission's power to fix just and reasonable rates "necessarily involves the regulation of the revenues of the regulated entity",[208] and that its "very broad procedural powers" include "the power to make appropriate orders for the purpose of remedying interim rates which are not just and reasonable."[209] The Court

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[204] See for example, Bell Canada Application, at para 22; Cable Carrier Application, at para 10; TELUS Application, at Part 6.0.

[205] *Bell Canada v. Canadian Radio-Television & Telecommunications Commission*, [1989] 1. S.C.R. 1722 ["*Bell 1989*"], at para. 52.

[206] *Ibid.*, at para. 8.

[207] *Ibid.*, at para. 1.

[208] *Ibid.*, at para. 37.

[209] *Ibid.*, at para. 52.

found that it would be "absurd" to hold that the Commission lacked the power to order the repayment of excess revenues.[210]

136. *Bell 1989* was decided predominantly under the *Railway Act*[211] and the *National Transportation Act*[212], which have been superseded for this purpose by the *Telecommunications Act*. However, as remarked by the Supreme Court of Canada in *Bell Canada v. Canadian Radio-Television & Telecommunications Commission*[213] ("*Bell 2009*"), Subsection 27(5) of the *Telecommunications Act* "further enhanced" the "CRTC's already broad discretion in determining whether rates are just and reasonable".[214] Likewise, Sections 7 and 47 represented "significant" additions that support a broad interpretation of the Commission's rate-setting powers.[215] Finally, the Supreme Court of Canada in *Bell 2009* found that while the Commission has used a "rate base rate of return" method, that approach is not necessarily the only basis for setting just and reasonable rates, and further, fostering competition can be factored into the Commission's rate-setting approach.[216]

137. In Telecom Decision CRTC 2020-41[217] ("TD 2020-41") released earlier this month, the Commission confirmed its jurisdiction to exercise broad discretion in rate-setting, stating: "…the Commission is not limited to the rate base rate of return approach as the only basis for setting just and reasonable rates. Rather, the [Supreme Court of Canada] concluded that the Commission has "the ability to balance the interests of carriers, consumers, and competitors in the broader context of the Canadian telecommunications industry.""[218] (footnotes omitted)

138. Although some of the Applicants seem to acknowledge the Commission's jurisdiction to make retroactive adjustments to interim rates,[219] they nonetheless claim that the Commission exercised improper discretion when establishing final rates as of 31 March 2016 in the case of

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[210] *Ibid.*, at para 59.
[211] R.S.C., 1985, c. R-3.
[212] R.S.C., 1985, c. N-20.
[213] *Bell Canada v. Canadian Radio-Television & Telecommunications Commission*, 2009 SCC 40, at para 38.
[214] *Id.*, at para 41.
[215] *Id.*, at para 42.
[216] *Id.*, at paras 44-45.
[217] *Independent Telecommunications Providers Association – Application to review and vary Telecom Regulatory Policy 2018-213*, Telecom Decision CRTC 2020-41, 4 February 2020.
[218] *Id.*, at para 29.
[219] Cable Carrier Application, at para 92; Bell Canada Application, at para 118.

Bell, Cogeco, Eastlink, Rogers, Videotron and TELUS and 1 January 2017 in the case of Shaw.[220] Below, subsections 5.2.2 through 5.2.7 outline the various reasons why the Applicants have failed to demonstrate any grounds that raise substantial doubt as to the correctness of the Commission's retroactivity determinations. As will be shown, the Order's retroactivity determinations ensure that rate levels always balance the interests of carriers, consumers, and competitors.[221]

139. On a final note, the Cable Carriers[222] attempt to qualify *Bell 1989,* emphasizing that the court held that one of the purposes of establishing interim rates is to provide temporary relief against the deleterious effects of the duration of the proceedings. That is exactly what occurred in this case. The Interim Rates were significantly reduced compared to the rates that were previously in effect. This measure provided temporary relief to service-based competitors against the deleterious effects of a prolonged proceeding to set just and reasonable rates on a final basis.

140. The Cable Carriers[223] and TELUS[224] also represent that the Supreme Court of Canada in *Bell 1989* found that "…the financial stability of regulated utilities could be undermined if rates were open to indiscriminate variation."[225] These submissions are inconsistent with the actual determination of the Supreme Court of Canada, which reads as follows:[226]

> "…<u>there should be no concern over the financial stability of regulated utility companies where one deals with the power to revisit interim rates</u>. The very purpose of interim rates is to allay the prospect of financial instability which can be caused by the duration of proceedings before a regulatory tribunal." (emphasis added)

141. CNOC therefore submits that the Applicants have not presented any grounds to qualify or distinguish the Supreme Court of Canada's ruling in *Bell 1989,* which constitutes an authoritative precedent in support of the Commission's retroactivity determinations in the Order.

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220 See for example, Bell Canada Application, at para 22; Cable Carrier Application, at para 10; TELUS application, at Part 6.0.
221 As described in TD 2020-41, at para 29.
222 Cable Carrier Application, at para 92.
223 *Id.*, at para 92.
224 TELUS Application, at para 56.
225 Cable Carrier Application, at para 92.
226 *Bell 1989*, at para 57.

5.2.2 The Applicants are Responsible for Delayed Approval of Final Rates

142. The Applicants argue that the nearly three-year period of retroactivity is punitive, which raises substantial doubt as to the correctness of the Order.[227] The Cable Carriers are especially critical of the period of retroactivity, stating: "Clearly the subsequent delay of 29 months in issuing the Order—which the Cable Carriers understand is a new record—failed to satisfy this objective. Nor can it be said that this delay is particularly attributable to the Cable Carriers."[228] Bell and TELUS also argue that this period of retroactivity creates significant and harmful uncertainty for providers and customers.[229]

143. Contrary to the Cable Carriers' claim, they and the rest of the Applicants contributed significantly in terms of extending the period of retroactivity. As detailed in Part 2.0 of this intervention, the Applicants demonstrated disregard for Phase II costing principles over the course of the regulatory history that ultimately culminated with the Order. The Commission confirmed this very fact in TO 2016-369, stating:

> "The Commission is concerned that certain wholesale HSA service providers have not conducted their cost studies in accordance with Phase II costing principles, as detailed in the Manual, and have not justified departures from the principles and methodologies set out in the Manual. The Commission has also identified several other costing issues that are addressed in this order."[230]

144. The Commission further added: "The Commission expresses its significant concern that most wholesale HSA service providers chose to disregard Commission staff's guidance, the Manual, and relevant past Commission determinations."[231]

145. The Commission then made identical statements with respect to Eastlink in TO 2016-448.[232] The Commission's finding that the Applicants were conducting themselves in this manner came six months after (1) the rates were made interim on the basis that the rates were likely not just and reasonable; and (2) the Commission directed the Applicants to file new tariff applications

227 See for example, Cable Carrier Application at paras 85 to 93; See also TELUS Application, at para 57; Bell is also critical of the retroactivity period in para 119 of the Bell Canada Application.

228 Cable Carrier Application, at para 87.

229 Bell Canada Application, at para 118; and TELUS Application, at Part 6.0.

230 TO 2016-396, at para 17.

231 TO 2016-396, at para 22.

232 TO 2016-448, at paras 9-13 and preamble.

for aggregated wholesale HSA services to reflect new costing parameters.[233] The Applicants' non-conformance with Phase II principles at this critical juncture caused significant disruption and delay in establishing final rates. Further, as aforementioned, then Chair and CEO of the Commission described the Applicants' conduct as "very disturbing" and threatening to Canadians' access to a choice of broadband Internet services.[234]

146. Disregard of Phase II principles was not the only cause of delay attributable to the Applicants. The Applicants took every opportunity to cast overly broad and unjustified designations of confidential information. This conduct was in direct contravention of the disclosure requirements of Telecom Regulatory Policy CRTC 2012-592[235] ("TRP 2012-592") and the Commission Staff Letter dated 13 September 2013.[236] In addition, the Applicants omitted critical information from their responses to requests for information and even outright refused to provide responses to the Commission's requests for information because they disagreed with the appropriateness, relevance or materiality of the **Commission's request**.[237]

147. CNOC submitted four letters to the Commission seeking appropriate levels of disclosure and production of information that was critical to the public record underpinning the Order.[238]

148. In one particularly egregious case, CNOC had to file a letter comprised of **thirty** pages describing the Applicants' extensive failures to abide by the Commission's disclosure rules and worse, the Applicants' outright refusals to respond to the Commission's requests for information.[239] Having reviewed this letter and the Applicants' reply to the same, the Commission identified no less than **fifty** instances where the Applicants either did not justify a designation of

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233 TD 2016-117, at para 104.

234 Commission News Release "CRTC finds proposed wholesale high-speed access rates unreasonable", 6 October 2016.

235 *Confidentiality of information used to establish wholesale service rates*, Telecom Regulatory Policy CRTC 2012-592, 26 October 2012.

236 Letter dated 13 September 2013, CRTC File No. 8638-C12-200805906, available at: https://crtc.gc.ca/eng/archive/2013/lt130913.htm.

237 See for example: Cogeco (CRTC)02Mar18 Question 6b); Cogeco (CRTC)02Mar18 Question 23d); Cogeco (CRTC)02Mar18 Question 23d); Cogeco (CRTC)02Mar18 Question 26; Bragg(CRTC)2Mar18-12 part d); Bragg(CRTC)2Mar18-14; Shaw(CRTC)2Mar18-15 part d); Shaw(CRTC)2Mar18-17 part h); Québecor Média(CRTC)2mars18-5 groupé part b); Québecor Média(CRTC)2mars18-21 groupé part a).

238 CNOC letters dated 18 July 2016 and 7 October 2016 in *Follow-up to Telecom Decision CRTC 2016-117, Review of costing inputs and the application process for wholesale high-speed access service*; See also CNOC letters dated 21 June 2017 and 8 June 2018 in *Follow-up to Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 – Aggregated wholesale high-speed access.*

239 CNOC letter dated 8 June 2018 in *Follow-up to Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 – Aggregated wholesale high-speed access.*

confidential information or where additional information was required.[240] Worse yet, this failure came after the Commission **repeatedly** reminded the Applicants to file cost studies with the detailed cost information outlined in the Commission Staff Letter dated 13 September 2013, with information publicly disclosed in a manner consistent with the confidentiality guidelines set out in TRP 2012-529.[241]

149. It also bears noting the Commission's determination in TO 2016-396[242] and TO 2016-448[243], that the Applicants' proposed costs were not reasonable due to the lack of pertinent costing details.

150. In summary, the Applicants disregarded costing and disclosure requirements throughout the entire proceeding leading up to the Order. At virtually every turn, they frustrated the ability of interested parties and the Commission to scrutinize their cost filings. This disruptive conduct significantly prolonged the proceeding and, consequently, the period of retroactivity. It is bewildering that the Applicants are now claiming prejudice due to a period of retroactivity that was predominantly their own making.

151. It appears that the purpose of the Applications (and the concurrent appeals before the FCA and to the Governor-in-Council) is simply to delay the coming into force of unfavorable rate decisions for as long as possible.

152. The Applicants' ongoing campaign to delay the establishment of just and reasonable rates imposes opportunity costs on service-based competitors. Every dollar of retroactive adjustment that is withheld is a dollar that service-based competitors could otherwise invest to compete more effectively with the Applicants. What's more, interest does not accrue on retroactive rate adjustments.

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240 Telecom Commission Letter Addressed to the Distribution List dated 27 July 2018, CRTC File Nos. 8740-B2-201606873, 8740-B2-201703447, 8740-C6-201606831, 8740-E17-201610262, 8740-M59-201606980, 8740-R28-201606808, 8740-S22-201606823, 8740-S9-201606790, 8740-T66-201606815, 8740-V3-201606849, available at: https://crtc.gc.ca/eng/archive/2018/lt180727b.htm.

241 Telecom Procedural Letter Addressed to Distribution List dated 31 March 2016, CRTC File Nos. 8661-C12-201504829 and 8661-C182-201503946, available at: https://crtc.gc.ca/eng/archive/2016/lt160331a.htm; See also Telecom Procedural Letter Addressed to Distribution List dated 16 December 2016, CRTC File Nos. 8740-B2-201606873, 8740-C6-201606831, 8740-M59-201606980, 8740-R28-201606808, 8740-S22-201606823, 8740-S9-201606790, 8740-T66-201606815, 8740-V3-201606849, 8740-E17-20161026, available at: https://crtc.gc.ca/eng/archive/2016/lt161216a.htm.

242 TO 2016-396, at para 19.

243 TO 2016-448, at para 13.

153. The Applicants have the legal and regulatory resources to delay, stall and frustrate aggressively the implementation of any Commission decisions that are unfavorable to them. The business case for deploying such tactics, when factoring the collateral harms to competition, is undoubtedly positive. It is therefore no surprise to CNOC that such tactics are at play in this proceeding.

154. Considering all the above, there is no merit whatsoever to the Applicants' criticisms of the Commission's determinations regarding retroactivity. The Commission correctly determined that retroactive application of the final rates is necessary to ensure that wholesale HSA service providers use just and reasonable rates.[244]

155. Before leaving this topic, CNOC wishes to stress that the Commission needs to take proactive steps to remove the incentives of Applicants to delay and obfuscate the Commission's ratemaking processes. To that end, CNOC urges the Commission to address this topic in the Rate Setting Review that is expected to commence this year.[245]

5.2.3 The Applicants were Fully Aware that the Order would Address Retroactivity

156. The Cable Carrier Application claims that the Commission's retroactive rate reduction was "unanticipated".[246] According to the Cable Carriers, "…There was no way that the Cable Carriers could have anticipated the magnitude of the retroactive payments due, because the final rates were so much lower than anticipated."[247]

157. This is truly a bizarre argument. At every milestone leading to the Order, the Commission explicitly stated that it would assess the extent to which retroactivity would apply when wholesale HSA services are set on a final basis.[248] In fact, on the record leading to the Order, many of the Cable Carriers individually made representations regarding the issue of retroactivity.[249] What's more, many of those submissions are <u>directly contradictory</u> with the Cable Carriers' new position that the Commission's determinations regarding retroactivity were "unanticipated". For example:

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244 Order, at para 329.
245 CRTC Forecast 2020-2021, https://crtc.gc.ca/eng/backgrnd/vis.htm#telecom_1.5
246 Cable Carrier Application, at paras 10, 85.
247 *Id.*, at para 85.
248 TD 2016-117, at para 105; TO 2016-396, at para 28; TO 2016-448, at para 18.
249 Rogers final comments dated 12 October 2018, at para 32; Shaw final comments dated 12 October 2018, at para 60; Cogeco final reply dated 16 November 2018, at para 101.

- Rogers final comments stated: "To summarize, Rogers believes that if retroactivity is applied, new rates should only be retroactive to the start date of the filed cost studies, specifically, April 1, 2016."[250]

- Shaw's final comments stated: "…under Shaw's unique circumstances, retroactivity of final TPIA rates could only reasonably be applied back to January 1, 2017."[251]

- Cogeco's final reply stated: "Cogeco submits that the best compromise in this context would be to set retroactively final rates approved as a result of this proceeding at the date of the interim order issued in Telecom Order CRTC 2016-396, i.e., on 16 October 2016, and deemed approved on a final basis all existing wholesale HSA rates before the date of this Order."[252]

158. It cannot be said that the period of retroactivity was unanticipated when Cable Carriers themselves advocated for either the same or a very similar period of retroactivity that was ultimately reflected in the Order.

159. CNOC also does not accept that the Cable Carriers could not have anticipated the level of rate adjustments that was made in the Order. For the better part of the last decade, CNOC consistently held the position that rates for aggregated wholesale HSA services were significantly inflated above just and reasonable levels. That position is communicated in every costing related submission that CNOC filed in the proceeding leading to the Order. Furthermore, that position was supported by incontrovertible evidence that the Applicants' proposed costs reflected an incorrect application of Phase II methodology, with a corresponding and significant upward influence on their proposed rates.

160. Even if the Applicants disagreed with CNOC's submissions and evidence, they nonetheless had the ability to estimate the effect of CNOC's proposals on their individual costs and proposed rates. For example, CNOC notes that Bell speculated on the public record about the impact of retroactive rate adjustments in the range of $100 million in response to requests for information

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250 Rogers final comments dated 12 October 2018, at para 32.
251 Shaw final comments dated 12 October 2018, at para 60.
252 Cogeco final reply dated 16 November 2018, at para 101.

from the Commission.[253] In fact, the Applicants presumably conducted such analyses when responding to CNOC's proposals in their various submissions, including their final replies.

161. It therefore follows, that the Cable Carriers, could have easily foreseen wholesale HSA rates that were included in the Order. In turn, those estimates could have been applied to the period of retroactivity that many of the Cable Carriers themselves supported. This simple hypothetical calculation would have allowed the Cable Carriers to approximate a range of retroactive adjustments that the Commission could require in its final determinations. The Cable Carriers' complaints that the rates were "unanticipated" are therefore without merit.

5.2.4 The Retroactive Adjustments will have no Impact on the Market Positions of the Applicants

162. As CNOC has emphasized throughout this intervention, the retroactive adjustments required by the Order represent unjust enrichment that the Applicants enjoyed due to wholesale HSA interim rates that were set above just and reasonable levels. The Applicants were never entitled to these amounts. Accordingly, they have no right to claim prejudice now that they are required to return these amounts to their wholesale customers. The Applicants' position is thus fatally flawed at its core. Each additional layer of argument that the Applicants' overlay atop this premise is equally flawed, on top of being built on a false foundation. In the balance of this section of its intervention CNOC refutes the Applicants' claim that the magnitude of the retroactive adjustment is "punitive".

163. All the Applicants lament the quantum of retroactive adjustment required by the Order and characterize the obligation to repay these amounts as "punitive" against the wholesale HSA providers.[254] In reality, the amounts in question are insignificant relative to the size of the Applicants. For instance, consider the following information drawn from public filings and information:[255]

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[253] Telecom Commission Letter Addressed to Philippe Gauvin (Bell Canada) dated 11 October 2018 in CRTC File 8740-B2-201606873, at Footnote 3, available at: https://crtc.gc.ca/eng/archive/2018/lt181011.htm.

[254] See Bell Canada Application, at para 121; See Cable Carrier Application, at paras 85-93; See TELUS Application, at para 54.

[255] Note: Eastlink has not disclosed the amount of refunds that it will be required to make. As a private company, Eastlink also does not publicly report its revenues. TELUS has not disclosed an estimate of the amount of retroactive refunds that it is required to pay in accordance with the Order.

- Bell acknowledges up to $100 million in retroactive refunds resulting from the Order.[256] This figure represents less than 0.004% of Bell's parent company, BCE Inc.'s, $23.5 billion in annual revenues for 2018.[257]
- Rogers reports retroactive refunds resulting from the Order totaling $140 million.[258] This figure represents less than 1% of Rogers' $15.1 billion in revenues for 2018.[259]
- In the case of Quebecor on behalf of Videotron, the $50 million[260] in refunds resulting from the Order represent 1.2% of its $4.18 billion in revenues for 2018.[261]
- In the case of Cogeco, $25 million in refunds represents 1% of its $2.43 billion in revenues for 2018.[262]
- Finally, in the case of Shaw, $10 million[263] in refunds represents 0.2% of its $5.2 billion in revenues for 2018.[264]

164. These comparisons plainly reveal the insignificance of the retroactive adjustments relative to the massive annual revenues of the Applicants. It is thus no surprise that Rogers's CFO Anthony Staffieri characterized Rogers' refund obligation as "not significant on a go-forward basis".[265] Likewise, these comparisons are consistent with the near unanimous assessment by financial observers that the Order will have little, if any, impact on the Applicants' market share and competitive position in the broadband market.[266]

165. Quebecor's financial reporting is especially revealing when it comes to assessing the relative impact of the Order on the Applicants. Under the "Contingencies and legal disputes"

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256 Written Representations of Bell Canada, Bell MTS and MTS Inc. in Bell et al. vs British Columbia Broadband Association et al. (FCA Docket 19-A-59), at para 55; See also Telecom Commission Letter Addressed to Philippe Gauvin dated 11 October 2018, Re: Commission determination regarding disclosure of financial impact information, at footnote 3.
257 BCE Inc. 2018 Annual Report, at p.5.
258 Affidavit of David James Watt sworn September 12, 2019 in FCA Docket 19-A-58 ("Watt Affidavit"), at para 7.
259 "Rogers Communications Inc. 2018 Annual Report", at p.15.
260 Watt Affidavit, at para 7.
261 "Quebecor Inc. Consolidated Financial Statements", at p.1.
262 "Cogeco Communications 2018 Annual Report", at p.3.
263 Watt Affidavit, at para 7.
264 "Shaw Communications Inc. 2018 Annual Report", at p.8.
265 Rogers Communications Inc. BMO Media & Telecom Conference dated 10 September 2019, at p.9.
266 As summarized above in Section 5.1.6.

section of Quebecor's 2019 third quarter management discussion and analysis, Quebecor states the following:

> "Lawsuits were brought by and against the Corporation in connection with business disputes between the Corporation and a competitor. At this stage in the proceedings, management of the Corporation does not expect their outcome to have a material effect on Corporation's results or financial position."

166. One of these lawsuits happens to be a $150 million dollar lawsuit brought by Bell against Quebecor.[267] If a $150 million dollar liability would not have a material effect on an Quebecor's financial position, how is it that a $50 million in retroactive refunds would have a "punitive" effect on the company?

167. Whereas the retroactive refund amounts are not material for the Applicants, these sums are very significant from the perspective of service-based competitors, as detailed in the next section of this intervention.

5.2.5 The Applicants' Speculation as to how Retroactive Refunds will be Allocated by Service-based Competitors is Irrelevant

168. Just as the Applicants mischaracterize their experience of retroactive adjustments as "punitive", they also mischaracterize service-based competitors receipt of such amounts as an "unjustified windfall".[268] They go farther still and boldly claim that service-based competitors will allocate the entirety of these amounts to the payment of dividends with no pass through benefits to end-users.[269] As clamored by the Cable Carriers: "The Commission's failure to consider the penal nature of the retroactive repayment order on the Cable Carriers and the lack of any requirement for resellers to compensate their customers, constitutes a serious omission and raises substantial doubt as to the correctness of this aspect of the Order."[270]

169. The Applicants' speculation regarding how service-based competitors would use retroactive refunds to fund one purpose or another is irrelevant. Their submissions on this matter constitute pure and unfounded speculation that should be accorded no weight by the Commission.

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[267] As described in the Quebecor Press Release dated April 26, 2019 "More abuse of process by Bell" https://www.quebecor.com/en/-/une-nouvelle-procedure-abusive-de-bell

[268] See Cable Carrier Application, at paras 10 and 93; See Bell Canada Application, at para 121; See TELUS Application, at para 55.

[269] TELUS Application, at para 55; Bell Canada Application, at para 121; Cable Carrier Application, at paras 10, 89, 90, 91.

[270] Cable Carrier Application, at para 91.

170. More profoundly, the Applicants' vapid claim misses the point of retroactive adjustments. As explained earlier in Section 5.1.1, the Applicants each make their own financial decisions regarding dividends, repayment of debt, operational and administrative expenditures, various other categories of expenditures – and investment. The same is true for service-based competitors. The Order provides service-based competitors with an opportunity to make such financial decisions with respect to amounts that were wrongfully paid to the Applicants due to rates that were in excess of just and reasonable levels. How service-based competitors decide to allocate those funds is up to them, as a right. The mere fact that competitors are entitled to receive a retroactive adjustment required to ensure that the Applicants are not unjustly enriched does not change this fundamental truth.

171. The Applicants' claims regarding service-based competitor dividend payments are also astonishingly ironic given that the Applicants are increasing their own dividends while threatening investment reductions.[271]

172. Nevertheless, while service-based competitors necessarily have the freedom to allocate retroactive refunds as they see fit, there are strong indications that refunds will translate into significant benefits for Canadian consumers of broadband services. Indeed, the new rates approved in the Order caused an immediate and profound commercial response from many service-based competitors. These providers responded to a cost structure based on just and reasonable rates by lowering retail pricing. The following list sets out several examples of CNOC members who immediately took steps to transfer the benefits of the Order to consumers:

- Distributel Communications Ltd. ("Distributel") announced that it is undertaking to increase home Internet speeds for its customers at no extra cost to them. Distributel has also revised its pricing for Internet and bundled service offerings that include Internet services. As one example, Distributel's 250Mbps cable Internet service has been reduced from a promotional rate of $85.00 per month for the first 12 months and $95.00 afterwards to $39.95 per month for the first 12 months and $79.95 per month afterwards.[272]

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271 See Section 5.1.9 of this intervention.

272 Affidavit of Christopher Hickey sworn October 15, 2019 ("Hickey Affidavit"), at paras 215-216, Responding Motion Record of Canadian Network Operators Consortium in *Bell Canada et al* v. *British Columbia Broadband Association et al* (FCA Docket 19-A-59) and *Bragg Communications Inc. et al* v. *British Columbia Broadband Association* (FCA Docket 19-A-58).

- Teksavvy, another CNOC member, announced on September 13, 2019 that it would reduce prices or upgrade data plans for 85% of its customers following the Order.[273]

- EBOX Inc., the largest service-based competitor in Quebec announced its intention to lower & enhance plans for nearly 90% of its end-users while the Order is in force. That translates to benefits for more than 100,000 end users mainly in French speaking Canadian markets.[274]

- Start.ca, also a CNOC member, stated that the Order has allowed savings to be passed on to customers with prices for some high-speed cable Internet end-users falling by $20.00 to $70.00 per month, with a speed upgrade.[275]

- Oricom Internet Inc., another CNOC member, has publicly announced that it is reviewing its residential retail Internet package pricing and will introduce a price reduction for many of its customers.[276]

- Execulink Telecom Inc., another CNOC member, has announced that it has introduced lower-priced Internet plans for both new and existing customers.[277]

- All Communications Network of Canada Co. ("ACN"), another CNOC member, has also announced reductions in the prices for its Flash Service Internet service.[278]

173. Clearly, the Order created immediate benefits for Canadian consumers going forward.[279] There is no reason to doubt that the application of rates retroactively would not also translate into significant consumer benefits going forward. Importantly, such benefits are not limited to significant retail pricing reductions. Retroactive refunds can help service-based competitors finance investment and innovation that ultimately benefits Canadians.

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[273] *Id*., at para 217.
[274] Cision, "EBOX s'engage à baisser les prix des consommateurs suite à la décision du CRTC", 20 September 2019, https://www.newswire.ca/fr/news-releases/ebox-s-engage-a-baisser-les-prix-des-consommateurs-suite-a-la-decision-du-crtc-879222738.html.
[275] Hickey Affidavit, at paras 218-220.
[276] *Ibid*.
[277] *Ibid*.
[278] *Ibid.*
[279] That is, until the FCA's interlocutory injunction came into effect.

174. As highlighted at the beginning of this intervention, more than 125,000 Canadians have already reached out to their MPs, the GIC consultation, the Chair of the Commission and the Minister of Innovation, Science and Industry requesting implementation of the Order with a view to ensuring competition, affordability and choice of broadband service providers.

175. Overall, the Applicants have no valid basis on which to make claims about: (1) how service-based competitors will allocate retroactive refunds; or (2) whether service-based competitors' financial decisions will benefit Canadians. Service-based competitors have already demonstrated that they are poised to respond to the Order in meaningful ways that benefit consumers. Most notably, Canadians have expressed their opinions on this matter. Their voices can be heard no less than 125,000 times over and call for swift implementation of the Order.

5.2.6 No Error Regarding Retroactive Application of Rates to Bell's FTTN Technology

176. Bell disagrees that retroactivity is warranted, claiming that FTTN has become a legacy technology, and as such, the rates for GAS-FTTN access services should be frozen at the interim rates set in TD 2016-117.[280]

177. As explained in Section 6.1.2 of this intervention, the straightforward application of a correct service attribution factor and mark-up, as determined in the Order, accounts for almost all the reduction to Bell's GAS-FTTN rate. As Bell is undoubtedly aware, Subsection 27(1) of the *Telecommunications Act* requires that rates must always be just and reasonable. Bell's characterization of FTTN technology as a "legacy technology" is irrelevant to the nature of the Commission's adjustments to GAS-FTTN access services. Accordingly, Bell has not demonstrated substantial doubt as to the correctness of the Commission's retroactivity determinations.

5.2.7 Bell's International Comparisons are Flawed

178. Attached to the Bell Canada Application is a report from the firm Gilbert + Tobin ("Gilbert and Tobin Report") that examines the use of retroactive rate-setting in Australia, New Zealand, and the United Kingdom. The Gilbert and Tobin Report claims that the Commission's decision to use retroactive rate-setting in the Order is "out of step with international best practice".[281]

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[280] Bell Canada Application, at para 120.
[281] Gilbert and Tobin Report, at p. 3.

179. The Gilbert and Tobin Report does not support its conclusion that the Order is somehow out of step with international best practice. All that the Gilbert and Tobin Report actually demonstrates is that Canada, Australia, New Zealand, and the United Kingdom each have different regulatory regimes for telecommunications and their respective telecommunications regulators operate under different enabling statutes that grant them different powers, including with respect to retroactive rate-setting.

180. For example, the Gilbert and Tobin Report states that the telecommunications regulator in the United Kingdom, Ofcom, is prohibited by law from varying rates retroactively.[282] CNOC has no comment on whether this is an accurate statement of the law in the United Kingdom, but regardless of whether it is or it is not, it is irrelevant to a consideration of whether the Commission appropriately used lawfully granted retroactive rate-setting in the Order. As noted above, the fact that the Commission is empowered to make use of retroactive rate-setting is well-established in Canadian law, having been confirmed by the Supreme Court of Canada in *Bell 1989*.

181. The Gilbert and Tobin Report goes on to describe the state of the law in Australia, in which it claims that while the Australian telecommunications regulator, the Australian Competition and Consumer Commission ("ACCC"), may engage in retroactive rate-setting, it only does so "in a tightly structured framework which, consistent with the rationale of ex ante regulation, focuses on prospective rate setting."[283] The Gilbert and Tobin Report claims that the ACCC, due to its statutory constraints, would not have been able to set retroactive rates in the manner that the Commission did in the Order.[284]

182. As with the United Kingdom, CNOC will assume, for the sake of argument, that the description of Australian law provided in the Gilbert and Tobin Report is accurate. All that the Gilbert and Tobin Report demonstrates is that the ACCC operates under a different statutory framework than the Commission, which is hardly surprising.

183. Finally, the Gilbert and Tobin Report describes the situation in New Zealand. Interestingly, the Gilbert and Tobin Report states that once a rate-setting decision has been made in New Zealand, it may be "reopened and varied if there has been a material change of circumstances or

282 *Id.*, at pp 5-6.
283 *Id.*, at p. 6.
284 *Id.*, at pp. 7-8.

if the determination was made on the basis of information that was false or misleading in a material particular."[285] In addition, the Gilbert and Tobin Report affirms that the telecommunications regulator in New Zealand, the New Zealand Commerce Commission ("NZCC") has "a legal power to backdate rate determinations, including to cover the period of an interim determination. However, the NZCC has exercised great caution in exercising this power."[286]

184. Once again, CNOC is assuming that the description of the law in New Zealand by the Gilbert and Tobin Report is accurate. What is interesting about the example of the NZCC is that it seems very similar to how the Commission operates. The Commission also exercises caution with retroactivity and does not issue retroactive decisions as a matter of course, but only where it concludes that retroactive rate-setting is justified by the circumstances. Moreover, the Commission's criteria for reviewing and/or varying one of its decision are very similar to the criteria that the NZCC appears to use.

185. Based on the description provided in the Gilbert and Tobin Report, the approach of the NZCC to retroactive rate-setting and varying past decisions does not actually appear that different than the approach of the Commission. Yet, all of that being said, as with the other two comparator jurisdictions cited in the Gilbert and Tobin Report, all that its analysis of the law of New Zealand shows is that the NZCC operates in its own unique context with a unique enabling statute, just as the Commission does.

186. The Gilbert and Tobin Report also seems to make much of the fact that under the NZCC's approach, sometimes retroactive rates may be set higher for service-based competitors. CNOC is not sure why Bell or the Gilbert and Tobin Report think service-based competitors may be surprised by this fact. CNOC and service-based competitors have always understood that when wholesale rates are interim, there is a risk that the final wholesale rates may be higher, and that retroactivity may work against the interests of service-based competitors. The reason that this does not actually tend to occur is because Applicants chronically overstate the costs used by the Commission to set interim rates, and only after a thorough analysis, does it become apparent that final rates must be set at lower levels in order to be just and reasonable.

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285 *Id.*, at p. 9.
286 *Id.*, at p. 9.

187. The Gilbert and Tobin Report does not conduct any analysis of the merits of the different approaches to retroactive rate-setting and is primarily a descriptive report. Rather than conducting any analysis of the outcomes achieved in the three jurisdictions examined, the Gilbert and Tobin Report merely describes the legal framework for retroactive rate-setting in the three jurisdictions, which only shows that different telecommunications regulators operate in different legal contexts. Moreover, at least one of these jurisdictions, New Zealand, appears to, based on the Gilbert and Tobin Report's description, approach retroactive rate-setting in a similar manner to the Commission. Regardless of the situation in New Zealand, the fact that regulators in three countries have different legal constraints imposed on them when it comes to retroactive rate-setting is hardly a basis for proclaiming that an approach is "international best practice".

188. CNOC notes that far from proving that not using retroactive rate-setting is an international best practice, the limited sample size of the Gilbert and Tobin Report makes it entirely possible that other regulators look to Canada as a model of how to approach retroactive rate-setting.

189. As a result of these flaws, the Gilbert and Tobin Report's claim that the Commission somehow deviated from international best practice by including a retroactive component in the Order should be disregarded.

190. Importantly, CNOC also wishes to highlight another facet of the regulatory regimes of Australia, New Zealand, and the United Kingdom that Bell Canada and the Gilbert and Tobin Report appear to have overlooked and which will CNOC will discuss in greater detail below. <u>All three of these jurisdictions have made use of functional and/or structural separation of their incumbent telecommunications operators as a remedy for insufficient competition</u>.[287] Functional and/or structural separation incentivizes wholesale providers to offer just and reasonable terms and conditions for access to service-based competitors. Thus, to the extent that retroactive rate-setting is relatively rare in all three jurisdictions, it may simply be because it is not needed due to the use of functional/structural separation as a more robust and efficient regulatory remedy. If such measures were adopted in Canada, perhaps a reduced emphasis on retroactive ratemaking would be appropriate here as well.

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287 OECD, "Structural Separation in regulated industries: Report on implementing the OECD Recommendation", 2016, available at: https://www.oecd.org/daf/competition/Structural-separation-in-regulated-industries-2016report-en.pdf.

5.3 The State of Competition Does not Justify the Relief Requested

191. Bell and the Cable Carriers criticize the Order on the basis that it did not include an assessment of the level of competition in the Canadian broadband market today.[288] The Cable Carriers even assert that there is substantial doubt as to the correctness of the Order on these grounds.[289] Coming from parties who are very familiar with the Commission's approach for setting just and reasonable rates for wholesale services, these arguments are truly puzzling. Leaving aside the fact that Bell and the Cable Carriers grossly mischaracterize the competitive landscape for broadband services,[290] these arguments are completely out of touch with the entire framework governing the regulation of wholesale services.

192. The Applicants know full well that an analysis of prevailing market conditions (e.g., market shares, penetration rates, etc.) is irrelevant to the setting of just and reasonable rates for mandated wholesale services. Those considerations are germane to forbearance applications and the Commission's periodic review of wholesale service frameworks. The issue of whether wholesale HSA services should be forborne does not arise in the Order. The Order is solely concerned with the setting of just and reasonable final rates for these mandated services. As far as the rate-setting approach is concerned, what matters is an analysis of the underlying costs that are incremental to the provisioning of the service. The Commission performed such an analysis and did so in accordance with proper application of Phase II methodology.

193. For these reasons, the Commission should reject all the Applicants' views regarding the state of competition in retail markets. These opinions are not relevant or material to the Order. The Applicants can revisit these topics in the upcoming review of the wholesale framework for wireline services. At that point, prevailing market conditions will be a central preoccupation of the proceeding.

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288 Bell Canada Application, at Part 4.0 and para 47; Cable Carrier Application, at paras 67-79.

289 Cable Carrier Application, at para 79.

290 For instance, the Cable Carriers represent that the market share of service-based competitors was 13% in 2017 (Cable Carrier Application, at para 70) whereas Bell posits that service-based competitors' market share "is likely over 15% by now" (Bell Canada Application, at para 37). This latter figure is nearly twice the 8.9% 2018 market share for wholesale-based providers that was reported in the 2019 CMR (2019 CMR, at p.253).

6.0 THE COMMISSION'S COSTING DETERMINATIONS ARE CORRECT

194. This Part 6.0 refutes the Applicants' arguments that the Commission's costing determinations raise substantial doubt as to the correctness of the Order. As will be demonstrated, the Commission's determinations were consistent with a correct application of Phase II costing. Those findings are backed by evidence. The Commission's expert analysis of the factual record of the proceeding is set out in pain staking detail. The rationale underpinning the Commission's determinations is detailed, cogent and fully defensible. The Applicants have individually and collectively failed to demonstrate any grounds that would raise substantial doubt as to the correctness of the costing determinations set out in the Order.

6.1 Bell's Costing Arguments do not Raise Substantial Doubt as to the Correctness of the Order

6.1.1 Bell Fails to Discredit Phase II Costing as Mere "Theory"

195. Bell complains that the costs that constitute the basis for the final rates established by the Order are not reflective of actual company-specific costs.[291] Bell goes on to argue that because Phase II costs reflect prospective incremental costs rather than historical costs that were actually spent, they are theoretical and somehow lead to unjustifiably low rates.[292] According to Bell, Phase II costs are inappropriately theoretical because they reflect the application of a number of Commission-mandated factors and cost inputs, which are not based on Bell's actual measured costs, including mandated annual cost reduction factors, mandated asset lives and mandated working fill factors for certain facilities.[293]

196. This generalized complaint about Phase II costing as a rate setting methodology is plainly incorrect. Contrary to Bell's claims, Phase II costing does not establish rates by way of unsubstantiated "theory".

197. As the Commission and Bell are undoubtedly aware, Phase II cost methodology is an incremental cost approach that was first approved by the Commission in Decision 79-16 for "the costing of new services based upon the additional costs to be entailed in establishing each new

291 Bell Canada Application, at paras 91-92.
292 *Id.*, at para 91.
293 *Id.*, at para 91.

service."[294] Under Phase II, a description and estimate of quantities of all direct resources required for the service are provided[295] and cost estimates for each type of direct resource are calculated by multiplying the estimated resource quantity by the current unit cost.[296]

198. This incremental costing approach is reflected in the information reporting requirements detailed in the Regulatory Economic Studies Manuals (the "Manual"[297]).[298] The unit cost of each capital equipment is calculated using current company-specific supplier pricing, engineering and installation costs, the capacity of the equipment and the average working fill factor (AWFF) of the equipment.[299] For example, Bell provided this level of detail and information on the capital equipment associated with the HSA wholesale aggregated service as part of its cost study filing, as illustrated in its filed cost information for the aggregated GAS DBS FTTN Access[300] service and the GAS FTTN CBB service.[301] This type of detailed cost information on equipment capital costs is not, as Bell suggests, a theoretical matter that is divorced from reality. To the contrary, Bell files this information with the Commission on a confidential basis for the express reason that the costs are company specific.

199. Phase II costing is associated with the costing of new services and is appropriately based upon the approach of calculating the additional costs associated with establishing the service. The aggregated wholesale HSA service cost study filed by Bell therefore calculates the additional costs to provision the proposed wholesale service, including the use of actual equipment and actual unit costs as discussed above.

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294 *Inquiry into Telecommunications Carriers' Costing and Accounting Procedures Phase II: Information Requirements for New Service Tariff Filings*, Telecom Decision CRTC 79-16, 28 August 1979, Introduction, second paragraph, pages 1 and 2.
295 *Id.*, Directive 4.1, at p.44.
296 *Id.*, Directive 5.1, at p.47.
297 Throughout this intervention, "Manual" refers contextually to the respective Manuals of Bell or TELUS when the costing submissions of those respective carriers are addressed. Pinpoint references are provided in the footnotes of this intervention.
298 Bell Manual, 25 October 2013, Appendix D-2, detailed Cost Information Requirements.
299 *Id.*, Appendix D-2, Table 6B – Capital Equipment.
300 Proposed -Bell Canada TN 7522-Attachment 1, Economic Evaluation for GAS (FTTN) and DBS(FTTN) Access Services, Revised and Abridged, 18 May 2018, Appendix 2, Revised and Abridged, Table 6b Capital.
301 180518-Bell Canada-CRTC-2 Mar 18-8 TN 7504 & 7533 Abridged, Attachment, Table 6b Capital Equipment, GAS FTTN CBB Monthly Rate.

200. Bell's explanation of its development of Installed First Costs (IFC) of capital in the distribution network further underscores Bell's effort to include costs in their cost studies Phase II that are actual and company-specific rather than theoretical, as Bell claims:[302]

> "To properly develop a costing model required for a Regulatory costing exercise in our traditional manner, we require a critical mass of the network to be deployed, taking into account numerous network configuration mixes (aerial / buried) across the two provinces of Ontario and Quebec. Furthermore, there would need to be numerous instances of closed network build jobs recorded within our System of Accounts, taking into account their respective installation time required and the configurations of capital assets that were deployed in each given location. We would then take all of this information into account in the development of average IFCs."

201. Bell also fails to present any valid criticism of the Commission's mandated cost factors and inputs. Bell's main complaint is that Phase II does not reflect historical accounting costs.[303] However, Bell's proposed use of historical costs ignores the reality that is captured under Phase II, which is that unit costs in a modern telecommunications network trend downwards over time. Accordingly, a downward trend in unit costs must correspond with a downward influence on service rates developed on a prospective basis. Bell's departure from this cornerstone of Phase II costing is purely self-serving and should therefore be rejected.

202. For all of the above reasons, the Commission should reject Bell's arguments that Phase II costs are somehow theoretical and inappropriate. These submissions are plainly incorrect and unsubstantiated.

6.1.2 No Errors Relating to the Commission's Use of the Service Attribution Factor

203. Bell submits that the service-based attribution factor approved in the Order is contrary to causal costing principles.[304] Bell claims that it proposed a superior attribution factor based on its company-specific data in the event that the Commission determined that an attribution factor was warranted.[305] Bell argues that the Commission instead applied an inappropriate attribution factor.[306]

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302 Bell(CRTC)2Mar18-6 Decision 2016-379, part b).
303 Bell Canada Application, at paras 102-103.
304 *Id.*, at para 95e).
305 *Id.*, at para 95e).
306 *Id.*, at para 95e).

204. Bell's arguments with respect to the service attribution factor are not novel. In fact, all these arguments were submitted to the Commission during the proceeding leading to the Order. More specifically, Bell presented these submissions in response to a Commission RFI relating to service attribution factors.[307] The CNOC Final Comments refuted Bell's arguments on this matter.[308]

205. The CNOC Final Comments addressed the reality that the costing approach used by Bell in the access network did not ensure competitive equity since any retail IP services delivered by the wholesale HSA provider to its subscribers using the FTTN access network were not factored in the development of the unit costs of the FTTN access equipment and facilities.[309] CNOC noted that the Commission had dealt with this competitive inequity issue before in the context of the Phase II studies filed by Cable Carriers and associated with TPIA service.[310]

206. Further, CNOC notes that the Manual is clear that when it comes to the valuation of capital associated with a shared facility, the cost study must include the impact of the services that share the facility:[311]

> "When a service under the proposed course of action requires the use of a new or existing shared facility[13], the impact of using a portion of the capacity of the shared facility for the service is included in the regulatory economic study."
>
> > "Footnote [13]. A shared facility is a facility with finite capacity that can be shared among services or units of demand."

207. The Commission determined that FTTN access umbilical fibre facilities are deemed to be access driven.[312] Accordingly, the cost study does not need to quantify the impact of other services using a portion of the capacity of the shared FTTN access facilities through the application of the capacity costing method as defined under Phase II since capacity costing applies to facilities that are usage sensitive.[313] Nevertheless, Phase II still requires the application of an approach to

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[307] Bell(CRTC)2Mar18-1 Decision 2016-379, part c).
[308] CNOC, Final Comments in TO 2016-396 and TO 2016-488 Follow-up Final, 12 October 2018, at Part Two, Section B. V. at paragraphs 139-149 ("CNOC Final Comments.")
[309] CNOC Final Comments, at para 141.
[310] *Id.*, at para 138.
[311] Bell Manual, Section 1-27.
[312] Order, at para 252.
[313] Bell Manual at Appendix B explains the basis of capacity costing which uses the total cost of the shared facility, the maximum capacity of the shared facility, the WFF and the required capacity of the service under study to develop the causal cost of the facility.

quantify the impact of other services sharing the use of non usage sensitive FTTN access facilities. For this reason, the Commission approved the service attribution factor in the Order.[314]

208. Ironically, Bell argued for a cost sharing approach based on services in its cost study filed in support of its DBS FTTP Access service.[315] TELUS also supported the use of such an approach in its intervention associated with the implementation of the disaggregated DBS FTTP Access service.[316] As stated by TELUS:[317]

> "TELUS is ultimately supportive of cost allocation by number of services, as Bell proposes. This is a reasonable approach to allocating the access costs to each of the services that are being used by the end customer and to a degree aligns with service driven costs. For example, maintenance costs, call outs, and administration activity are all correlated with the number of services an end customer has in his home. This method is also simple, making it less contentious, and allows for transparent cost sharing by all users. Thus, it is the fairest method of allocating costs between wholesale and retail services and TELUS supports cost allocation of the access cost by weighting number of services on each access."

209. The service attribution factor associated with GAS FTTN Access service quantifies the impact of the other services' use of the shared access facilities through an analysis of the number of services that share the facility.[318] This approach is not only consistent with Bell's proposed approach for DBS FTTP Access, as noted above, but is also consistent with previous Commission determinations in the context of the Phase II studies filed by Cable Carriers and associated with TPIA service.

210. As noted in the CNOC Final Comments[319], in Order CRTC 2000-789[320] ("Order 2000-789") the Commission determined that certain costs incurred by Cable Carriers in their access studies, such as node segmentation and bi-directionality capital costs, were also incurred to permit them to offer other services.[321] On this basis, the Commission approved service attribution factors

314 Order, at para 232.
315 Bell Canada TN 7522, Attachment 2, at para 58.
316 TELUS intervention dated 22 September 2017 in *Follow-up to Telecom Decision CRTC 2016-379 – Implementation of Disaggregated Wholesale High-Speed Access Service, including Fibre to the Premises Access Facilities-Proposed Tariffs* (the "TELUS Disaggregated Intervention").
317 *Id.*, at para 31.
318 This analysis is detailed in the Bell response to Bell(CRTC) 2Mar-18, Decision 2016-379, Supplemental, part 1. a).
319 CNOC Final Comments, at para 202.
320 *Terms and rates approved for large cable carriers' higher speed access service*, Order CRTC 2000-789, 21 August 2000.
321 Order 2000-789, at para 95.

with respect to these access costs.[322] The Commission further confirmed the use of this service attribution approach in Telecom Decision CRTC 2006-77[323] ("TD 2006-77").[324]

211. In the Order, the Commission determined that an attribution factor can be used to allocate network facilities that are shared by multiple services and that it is unreasonable to attribute 100% of the access facilities' costs to retail Internet and wholesale HSA services:[325]

> "With respect to the ILECs' proposals that 100% of the costs associated with DSLAM equipment, umbilical fibre, and Ethernet ports be attributed to retail Internet and wholesale HSA services on the basis that these services are the sole driver of these facilities, <u>the record of this proceeding demonstrates that IPTV, voice, and other services make use of these facilities. Accordingly, it is unreasonable to attribute 100% of these facilities' costs to retail Internet and wholesale HSA services."</u> (emphasis added)
>
> "The Commission considers that when the ILECs make investment decisions and/or set retail prices for the services that use these access facilities, they do not attribute 100% of the shared facility costs to Internet service when assessing service profitability. It would be reasonable to assume that a portion of the shared facility costs would be attributed to each of the services that use the shared facilities. Accordingly, <u>the Commission considers that it is appropriate to apply an attribution factor to the ILECs' relevant DSLAM equipment, umbilical fibre, and Ethernet port costs."</u> (emphasis added)

212. For all the above reasons, Bell's objection to the use of any service attribution factor is without merit. The use of a service attribution factor consists of a correct application of Phase II costing principles and is consistent with prior Commission determinations. Not only did the Commission correctly decide to use a service attribution factor, the factor applicable to Bell was correctly set at a value of 68.8% based on shared IP-based services.

213. In anticipation of the possibility that the Commission would implement a service attribution factor, Bell proposed an alternative approach based on Internet access counts as opposed to the number of IP-based services. Bell now maintains that this proposed alternative is superior to the service-based attribution factor that was approved by the Commission:[326]

> Finally, on a related note, we note that while the use of any attribution factor to scale down our costs is inappropriate as we explained in detail in Bell Canada(CRTC)2Mar18-1 Decision 2016-379, the alternative attribution factor we proposed, which is based on

[322] *Id.*, at para 95.
[323] *Cogeco, Rogers, Shaw and Videotron-Third Party Internet access service rates*, Telecom Decision CRTC 2006-77, 21 December 2006.
[324] *Id.*, at Section 2) Capital costing issues.
[325] Order, at paras 223-224.
[326] Bell Canada Application, Appendix 1, at para 15.

> Internet access counts and our actual data as opposed to the number of IP-based services, was more sound than the service-based attribution factor that was approved by the Commission. However, in Order 2019-288, the Commission rejected this factor as well. According to the Commission, this factor relied "extensively on a complex dataset of internal company data (i.e., counts of customers who subscribe to one service or a combination of prescribed services within the ILEC, [ISPs] or ILEC/ISPs combined, or counts of DSLAM port terminations)". This determination amounts to rejecting the use of our actual data in establishing an attribution factor that is conceptually more sound and thus superior to the service-based adjustment factor that was adopted by the Commission. (footnote omitted)

214. The Commission correctly recognized several serious issues that severely undermined Bell's proposed alternative attribution factor.[327] The Commission summarized those issues as follows:[328]

> "With regard to the question of which attribution method is to be applied, the Commission considers that the alternative attribution approaches proposed by Bell Canada, Bell MTS, and SaskTel present a number of issues. For example, they recognize only a limited subset of revenue-producing units of current and future IP-based services (i.e. retail Internet, wholesale HSA, and IPTV services) and thus ignore other services that generate revenue from investments in these facilities.
>
> Further, they rely extensively on a complex dataset of internal company data (e.g. counts of customers who subscribe to one service or a combination of prescribed services within the ILEC, Internet service provider [ISP], or ILEC/ISP combined, or counts of DSLAM port terminations). The difficulty in validating the resulting attribution factor calculation is further compounded when assumptions are incorporated with the purpose of developing forecasts.
>
> In addition, the underlying parameters used for the attribution factor calculation cannot be properly assessed or validated for reasonableness, since no historical trending information or comparable industry-wide data exists.
>
> In contrast, the Commission considers that the service-based attribution approach has several benefits. In particular, it takes into consideration the full extent of the current base of revenue-producing IP-based services that fall within the study period."

215. Bell has not provided any compelling rebuttal to these serious shortcomings of its proposed alternative attribution factor. Consequently, Bell has failed to demonstrate any error in the Commission's determinations with respect to service attribution factors.

[327] Order, at paras 226-229.
[328] *Id.*, at paras 226-229.

6.1.3 No Error in Applying Phase II Costing to Legacy Services

216. Bell submits that the use of forward-looking incremental costs is inappropriate to set the rates of a legacy service such as GAS-FTTN.[329] Bell states that it calculated the actual historical costs of its FTTN access network build since 2005 and determined that with a 30% mark-up and the 68.8% service attribution factor mandated in the Order for the FTTN access network, the rate calculated using historical costs would be higher than the $14.78 GAS DBS FTTN Access rate approved in the Order.[330] The rate was filed in confidence.

217. Bell's complaint is devoid of substance. Bell incorrectly suggests that the prospective costing approach resulted in significant GAS-FTTN access rate reductions.[331] Contrary to those claims, reductions to Bell's proposed GAS-FTTN access rate were almost entirely attributable to the Commission's application of the service attribution factor and its adjustment of the mark-up.

218. As background, Bell proposed a GAS DBS FTTN Access rate of $24.19 per month based on filed total costs of $17.26 and a markup of 40%.[332] For reference, the previously approved GAS-FTTN tariff access rates ranging from $25.47 to $25.62 per month (estimated as an average of $25.60).[333] The Commission applied a service attribution factor of 68.8% and reduced the mark-up from 40% to 30%. These two determinations alone reduce the proposed rate from $24.19 per month to $15.54 per month.[334]

219. Clearly, the straightforward application of a correct service attribution factor and mark-up, as determined in the Order, accounts for almost all the reduction to Bell's GAS-FTTN rate. There is therefore no credibility to Bell's claims that there is substantial doubt as to the correctness of the Order due to so-called "theoretical" prospective costs of legacy services.

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329 *Id.*, at para 100.
330 *Id.*, at para 107.
331 *Id.*, at para 100.
332 Bell(CRTC)2Mar18-1, Decision 2016-379, page 5 of 43, second paragraph and page 11 of 43, Table 1, Section A, Scenario 1. This rate scenario assumes that the fibre umbilical investments are usage sensitive, Bell's proposed unrecovered cost are fully recovered and the DSLAM labour rate is uncapped.
333 Bell General Tariff, Item 5440, Gateway Access Service-Fibre to the Node.
334 Proposed cost of $17.26 of Scenario 1 in Table 1 of Bell(CRTC)2Mar18-1, reduced by the 68.8% service attribution factor and the application of the 30% mark-up, e.g. ($17.26*68.8%)*1.3 = $15.54.

6.1.4 No Error Regarding Benchmarking of DSLAM Costs

220. Bell submits that the Commission inappropriately rejected the use of Bell's actual DSLAM labour costs per port in the GAS-FTTN non-bonded and bonded access cost studies and instead replaced these costs by the average of the DSLAM labour costs per port filed by SaskTel and TELUS.[335] Bell argues that this determination is unreasonable because: (1) the DSLAM labour costs used in the cost studies reflect company-specific costs; (2) DSLAM labour unit costs could vary across ILECs for various reasons; and (3) there must be sufficient detail on the type of DSLAM configurations that are being installed by these ILECs to compare the DSLAM labour costs incurred by different ILECs.[336] Bell alleges that the Commission erred by not considering these factors when it concluded that Bell's costs were too high.[337]

221. There is no merit to Bell's criticism of the Commission's determinations regarding DSLAM labour costs. The Commission correctly determined that DSLAM equipment is a mature technology and provides similar functionality and capacity across all ILECs.[338] For this reason, DSLAM labour costs should be similar across the various ILECs.[339] By extension, the DSLAM labour costs reported by Bell, which were significantly higher than those reported by other ILECs, were not reasonable as confirmed in the Order.[340]

222. The Commission's determination to benchmark Bell's DSLAM labour costs is reasonable. DSLAM equipment is indeed a mature technology which provides similar functionality and capacity across all ILECs. These characteristics of DSLAM equipment render it well suited for benchmarking.

223. Notably, the Commission has a history of applying benchmarking to assess DSLAM labour costs. The Commission used a similar approach in Telecom Regulatory Policy CRTC 2011-703[341] ("TRP 2011-703") where it determined that the Bell companies had high DSLAM labour rates as

335 Bell Canada Application, Appendix 1, at para 16.
336 *Id.*, Appendix 1, at paras 17-34
337 *Id.*, Appendix 1, at para 35.
338 Order, at para 187.
339 *Id.*, at para 187.
340 *Id.*, at para 187.
341 *Billing practices for wholesale residential high-speed access services*, Telecom Regulatory Policy CRTC 2011-703, 15 November 2011.

compared to SaskTel and TELUS and therefore capped the labour cost at 40% of the total FTTN DSLAM costs.[342]

224. Bell has not made a case that the Commission lacked enough detail about other ILEC configurations that is necessary for a valid cost comparison. In support of this argument, Bell merely notes that other ILECs did not provide the basis of their DSLAM labour cost estimates on the public record.[343] That is not a determining factor as to whether the Commission had access to sufficient information to make an informed decision on this matter. All ILECs, including Bell, are permitted to file labour unit cost results in confidence, in accordance with the provisions of TRP 2012-592.[344] This confidential cost information would allow the Commission to complete a valid and reliable benchmarking exercise.

225. For these reasons, Bell has failed to make a case that the Commission erred in its determinations with respect to DSLAM labour costs.

6.1.5 No Error Relating to Recovery of Project Costs

226. Bell claims that it will be unable to recover a portion of DBS project costs due to the Commission's reduction of those costs in the Order.[345] According to Bell, the Commission arbitrarily reduced project development costs 68% and did so in a manner that was contrary to Phase II costing principles.[346] Bell claims that these costs were actually incurred by the company and should therefore be fully recovered.[347]

227. Bell has not submitted any evidence to demonstrate that the Commission erred in its adjustments to Bell's DBS project costs. These adjustments are fully justified for the reasons cogently outlined in the Order.

228. The Commission correctly determined that Bell's proposed project costs were unreasonable given that the service functionalities at issue with these expenditures leverage and

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342 *Id.*, at paras 120-121.
343 Bell Canada Application, Appendix 1, at para 33.
344 *Confidentiality of Information used to establish wholesale service rates*, Telecom Regulatory Policy CRTC 2012-592, 26 October 2012, Appendix, Expenses by Major Function, TRP 2012-592.
345 Bell Canada Application, Appendix 1, at paras 36-38.
346 *Id.*, Appendix 1, at para 40.
347 *Id.*, Appendix 1, at para 51.

update Bell's existing systems that support its aggregated wholesale HSA service.[348] Indeed, Bell confirms that the project expenditures leverage and update its existing systems.[349]

229. Not only do Bell's DBS project costs leverage and update current systems, the project development activities are also beneficial to other services in addition to DBS wholesale HSA service. As CNOC submitted on the record of the proceeding leading to the Order,[350] Bell's description of certain project development activities (associated with inventory management, operations support readiness, testing and standardization in the lab, and enhancements of performance management and other systems) suggest that these activities are beneficial to other services in addition to DBS wholesale HSA service.

230. In addition to all of the above justifications for the Commission's adjustment to Bell's DBS project costs, the Commission found that Bell failed to provide sufficient detail in support of contract and supplier activities, which represented a significant portion of the total project development costs that were claimed.[351] While Bell takes issue with this determination, it ironically admits that it did not file any information on the record of this proceeding on the original costs of the systems that the projects would augment or modify.[352]

231. Notwithstanding all the issues with Bell's claimed DBS project costs, the Commission approved more than 30% of those costs, as filed by Bell.[353]

232. For all these reasons, Bell fails to make a case that the Commission erred in its determinations with respect to the recovery of project costs.

6.1.6 No Error Relating to Pole and Conduit Costs

233. Bell claims that Commission staff confirmed that it erred by not including the cost associated with poles and conduit related to the application of structure cost factors (SCFs) to the umbilical fire costs.[354]

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348 Order, at para 268.
349 Bell Canada Application Appendix 1, at para 49.
350 Order, at para 262.
351 *Id.*, at para 267.
352 R&V Application, Appendix 1, at paras 56 and 57.
353 Bell attests to this percentage in its R&V Application at paragraph 38, described as a reduction of 68% of its filed expenditures.
354 Bell Canada Application, Appendix 1, at para 61.

234. Bell asserts that Commission staff conceded in a private discussion with Bell that it erred by omitting these costs. Private discussions between an applicant and Commission staff do not constitute valid evidence in support of a request for relief by way of a Part 1 application. CNOC and other interested parties were not privy to those discussions. Thus, Bell's private submissions to Commission staff could not be verified or challenged by interested parties. For this reason, CNOC submits that Bell has not established a that the Commission erred with respect to its treatment of pole and conduit costs.

6.1.7 No Error Relating to Unrecovered Causal to Service Costs

235. Bell argues that the Commission's rationale for rejecting the recovery of the unrecovered causal to service costs is flawed.[355] Bell claims that the cited rationale for this determination incorrectly relates to unrecovered causal to demand costs.[356] This claim is plainly incorrect.

236. Contrary to Bell's claim, the Commission's determinations address both unrecovered causal to service costs as well as unrecovered causal to demand costs. As stated by the Commission:[357]

> "Concerning Bell Canada's total unrecovered costs, which comprise both unrecovered costs causal to service and unrecovered costs causal to demand, the Commission considers that the total unrecovered costs claimed are not reasonable because any over-recovery of costs was not taken into consideration."

237. Clearly, the Commission determined that both the filed unrecovered causal to service costs and unrecovered causal to demand costs are not reasonable since the over-recovery of costs was not taken into consideration.

238. Bell also submits that there was a netting out of over-recovered causal to service amounts associated with speed matching which resulted in total unrecovered causal to service costs associated only with network conditioning costs.[358] The details of these costs were filed in confidence.[359] Bell ultimately concludes that it has demonstrated that Bell used their actual costs and actual incurred demand to estimate the unrecovered causal to service cost associated with the

355 *Id.*, Appendix 1, at paras 66-69.
356 *Id.*, Appendix 1, at paras 66-69.
357 Order, at para 43.
358 Bell Canada Application, Appendix 1, at paras 72-74.
359 *Id.*, Appendix 1, at para 73, Table 3.

update of our GAS-FTTN access cost model, and also netted out the over-recovered amount from the total unrecovered cost.[360] According to Bell, it followed the Commission-mandated methodology to calculate the unrecovered costs, with the additional step of restating those costs which were in 2011$ into 2016$ for use in the updated cost study, and the Commission had no valid reason for not approving those costs.[361]

239. Bell fails to substantiate each of the conclusions set out in the preceding paragraph. The calculation of unrecovered causal to service costs filed by Bell in the amount of $15.9 M does not follow the methodology specified in Appendix E-1 of the Manual.[362] As detailed in the CNOC Final Comments, the inclusion of on-going product management expenses and the additional step of restating 2011$ to 2016$ are contrary to the requirements of the Manual.[363] For ease of reference, those submissions are summarized in the subsequent paragraph.

240. As explained in the CNOC Final Comments, product management expenses are ongoing costs (rather than service introduction costs) that are absorbed during the first five years of the cost study.[364] For this reason, Bell's unrecovered causal to service costs associated with ongoing product management expenses are unjustified.[365] In addition, Appendix E-1 of the Manual is clear that the inclusion of the calculated unrecovered costs in the updated regulatory economic study should unitize the unrecovered introduction costs by dividing the unrecovered introduction costs by the present worth ("PW") of new demand forecast estimated for use in the updated regulatory economic study and then add these unitized unrecovered costs to the unitized costs of the updated study.[366] Bell's restatement of the unrecovered costs expressed in 2011$ to 2016$ is inappropriate as it implies that these actual unrecovered costs should be inflated over the five-year study period prior to their recovery in the updated cost study.[367] The recovery of past introduction costs in Phase II does not require a restatement of these costs to the dollars expressed in terms of the beginning of the updated cost study period, since the unrecovered introduction costs have by definition

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360 *Id.*, Appendix 1, at para 74.
361 *Id.*, Appendix 1, at para 74.
362 *Id.*, Appendix 1, at para 73, Table 3.
363 CNOC Final Comments, at paras 117-120.
364 *Id.*, at para 117.
365 *Ibid.*
366 *Id.*, at para 119.
367 *Id.*, at para 120.

already been expended at the beginning of the original study period.[368] In other words, there are no Phase II directives or other justifiable grounds to restate 2011$ costs to 2016$ in cases such as the present, where costs have already been absorbed by Bell.[369]

241. In addition, Bell's submission that there was a netting out of over-recovered amounts associated with speed matching which resulted in total unrecovered causal to service costs associated only with network conditioning costs is insufficient to conclude that the over-recovery of costs was appropriately taken into consideration. The reality, as discussed above, is that the inappropriate inclusion of product management expenses and the restatement of 2011$ to 2016$ in the calculation of the unrecovered causal to service amount are improper, resulting in a distorted netting out of over-recovered amounts.

242. For these reasons, the Commission's correctly determined that Bell's claimed total unrecovered costs are not reasonable because any over-recovery of costs was not taken into consideration. Bell has not demonstrated a case to the contrary.

6.1.8 No Error Relating to WFFs for Traffic Driven Equipment

243. As background, the Commission determined in Telecom Regulatory Policy 2009-274[370] ("TRP 2009-274") that companies could propose a company-specific WFF for a facility for use in a cost study, if it meets the following conditions:[371]

- Condition 1: the company must satisfy a common definition of the measure
- Condition 2: the company must satisfy a common measurement methodology
- Condition 3: the company must demonstrate that the company specific measured WFF has reached stability
- Condition 4: the company-specific measured WFF must meet an acceptable level of consistency with other companies' company-specific WFFs in similar circumstances

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[368] *Id.*, at para 120.
[369] *Id.*, at para 120.
[370] *Review of the use of company-specific working fill factors and the recovery of past introduction costs not fully recovered*, Telecom Regulatory Policy CRTC 2009-274, 14 May 2009.
[371] *Id.*, at paras 21 to 33, and as summarized in the Order, at para 49.

- Condition 5: the company specific measured WFF must be approved by the Commission

244. Bell submits that the Commission erred in rejecting its proposed WFFs. Bell also provides new information designed to demonstrate the validity of its proposed WFFs.[372]

245. Bell argues that its actual measured WFFs demonstrate that use of the 80% WFF mandated by the Commission is inappropriate.[373] In support of this position, Bell argues:

a. that their measured WFFs comply with Condition 1 of the Manual regarding the definition of the WFF;[374]

b. that their measured WFFs comply with Condition 3 of the Manual regarding stability;[375] and

c. that the application of Condition 4 of the Manual regarding consistency with other ILECs is not appropriate in the assessment of the validity of their proposed WFFs.[376]

246. Each of these arguments should be rejected for the reasons set out in the subsequent paragraphs.

Condition 1

247. Contrary to Bell's claim, its WFF does not meet Condition 1 of the Manual. Bell's approach does not comply with the common definition of the measure. That is because Bell defines working units as those units used at the moment of measurement, whereas TRP 2009-274 defines working units as the units that are expected to provide service to an end-user.[377]

248. Bell nonetheless submits that its definition is consistent with Condition 1 because Bell provides multiple measurements of the working units and proposes to use the average of these measurements.[378] These measurements result in port utilizations ranging from 45% to 75% depending upon the network segment (IP Core, IP Edge and NGCE).[379] Bell proposed a traffic

372 Bell Canada Application, Appendix 1, at para 75.
373 *Id.*, Appendix 1, at paras 76-86.
374 *Id.*, Appendix 1, at paras 87-89.
375 *Id.*, Appendix 1, at paras 90-97.
376 *Id.*, Appendix 1, at paras 98-100.
377 Order, at para 97.
378 Bell Canada Application, Appendix 1, at para 88.
379 Bell(CRTC)2Mar18-4, Decision 2016-379, Section D, second para at p. 8 of 10.

utilization of 80% for each segment resulting in overall WFFs of 36% to 60% depending upon the segment.[380]

249. The rationale provided by Bell is fundamentally flawed. Bell explains that it relies on measurements of port utilization that are carried out once a year (for the years 2016 to 2018) which is based on an inventory of the ratio of the number of ports which are carrying traffic and the total number of ports that are configured on the network which are physically available.[381] Although Bell also measures traffic utilization based on the maximum traffic carried by the port as a percent of the port's total capacity (filed in confidence), it proposes the traffic utilization of 80%, as noted above.[382] Thus, it is evident that Bell defined working units based on utilization at the moment of the annual measurement. The calculation of the port utilization, described above, calculates the ratio of the number of ports which are carrying traffic and the total number of ports that are configured on the network which are physically available <u>at the time of the measurement</u>. The measurement dates are specifically detailed by Bell as 31 March 2016, 31 January 2017 and 7 March 2018.[383] The Bell Canada Application has also included equivalent measurements for the year 2019 (filed in confidence).[384]

250. In summary, Bell's measurements are based on port utilization at the time of measurement. This is completely at odds with Condition 1 of the Manual and the Commission's determinations in Telecom Regulatory Policy 2009-274, which require consideration of working units that are expected to provide service to an end-user. Consequently, the Commission did not err with respect to these determinations.

<u>Condition 3</u>

251. The Commission rejected Bell's argument that its proposed WFFs meet Condition 3 of the Manual regarding stability. [385] As correctly determined by the Commission:[386]

> "Specifically, the proposal fails to account for the fact that the equipment under consideration can accommodate increased traffic. In this regard, adoption of the proposed

380 Bell(CRTC)2Mar18-4, Decision 2016-379, Section A, Table 2 at p. 4 of 10.
381 Bell(CRTC)2Mar18-4, Decision 2016-379, Section D, second para at p. 8 of 10 and the referenced Attachment.
382 Bell(CRTC)2Mar18-4, Decision 2016-379, Section D, third para at p. 9 of 10 and Section A, Table 3 at p. 4 of 10.
383 See Bell(CRTC)2Mar18-4, Decision 2016-379, Attachment "IPNtwrkports[date]" tabs.
384 Bell Canada Application, Appendix 1, at para 82.
385 Order, at para 98.
386 *Id.*, at para 98.

> WFFs, in the current context, would result in a significant overestimation of costs. Accordingly, for new technologies that have not reached the mature state of their life cycles, the measured utilization rates cannot be used as WFFs."

252. Bell claims that during the proceeding leading to the Order it provided three years of data in support of the use of its company-specific measured WFFs.[387] It adds that since the Order was issued, Bell was able to obtain actuals for another year, and is thus able to calculate the actual measured WFFs over four of the five years of the study period.[388] Bell also argues that the three types of ports considered in their analysis (1G, 10G and 100G ports) are well into their mature states and have been in use in the network since prior to 2016 and that if the study period is an appropriate period to determine the cost that is used to set the rate, then the fill rates across that same period must also be considered appropriate measures for determining the average WFF for certain equipment or network segments that are used in that cost study.[389]

253. Bell's arguments, as summarized in the preceding paragraph, rely on the flawed definition of working units and associated measurements as discussed above with respect to Condition 1 of the Manual. Unless the basis of the defined measurement is correct, which it is not, the related port utilization and traffic utilization measurements continue to suffer from the same problem discussed earlier. That is, a flawed estimate of port utilization based on three or four discrete measurements undertaken once annually. That approach does not comply with the underlying Manual definition of working units as units that are expected to provide service to an end-user.

254. CNOC further notes that even in the case of company-specific target WFFs, the Commission found in TRP 2009-274 "that the company-specific target WFFs must be developed using a methodology based on either the manufacturer's recommended utilization level or other provisioning/engineering utilization level, as adjusted for the manufacturer's and construction lead times, growth trends, projected exhaust dates, and other factors (to be specified by the ILEC). Accordingly, when an ILEC proposes a company-specific target WFF, it should provide the necessary documentation, including the manufacturer's recommended utilization level or provisioning/engineering utilization level and each associated adjustment, with supporting

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387 Bell Canada Application, Appendix 1, at para 91.
388 *Id.*, Appendix 1, at para 91.
389 *Id.*, Appendix 1, at para 97.

rationale."[390] As explained in the CNOCs Final Comments, Bell did not provide any of this information and documentation.[391]

255. The Bell proposal fails to account for the fact that the equipment under consideration can accommodate increased traffic and, the proposal would, therefore, result in a significant overestimation of costs. As submitted in its Final Comments, CNOC estimates that the application of Bell's WFF proposal in the GAS CBB study results in an increase in the GAS CBB rate of approximately 14% when compared to the use of the currently approved WFF of 80%, as detailed in the costing scenarios of Bell's 20 March 2017 Submission.[392] This is a very significant and unjustified increase in costs. The Commission was therefore correct and justified when it rejected Bell's WFF proposal.

Condition 4

256. The Commission determined that Bell's proposed WFFs do not meet Condition 4 regarding consistency of WFFs among ILECs in similar circumstances.[393] The Commission concluded that Bell's proposed WFFs are not within minus 20% of or greater than the average of all other ILECs' company-specific WFFs.[394] The Commission added that the fact that different ILECs use different mixes of technologies and equipment makes and models, as Bell argued to demonstrate that the ILECs are not in similar circumstances to one another, does not justify or otherwise shed light on why Bell Canada would proceed to augment its equipment once it had reached a much lower proportion of its total capacity as compared to what transpires with other ILECs.[395]

257. Bell now claims that it is "not appropriate to rely on this condition to assess the validity of [its] proposed company-specific WFFs".[396] Bell attempts to support this claim with two reasons.[397] First, Bell does not know what the actual measured fills are for any of the other ILECs for the network segments at issue.[398] Second, Bell believes that the Commission is inappropriately using the mandated fill factor of 80% as the basis for the application of the 20% to test the validity of

390 TRP 2009-274, at para 43.
391 CNOC Final Comments, at para 62.
392 *Id.*, at paras 55-56.
393 Order, at para 99.
394 *Id.*, at para 99.
395 *Id.*, at para 99.
396 *Id.*, at para 98.
397 Bell Canada Application, Appendix 1, at para 98.
398 *Id.*, Appendix 1, at para 99.

the consistency of their proposal with other ILEC WFFs.[399] Bell concludes that "the Commission is fettering its discretion by excluding the possibility of changing a rate in a manner that would ensure that that rate reflects proper economic costs".[400]

258. Bell's criticisms of the Commission's determinations have no merit. In TRP 2009-274, the Commission explicitly stated the following with respect to Condition 4: "while there may be marked differences between the ILECs as a result of matters such as provisioning practices, geography, and labour costs, the Commission considers it reasonable to expect ILECs to provision a particular facility in an efficient and similar manner (e.g. similar vendors, construction conditions, and networks.)"[401]

259. The Commission also explained the basis of its application of the 20% consistency criteria in TRP 2009-274, noting that it "considers it appropriate to disallow excessive levels of spare capacity that significantly exceed those of other ILECs for the same facility. The Commission further considers that a reasonable level of excessive spare capacity would exist where an ILEC's WFF measure would be within minus 20 percent of, or greater than, the average of all ILECs' company-specific WFFs. In addition, the Commission considers that in the event that company-specific WFFs are not filed by all major ILECs for a particular facility, it may disallow company-specific WFFs if they are deemed to contain levels of spare capacity that are excessive and undue."[402]

260. CNOC submits that the Commission's justification for Condition 4, as detailed in both preceding paragraphs, is both fair and reasonable. The Condition ensures that WFF proposals do not unjustifiably inflate costs with a corresponding increase to service rates. ILECs should be expected to provision facilities in an efficient and similar manner. If company-specific WFFs are not filed by all major ILECs for a given facility, the Commission must scrutinize costs and disallow company-specific WFFs that contain levels of spare capacity that are excessive and undue. The outcome of the Commission's review of Bell's proposal: its proposed WFFs were deemed to contain excessive and undue levels of spare capacity.

399 *Id.*, Appendix 1, at para 100.
400 *Id.*, Appendix 1, at para 100.
401 TRP 2009-274, at para 30.
402 *Id.*, at para 31.

261. There is absolutely no credibility to Bell's allegation that the Commission is inappropriately fettering its discretion by excluding the possibility of changing a rate in a manner that would ensure that that rate reflects proper economic costs is unsupported by the facts. Bell has blatantly chosen to disregard the Conditions associated with the approval of company-specific WFFs, as detailed in Appendix E-1 of the Manual. In doing so, Bell has proposed self-serving WFFs that inflate costs and corresponding service rates.

262. For all the above-stated reasons, Bell has failed to make a case that the Commission erred with respect to its determinations concerning WFFs for Traffic Drive Equipment.

6.1.9 No Error Relating to the Cost Increase Factor ("CIF") for Traffic Driven Equipment

263. Bell objects to the current approved CIF of minus 26.4% and instead proposes a CIF for traffic driven equipment of minus 15.7% as reflected in the 2016 Dell'Oro Router Report.[403] In the Order, the Commission rejected Bell's proposed CIF as being inconsistent with the general use of company-specific data in regulatory cost studies.[404] Now, the Bell Canada Application characterizes the Commission's determination on this matter as "unprincipled, contrary to proper economic costing, and […] outright inappropriate."[405]

264. Bell's characterization of the Commission's determinations is completely devoid of substance. As submitted in the CNOC Final Comments[406], the Commission specifically requested information from Bell on why the company had not relied on company-specific information to develop their CIF proposal.[407] In response, Bell admitted that it does not have **<u>any</u>** company-specific data in support of its proposal.[408]

265. The Commission correctly determined that relying on company-specific information as opposed to third party reports is reasonable "given that the wholesale HSA service providers are sophisticated network operators, it is reasonable to expect that they have detailed company-specific equipment prices and capacities for traffic-driven equipment that they acquire on an annual

403 Order, at para 12.
404 *Id.*, at para 21.
405 Bell Canada Application, Appendix 1, at paras 103.
406 CNOC Final Comments, at para 74.
407 Bell Canada(CRTC)2Mar18-3 Decision 2016-379.
408 *Ibid*.

basis."[409] Given that Bell's proposed CIF remains inconsistent with the general use of company-specific data in regulatory cost studies, there is no credibility to Bell's claim that the Commission erred in its determinations with respect to the CIF for traffic driven equipment.

6.1.10 Occurrence Rates in the GAS-FTTN Bonded Access Cost Study

266. In the Order, the Commission adjusted the occurrence rate for travel repair work activity associated with the GAS-FTTN Bonded Access cost study to align with the travel repair work activity occurrence rate approved for the FTTN Non-Bonded Access service, since no evidence was provided to suggest that such a deviation is appropriate.[410]

267. Bell submits that this adjustment is inappropriate because 100% on the bonded work is done by BTS technicians (as opposed to Bell technicians) while 92% on the unbonded work is done by BTS.[411] Bell also requests, based upon its review of its cost model results, that the Commission correct an apparent error whereby the adjustment reduced this cost component to only 8% of the actual cost of this work.[412]

268. CNOC is not privy to the confidential information filed by Bell on this matter, including the related calculations in Bell's electronic cost model. CNOC requests that the Commission scrutinize these claims against the confidential information in its possession.

6.1.11 Occurrence Rates in the GAS-FTTN Bonded Access Installation Charge Cost Study

269. The Commission determined that it was appropriate to adjust by 80% the occurrence rate for travel time and Control Centre manual handling activities associated with the GAS-FTTN Bonded Access Installation Charge cost study in order to align the occurrence rates with previous Commission-determined rates.[413]

270. With respect to the Control Centre manual handling activities, Bell submits that this adjustment is inappropriate because the Commission's determinations on this matter in TRP 2011-

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409 Order, at para 21.

410 *Id.*, Appendix 2, Table: Summary of Commission's adjustments to Bell Canada's monthly bonded access rate, 6th row.

411 Bell Canada Application, Appendix 1, at para 106.

412 *Id.*, Appendix 1, at para 106.

413 Order, Appendix 2, Table: Summary of Commission's adjustments to Bell Canada's bonded access installation rate, 2nd row.

703 relied on Bell's expectation that 20% of the orders would require manual handling due to automation, but that automation has not occurred as planned.[414] Bell states that as of today all orders require manual handling and this practice is not expected to change, and requests that actual company-specific costs based upon a 100% occurrence rate be used in the cost study. [415]

271. In response to this claim, CNOC notes that Bell's cost filings in the proceeding leading to the Order revealed a 60% occurrence rate for the Control Centre manual activity for the inward service dispatch (receive notification of the FTTN access order and assign a technician in the Field Work Force Management system) and is associated with a generous 15-minute time estimate. [416] In other words, Bell's proposed 15-minute time estimate, and 100% occurrence rate assumes that no orders are batched, be it on an hourly or daily basis, and that each access order is handled independently and separately from any others. CNOC submits that this is an unreasonable assumption.

272. On that basis it would take the Control Centre dispatcher a full hour to address just 4 access orders. In CNOC's view the concern raised by Bell with respect to a delay in the automation of the process is not reasonable. The generous 15-minute per order estimate and the Commission's determination to reduce the occurrence rate by 80% yield a much more realistic estimate. Bell's proposed 100% occurrence rate should be rejected.

273. With respect to the travel time activities, Bell submits that this adjustment is inappropriate because the time spent by BTS technicians to travel from one job to the next is required at all times and should be 100%, as the technician must complete each job, and therefore must move from one job to the next.[417] Bell's cost filings in the proceeding leading to the Order reveal a 58.6% occurrence rate associated with a generous 29.5-minute travel time estimate.[418] In CNOC's view, the generous 29.5-minute per order travel time estimate combined with the Commission's determination to reduce the occurrence rate by 80% yield a realistic estimate. Bell's proposed 100% occurrence rate should be rejected.

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414 Bell Canada Application, Appendix 1, at para 111.
415 *Id.*, Appendix 1, at paras 111-112.
416 Bell Canada (CRTC)2Mar18-21 Decision 2016-379, Attachment, Table 1.
417 Bell Canada Application, Appendix 1, at paras 113-114.
418 Bell Canada (CRTC)2Mar18-21 Decision 2016-379, Attachment, Table 1.

6.1.12 Bell's Costing Scenarios

274. Bell claims that the Commission was "intent on lowering [its] costs" because the Commission "ignored" the 40 alternative costing scenarios that were filed by Bell.[419] The allegations have no merit and should be rejected by the Commission.

275. Bell does not provide an iota of evidence to establish that the Commission "ignored" its alternative costing scenarios.

276. Furthermore, these scenarios are simply a summary of the results of running Bell's electronic cost model under different cost assumptions and/or adjustments and the Commission has access to the electronic cost model and can accordingly generate the results of any cost assumptions or adjustments it may choose to run. As was confirmed in the Order, Bell's cost studies disregarded Phase II costing principles, the Manual and previous Commission determinations. Naturally, these deviations distorted the results of Bell's 40 alternative costing results.

277. For the above-listed reasons, the Commission should reject this weak and unsupported argument.

6.2 The Cable Carriers' Costing Arguments do not Raise Substantial Doubt as to the Correctness of the Order

6.2.1 Phase II Assesses the Actual Cost of Cable Carrier HSA Infrastructure and Operations

278. The Cable Carriers submit that Phase II methodology "measures the costs of an artificial network construct comprising only a fraction of the equipment required in an actual cable network."[420]. Two examples are provided in support of this position.

279. First, the Cable Carriers submit that applying Phase II methodology to segmentation fibre and WFFs limits the recovery of Rogers' actual network segmentation costs. More specifically, the Cable Carriers claim:[421]

> "The Methodology does not cost real-world cable networks and their operations. By way of example, the Methodology applied with respect to <u>Rogers' segmentation fibre and</u>

[419] Bell Canada Application, at para 98.
[420] Cable Carrier Application, at para 50.
[421] *Id.*, at para 48.

working fill factor ("WFF") alone limit recovery through the rates of Rogers' costs of connecting only about 250 nodes in the five-year study period. In fact, there were 11,561 nodes in Rogers' network in 2016 and this number has increased substantially over the last 3 years. As a result of these factors alone, the costs considered in the Methodology represent less than 10% of Rogers' actual high-speed access network segmentation costs." (emphasis added)

280. This example should be read alongside the node analysis included in Rogers' response to a Commission RFI with respect to capacity costing and optical nodes.[422] Notably, this RFI response addresses the use of the 75% WFF on optical nodes – and not segmentation fibre.[423] Thus, in Rogers' node analysis, the WFF applies to the application of capacity costing to optical nodes. By definition, this approach lends itself to a valuation of optical nodes and not the valuation of segmentation fibre. Indeed, the valuation of segmentation fibre does not rely on capacity costing or the WFF under Phase II.[424] For these reasons, the above-cited example incorrectly implies the use of WFF for the valuation of segmentation fibre.

281. If the above-cited example was intended to refer to the WFF of optical nodes, the Cable Carriers' are simply repeating the same arguments that Rogers made in the proceeding leading to the Order. The Order includes detailed and evidence-backed reasons that explain why Rogers' WFF proposals are not appropriate.[425] The Cable Carriers have not provided any new evidence to challenge those findings.

282. As background, Rogers proposed two WFFs for the optical node facilities: a WFF of 28% at the start of the cost study and a WFF of 60% for each subsequent year of the cost study.[426] The Commission addressed these proposals as follows:[427]

> The WFF of 28% is based on the average utilization at the end of 2016 across all optical node facilities, and it does not include all working units that are expected to provide service to a customer. The Commission considers that this WFF does not satisfy the first condition and is not appropriate for use in cost studies." (emphasis added)
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> "Furthermore, the Commission considers that RCCI did not provide sufficient evidence to validate its proposed estimation error, and is therefore unable to establish that use of the

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422 Rogers Response to HSA Aggregated (CRTC)2Mar18-1, Part a).
423 Rogers Response to HSA Aggregated (CRTC)2Mar18-1, Part b).
424 Rather, the valuation of segmentation fibre relies on the Technology Cost Factor or "TCF".
425 Order, at paras 69-73.
426 *Id.*, at para 68.
427 *Id.*, at paras 69-73.

proposed WFF of 28% for optical node facilities would eliminate any estimation error. Consequently, the proposed WFF of 28% is not appropriate. (emphasis added)

Concerning the proposed WFF of 60% for each year of the cost study, the Commission notes that in Telecom Decision 2013-76, it stated that the capacity trigger point (i.e. the augmentation trigger) and WFF are not synonymous, since there is typically a delay between the capacity trigger point and the point when the capacity expansion is completed, and that during this delay period, the capacity utilization can continue to increase. (emphasis added)

Further, RCCI did not provide compelling evidence or rationale as to why the utilization that occurs between the capacity trigger point and the point when the capacity expansion is completed should be excluded from the calculation of the WFF for optical node facilities. Failure to include this utilization results in underestimation of the WFF. (emphasis added)

In light of the above, the Commission is of the view that the WFFs of 75% that were used in Telecom Regulatory Policy 2011-703 in setting the cable carriers' final rates for optical nodes facilities should continue to apply. (footnote omitted)

283. The Cable Carriers rely on Rogers' WFF proposals in support of their claim that Phase II measures the costs of an artificial network construct comprising only a fraction of the equipment required in the actual cable network. However, as is made clear in the above-cited excerpt from the Order, Rogers' WFF proposals are severely undermined by several profound flaws. The Cable Carriers' claim is thus grounded on a distorted and significantly overstated unit cost of segmentation optical nodes.

284. The second example provided by the Cable Carriers is equally flawed and should be rejected by the Commission. The Cable Carrier Application submits that the costs approved in the Order limit the recovery to less than 8% of the costs of Videotron's actual 17,800 kilometers of installed segmentation fibre.[428] For ease of reference, the Cable Carriers' example reads as follows:

"To give another example, the Commission's decision to use an indirect cost factor to estimate the cost of segmentation fibre rather than relying on explicit cost data provided during the tariff proceeding has resulted in a situation where Videotron will be able to recover only a fraction of the true cost of these facilities. Specifically, Videotron provided the Commission with data showing that it had 17,800 kilometres of segmentation fibre installed at the beginning of the five-year study period. Videotron also provided the Commission with the real average cost of a kilometre of segmentation fibre, taken from actual bills of materials. Instead of relying on this accessible and verifiable data, the

[428] Cable Carrier Application, at para 49.

<u>Commission imposed an indirect cost factor methodology whereby Videotron's segmentation fibre costs were estimated as a ratio of largely unrelated network equipment costs.</u> As a result, Videotron is being allowed to recover the cost of only 1,341 installed kilometres, less than 8% of the true amount. Similar arbitrary reductions were applied to Videotron's planned investments in new segmentation fibre over the study period. The result is a cost model that bears no relation to the true scale of Videotron's distribution network." (emphasis added)

285. At the outset, CNOC notes that there is ambiguity surrounding Videotron's analysis. It is unclear whether the Cable Carriers are referring to the valuation of the 17,800 kilometers of installed segmentation fibre on the basis of their historical cost (at Net Book Value) or on the basis of replacement cost new.

286. CNOC notes that in previous cost filings, Videotron calculates the replacement costs of the segmentation fibre in its access network by multiplying the actual mileage of fibre cable in the network by the current unit cost of fibre cable.[429] In response to a Commission RFI, Videotron also provided (in confidence) its actual expenditures segmentation fibre facilities for the years 2013-2017 inclusive.[430] Consequently, based on Videotron's cost filings, CNOC suspects that Videotron's valuation of segmentation fibre is on the basis of replacement cost new, which would be in direct conflict with the Commission's findings in the Order.

287. Indeed, the Cable Carriers had proposed the use of replacement cost new to estimate their segmentation fibre facility costs.[431] Ultimately, the Commission correctly determined that a cost factor approach is the appropriate method for estimating the costs of the cable carrier segmentation fibre facility costs.[432] That is because: (1) the fibre facility is shared among different services; and (2) the capacity of a given segmentation fibre facility to provision an optical node cannot be said to be limited.[433]

288. The outcome of applying replacement cost new (as opposed to the correct application of a cost factor) to value segmentation fibre is that costs are grossly overestimated. Therefore, by extension, Videotron's conclusion that it is only being allowed to recover 8% of its "true" costs

[429] Videotron AMT 52A, étude avec écarts, 6 March 2017, Section 4.4.3.
[430] Québecor Média(CRTC)2mars2018-13 groupé, part c).
[431] Order, at para 129.
[432] *Id.*, at paras 130-131.
[433] *Id.*, at paras 130-131.

(which it purports to inflate via the use of replacement cost new) is incorrect and should be rejected by the Commission.

289. For these reasons, there is no substance to the Cable Carriers' claim that Phase II does not cost actual cable network infrastructure and operations.

6.2.2 Phase II Fully Captures the Costs Associated with Deploying Higher Service Speeds

290. The Cable Carriers submit that the flat-rate access pricing across speed bands fails to capture the costs associated with provisioning faster speeds, including the network investments that make these speeds possible.[434] The Cable Carriers argue that "the usage-dependent costs addressed in the Methodology are separate from, and do not adequately capture, speed-dependent costs."[435]

291. The Cable Carriers appear to argue that the Phase II methodology fails: (1) to capture speed-dependent costs in the flat-rate based access cost study; and (2) to capture adequately speed-dependent costs in the usage-based CBB cost study.[436]

292. First, CNOC notes that the Cable Carriers ambiguously define "speed-dependent costs" as "the incremental costs associated with increasing speeds."[437] Despite this vague terminology, it appears that the Cable Carriers are referring to the Commission's determinations with respect to the appropriate treatment of fibre costs.

293. As background, the Commission determined that segmentation fibre is deployed to address usage requirements, and not to respond to the speed requirements of new services.[438] This and other findings[439] led the Commission to conclude that the costs associated with segmentation fibre facilities are usage-sensitive and should therefore be included in the usage portion of the cost models (i.e., in the 100 Mbps CBB increment).[440] In doing so, the Commission explicitly acknowledged the concern of the Cable Carriers that this treatment of the segmentation fibre

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[434] Cable Carrier Application, at para 51.
[435] *Id.*, at para 51.
[436] *Id.*, at para 51.
[437] *Id.*, at para 52.
[438] Order, at para 158.
[439] *Id.*, at paras 156-161.
[440] *Id.*, at para 161.

facility costs "…result in flat or flatter wholesale access rate structures for all speed tiers, and thus undermine the relevance of having a tiered rate structure".[441] The Commission addressed those concerns as follows:[442]

> "…the Commission notes that the intent behind the speed-banding approach is, in part, to apply the same access rate to various service speeds that share the same speed-dependent costs. As a matter of principle, different access rates should not be applied to different service speeds at the wholesale level if these service speeds do not have different access-related costs."

294. Significantly, the Commission also concluded that the average higher usage generated by end-users in high-speed bands would be accounted for in the greater number of 100 Mbps usage increments necessary to meet the demands of these end-users.

295. In short, the Commission: (1) carefully reviewed the nature of fibre segmentation facilities and correctly categorized those costs as usage-sensitive; (2) explicitly addressed the Cable Carriers' concerns that the Commission's treatment of segmentation fibre facilities would result in a flat or flatter rate structure; and (3) clarified how the migration of segmentation fibre facilities would account for greater costs of usage for higher-speed services. The Cable Carriers have not presented any evidence to overturn these findings.

296. In particular, the Cable Carrier Application includes no information or evidence whatsoever to substantiate the claim that Phase II methodology does not adequately capture speed-dependent costs in the usage-based CBB cost study.[443] Contrary to those unsupported claims, CNOC submits that the Commission applied correct Phase II methodology to the usage sensitive fibre segmentation facilities. As the Commission correctly determined, segmentation is shared with other services and has unlimited capacity and should accordingly be costed using a cost factor and not at replacement cost new.[444]

297. The Commission's adjustments to the access cost studies and the corresponding effect on access and CBB rates are correct and fully justified. The Cable Carriers have failed to make a case that the Commission erred with respect to these determinations. Consequently, the Commission

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[441] *Id.*, at para 159.
[442] *Id.*, at para 159.
[443] Cable Carrier Application, at para 51.
[444] Order, at paras 130-131.

should reject the argument of the Cable Carriers that the flat-rate access pricing across speed bands fails to capture the costs associated with provisioning faster speeds.

6.2.3 Phase II is Technologically Neutral

298. The Cable Carriers submit that Phase II methodology "does not apply in a technologically neutral manner: it does not account for material differences in the networks and operations of ILECs and Cable Carriers". [445]

299. In support of their position, the Cable Carriers cite the Rogers' and Videotron examples related to segmentation costs discussed above in Section 6.2.1 and also cite an additional example associated with the approved WFF of 75% associated with the capacity costing for optical nodes and Converged Cable Access Platform ("CCAP") equipment.[446]

300. CNOC has already addressed the issue of segmentation costs and will not repeat those submissions here.

301. The additional example relating to WFFs for optical nodes contends that "Unlike DSL networks, which serve each end-user with a dedicated line, cable networks serve a group of end-users with a fixed amount of shared network capacity."[447] This is effectively the same argument as the flawed "Rogers example" discussed above in Section 6.2.1.

302. Again, the Cable Carriers' argument of insufficient cost recovery of optical nodes segmentation costs is unsubstantiated. The Cable Carriers take the position that they need "to oversupply capacity across the cable access network to meet peaks in traffic utilization" and this need does not exist in ILEC DSL networks.[448] This position incorrectly assumes that ILEC networks do not meet peaks in traffic utilization in a similar manner to the Cable Carriers. Of course, a DSL FTTN network must also deal with peaks in traffic utilizations in the provision of ILEC DSLAMs in the ILEC access network. For example, as stated in the Bell Canada Application

[445] Cable Carrier Application, at para 53.
[446] Order, at para 67 approved the 75% WFF for optical nodes and CCAP, for Cogeco, Eastlink, Shaw and Videotron which appears to be the basis of the Carriers' complaint.
[447] Cable Carrier Application, at para 57.
[448] *Id.*, at para 57.

with respect to the WFF of DSLAMs, "engineering guidelines establish a capacity threshold for the ports to ensure that data is not lost or dropped <u>if there is a burst in traffic</u> (emphasis added)"[449]

303. For these reasons, the Cable Carriers' claim that Phase II methodology is not technologically neutral is premised on incorrect and unsubstantiated claims that the methodology is prejudicial to the Cable Carrier network. None of these claims raise any doubt with respect to the Commission's determinations in the Order, which were clearly applied in a technologically neutral manner.

6.2.4 The Cable Carriers' International Comparison is Irrelevant

304. The Cable Carriers argue that the Commission's costing methodology is "…out of step with increasing international moderation of wholesale regulation, raising further substantial doubt as to the correctness of the [Phase II costing methodology] and implementation of new rates based on it prior to comprehensive review of the approach."[450] In support of this position, the Cable Carriers fleetingly note that the European Commission ("EC") recommended amendments to the European Union ("EU") regulatory framework for electronic communications ("Framework") that "…were necessary to provide incentives for both incumbents and competitors to make economically viable investments in future high-speed broadband networks."[451]

305. This example is irrelevant as it has nothing to do with costing and rate setting, which are the sole focus of the Order. Notwithstanding, clarifications are warranted. To be clear, the EC recommended a holistic set of recommendations that also included measures for the effective protection of consumers and "ensuring a level playing field for market players and consistent application of the rules."[452] As a whole, neither the Framework, nor the EC's recommendations support the positions put forward by the Cable Carriers.

306. As an aside, CNOC agrees that certain insight can be drawn from EU regulatory models. For instance, the Framework recognizes functional separation as a tool that "has the capacity to improve competition in several relevant markets by significantly reducing the incentive for

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449 Bell Canada Application, Appendix 1, at para 79.
450 Cable Carrier Application, at para 43.
451 *Id.*, at paras 43-44.
452 Proposal for a Directive of the European Parliament and of the Council establishing the European Electronic Communications Code (Recast), 12 October 2016, https://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=CELEX%3A52016PC0590.

discrimination and by making it easier to verify and enforce compliance with non-discrimination obligations."[453] Indeed, implementation of functional separation could very well be an effective tool to prevent future abuses of the Commission's costing processes by the Applicants.

6.3 TELUS' Costing Arguments do not Raise Substantial Doubt as to the Correctness of the Order

6.3.1 No Error Relating to the Application of a Service-based Attribution Factor

307. TELUS claims that the Commission erred in fact and law when it applied a service-based attribution factor to allocate costs of the ILECs' shared access facilities to wholesale HSA services.[454] According to TELUS, use of the attribution factor incorrectly spreads causal costs of the facilities that are used to provide wholesale service across other services that "have no causal, incremental impact on the access costs."[455]

308. TELUS goes on to argue that the attribution factor applied by the Commission is an incorrect attempt at an all-carriers approach that has been previously applied to other services to ensure equal cost allocation between the wholesale and equivalent retail services.[456] TELUS asserts that retail IP-based services other than Internet, "…should not be considered in the calculation of rates for the wholesale HSA service because in almost all cases the incremental cost of the access facilities for TELUS retail IP-based services other than Internet is nil."[457] TELUS states that "the cost driver for the access facilities is the DSLAM port, and TELUS' retail IP-based services other than Internet do not consume an additional unit of the DSLAM port. In most cases, these additional services are offered within a service bundle that includes a retail Internet service and share the DSLAM port with the Internet service."[458] (footnote omitted).

309. On these grounds, TELUS submits that the Commission should vary the Order by eliminating the attribution factor in order to allow 100% of the access costs to be attributed to the wholesale HSA service.[459]

453 Framework, at para 185.
454 TELUS Application, at para 24.
455 *Id.*, at para 24.
456 *Id.*, at para 25.
457 *Id.*, at para 26.
458 *Id.*, at para 26.
459 *Id.*, at para 7.

310. These arguments from the TELUS Application closely mirror the arguments that TELUS made in the proceeding leading to the Order.[460] Specifically, TELUS outlined all of the claims described above in response to a Commission RFI regarding the use of service-based attribution factors to allocate costs of the ILECs' shared access facilities to wholesale HSA services.[461] The Commission considered these arguments as well as other evidence on the record and ultimately decided to reject TELUS' arguments against the use of a service-based attribution factor.[462] CNOC submits that the Commission should once again do the same in the context of this proceeding.

311. CNOC refuted all of TELUS' arguments in its Final Comments[463] in the proceeding leading to the Order. As CNOC demonstrated, TELUS' proposed costing approach does not ensure competitive equity because retail IP services delivered by the wholesale HSA provider to its retail subscribers using the FTTN access network are not factored in the development of the unit costs of the FTTN access equipment and facilities.[464] Furthermore, the Commission has already dealt with this competitive equity issue in the context of the Phase II studies filed by cable carriers with respect to TPIA service.[465]

312. TELUS' argument is based on a flawed interpretation of the valuation of shared capital facilities under Phase II. As evidenced by the following quote, TELUS incorrectly relies on the concept of cost drivers used to assign expenses under Phase II:[466]

> "The costs of the wholesale HSA service are assembled by identifying the activities that cause costs, also known as cost drivers. Telecom Decision CRTC 2008-14 defined appropriate cost drivers as "either the natural or practical driver which closely approximates the underlying causal relationship."[21] As explained in TELUS' response to request for information TELUS(CRTC)2Mar18-1c), the natural, incremental cost driver for the access portion of the HSA service is the DSLAM port."[467]
>
> "Footnote [21]. Telecom Decision CRTC 2008-14, para. 32."

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460 TCI (CRTC) 2Mar-18-1 Revised 10 August 2018, TCI(CRTC)2Mar-18-1 Revised.
461 *Ibid*.
462 Order, at para 223.
463 CNOC Final Comments, at Part Two Section E. II beginning at para 198 and Part Two, Section B. V. beginning at para 134.
464 *Id.*, at para 201.
465 *Id.*, at para 202.
466 TELUS Application, at para 31.
467 *Id.*, at para 31.

313. However, TELUS' reference to TD 2008-14 does not actually support its cost driver argument. The referenced excerpt from TD 2008-14 addresses the assignment of <u>expenses</u> in Phase II and not the assignment of <u>capital</u>, as TELUS claims.[468] As stated by the Commission in TD 2008-14:[469]

> "In this Decision, the Commission uses the term appropriate cost driver to reflect either the natural or practical driver which closely approximates the underlying causal relationship and <u>is used to causally assign expenses to services.</u> <u>The Commission considers that the use of such cost drivers more accurately reflects the underlying causal link, rather than assigning VC expenses by means of the variable common cost factor (VCCF (variable common cost factor))</u>, which simply assigns VC expenses to services on the basis of the service's direct and indirect costs." (emphasis added).

314. Furthermore, the Manual explicitly states that the valuation of capital associated with a shared facility must include the impact of the services that share the facility.[470] For reference, the Manual states:[471]

> "When a service under the proposed course of action requires the use of a new or existing shared facility[13], the impact of using a portion of the capacity of the shared facility for the service is included in the regulatory economic study."
>
>> "Footnote [13]. A shared facility is a facility with finite capacity that can be shared among services or units of demand."

315. TELUS readily admits that its cost study assumes that the FTTN access facilities are not usage sensitive.[472] Accordingly, the TELUS cost study does not quantify the impact of other services using a portion of the capacity of the shared FTTN access facilities through the application of the capacity costing method, as defined under Phase II.[473] While this is appropriate given that capacity costing applies to facilities that are usage sensitive, Phase II still requires the application of an approach to quantify the impact of other services sharing the use of non usage sensitive

468 TELUS Application, at para 31.
469 TD 2008-14, at para 32.
470 TELUS Manual, Section 1-27.
471 *Ibid*.
472 TCI (CRTC) 2Mar-18-1 Revised, part c), third para at p. 4 of 7.
473 The Manual at Appendix B explains the basis of capacity costing which uses the total cost of the shared facility, the maximum capacity of the shared facility, the WFF and the required capacity of the service under study to develop the causal cost of the facility.

FTTN access facilities. For this reason, the Commission approved the service attribution factor in the Order.[474]

316. Notably, TELUS supported the use of such an approach in the TELUS Disaggregated Intervention.[475] In that context, TELUS agreed with the approach of allocating the access costs by weighting the number of services on each access.[476] TELUS referenced the TELUS Disaggregated Intervention in response to a RFI on the record of the proceeding leading to the Order.[477] The following statement in the TELUS Disaggregated Intervention underscores the lack of credibility surrounding TELUS' arguments against the use of a service attribution factor with respect to aggregated wholesale HSA service:[478]

> "TELUS is ultimately supportive of cost allocation by number of services, as Bell proposes. This is a reasonable approach to allocating the access costs to each of the services that are being used by the end customer and to a degree aligns with service driven costs. For example, maintenance costs, call outs, and administration activity are all correlated with the number of services an end customer has in his home. This method is also simple, making it less contentious, and allows for transparent cost sharing by all users. Thus it is the fairest method of allocating costs between wholesale and retail services and <u>TELUS supports cost allocation of the access cost by weighting number of services on each access</u>". (emphasis added).

317. The service attribution factor quantifies the impact of the other services' use of the shared access facilities through an analysis of the number of services that share the facility.[479] This approach is not only consistent with the above noted submissions from the TELUS Disaggregated Intervention but also consistent with previous Commission determinations in the context of the Phase II studies filed by cable carriers in support TPIA service rates.

318. As noted in the CNOC Final Comments[480], the Commission determined in Order 2000-789 that certain costs incurred by cable carriers and identified in their cost studies associated with access facilities, such as node segmentation and bi-directionality capital costs, were also incurred to permit them to offer other services.[481] On this basis, the Commission approved service

474 Order, at para 232.
475 TELUS Disaggregated Intervention, at para 31.
476 *Id.*, at para 31.
477 TCI (CRTC) 2Mar-18-1 Revised, part c), first para, footnote 2 at p. 4 of 7.
478 TELUS Disaggregated Intervention, at para 31.
479 This analysis is detailed in the TELUS response to TCI (CRTC) 2Mar-18 Revised, part 1. a).
480 CNOC Final Comments, at para 202.
481 Order 2000-789, at para 95.

attribution factors with respect to these access costs.[482] The Commission again confirmed the appropriateness of an attribution factor to allocate costs for network facilities that are shared by multiple services in TD 2006-77[483] and now, once again, in the Order.[484]

319. In the proceeding leading to the Order, TELUS also claimed that since the service mix offered over wholesale service ports is expected to be significantly different than the mix of services calculated on an all-carrier basis, it is not appropriate, nor equitable to allocate costs based on all-carrier service demands.[485] However, as explained by the Commission in the Order, this argument is also untenable because the recovery of wholesale HSA costs does not depend on the number of services offered by the competitors. On this point, the Commission determined that:[486]

> "The ILECs recover the wholesale HSA costs from the competitors, and this recovery does not depend on the number of services offered by the competitors. Accordingly, it is not appropriate to account for the number of services offered by the competitors in the service-based attribution factor calculation. If the number of services offered by the competitors are accounted for as proposed by the ILECs, it would distort the attribution of costs among the IP-based services offered by the ILECs network facilities that are shared by multiple services, <u>an attribution factor can be used to allocate the associated costs to these services</u>." (emphasis added)

320. Thus, the Commission rejected TELUS' submission that an attribution factor can be used to allocate of network facilities that are shared by multiple services and that it is unreasonable to attribute 100% of the access facilities' costs to retail Internet and wholesale HSA services. The Commission's conclusion and underlying rationale were clearly set out as follows:[487]

> "With respect to the ILECs' proposals that 100% of the costs associated with DSLAM equipment, umbilical fibre, and Ethernet ports be attributed to retail Internet and wholesale HSA services on the basis that these services are the sole driver of these facilities, <u>the record of this proceeding demonstrates that IPTV, voice, and other services make use of these facilities. Accordingly, it is unreasonable to attribute 100% of these facilities' costs to retail Internet and wholesale HSA services."</u> (emphasis added)
>
> "The Commission considers that when the ILECs make investment decisions and/or set retail prices for the services that use these access facilities, they do not attribute100% of the shared facility costs to Internet service when assessing service profitability. It would be reasonable to assume that a portion of the shared facility costs would be attributed to

482 *Ibid*.
483 TD 2006-77, at Section 2) Capital costing issues.
484 Order, at para 213.
485 TCI (CRTC) 2Mar-18-1 Revised, part c), first para at page 4 of 7.
486 Order, at para 225.
487 Order, at paras 223-224.

each of the services that use the shared facilities. Accordingly, the Commission considers that it is appropriate to apply an attribution factor to the ILECs' relevant DSLAM equipment, umbilical fibre, and Ethernet port costs." (emphasis added)

321. In summary, TELUS has failed to demonstrate that the Commission erred in fact and law by applying an attribution factor to the valuation of FTTN access facilities. TELUS advocates for an all-carriers demand approach that encompasses Internet services only when it has been repeatedly established that Phase II requires an estimate of the impact of using a portion of the capacity of the shared access facilities by other retail IP-based services. TELUS' proposed approach, with its narrow focus on Internet services, does not result in equitable allocation of the access costs of shared facilities since it ignores the presence of other retail IP based services such as IPTV and others.

322. For these reasons, the Commission should deny TELUS' request to vary the Order by eliminating the attribution factor to allow 100% of the access costs to be attributed to the wholesale HSA service.

6.3.2 No Error Regarding Cash Flow Timings

323. TELUS requests that the Commission vary the Order by restoring the setting for the timing of capital costs ("OneTime" setting) in TELUS' submitted cost model to reflect the practical timing of cash outflows required to support both existing and new end-users of the service.[488]

324. TELUS alleges that the Commission inappropriately adjusted all the "OneTime" capital cash outflows to "Ongoing", as associated with the cash-flow timing parameter contained within the confidential electronic files submitted by TELUS, such that the "adjustments to this parameter caused inaccurate delays in the timing of cash flows for all capital costs and, in turn, incorrect calculation of the rates for the service."[489] TELUS argues that that this results in delays in cash outflows for all capital costs.[490]

325. TELUS further states that the Commission's adjustment incorrectly represents the timing of cash flows for rate calculation on two aspects:[491]

[488] TELUS Application, at para 7.
[489] *Id.*, at para 37.
[490] *Id.*, at para 38.
[491] *Id.*, at paras 39(a) and 39(b).

“Regarding cash flows to serve existing service demands present at the start of the study period, the capital costs of the existing service demands should be registered entirely at the start of the study period since that is when the demands will be satisfied (not later in the year). By adjusting TELUS’ cost models from the “OneTime” to “Ongoing” setting, the Commission incorrectly delayed the cash outflows for capital costs to service existing demands by an average of 6 months.” (emphasis added)

“Regarding cash flows to serve increases in demand over the study period, the timing of cash flows should take into consideration the lead-time required to augment capital equipment. In other words, the service provider pays for new capital equipment prior to when this equipment is used by the demand growth, because service providers must plan for growth and build their network capacity in anticipation of future growth. By adjusting TELUS’ cost models from the “OneTime” to “Ongoing” setting, the Commission incorrectly delayed the cash outflows for capital equipment to the time of first use by the growth service demand.” (emphasis added).

326. TELUS also submits that its approach to the timing of capital cash flows is consistent with the Manual.[492] TELUS argues that the Manual describes capital cash flows as “the cash outflow associated with the use of an asset by the service under the proposed course of action[27]” [footnote 27: The Manual, Section 1-13.] and the correct approach for economic cost studies is to set the timing of capital costs according to when the cash outflows occur.[493]

327. TELUS also states that the “OneTime” setting in its cost model does not mean that the capital expenditures were assumed to only occur one time in the year, rather than ongoing or recurring throughout the year, as per the Commission’s stated rationale for the adjustment. [494]

328. Instead, TELUS states that the parameter setting to “OneTime” was applied to recognize the “average within-year timing of the ongoing cash flows associated with the annual incremental demand measurement”.[495] The incremental demand growth, as described by TELUS, has an average timing of midway through the year.[496]

329. TELUS also references its response to a Commission RFI, TELUS(CRTC)4Dec18-3, associated with TELUS Tariff Notice 542 for additional information.[497]

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492 *Id.*, at para 43.
493 *Id.*, at para 43.
494 *Id.*, at para 48.
495 *Id.*, at para 48.
496 *Id.*, at paras 46 and 47.
497 *Id*, at para 44, with reference to TELUS Communications Inc., Response to Request for Information, TELUS(CRTC)4Dec18-3, December 19, 2018, TELUS(CRTC)4Dec18-3.

330. At the outset, CNOC notes that it does not have access to the confidential electronic files associated with the TELUS cost model. Notwithstanding, there is ample evidence on the public record to prove that TELUS' arguments are incorrect.

331. First, CNOC notes that TELUS made the following representations in TELUS(CRTC)4Dec18-3 with respect to the settings of the "Cash Flow Type" parameter in its electronic cost model:[498]

> The Excel workbook referred to in the question performs a discounted cash flow analysis using TELUS' EASE1 tool. The analysis is based on the study period of January 1, 2018 to December 31, 2022, which is apportioned into five 12-month increments for calculating the discounted cash flows.
>
> "Within the "Input sheet" worksheet is a setting for "Cash Flow Type", which may be set as either "OneTime" or "Ongoing" for each cash flow item. This setting describes the distribution of cash flows within each 12-month period of the model. <u>An entry of "OneTime" results in the tool processing the cash flow(s) assuming it occurs at the start of the entered period(s) – in this case, January 1st. An entry of "Ongoing" results in the tool processing the cash flow(s) as being distributed evenly throughout the 12-month period</u>." (emphasis added)
>
> "Many capital items require a significant lead time for provisioning related to engineering, equipment purchase, and installation that occurs prior to the in-service commencement date and date of first utilization by the service. <u>To approximate this lead time, TELUS applies the "OneTime" setting in the EASE tool to recognize the cash flow in advance of the service utilization by an average of six months.</u> In this cost study, capital cash-flow items that are causal to demand, such as the growth in average peak period usage per end-user (Mbps), are based on the demand estimated at the end of each period (December 31). Due to the "OneTime" setting, the cash flows are processed in the EASE tool at the beginning of each period (January 1) to approximate an average six-month lead time. This is a reasonable approach to accommodate the actual timing of the costs for provisioning capital items, and is consistent with other TELUS cost study submissions." (emphasis added)

332. Based on the above, it is clear that setting "Cash Flow Type" to "OneTime" causes the TELUS cost model to process the cash flow on the assumption that it occurs at the beginning of each 12-month period. Further, setting of the "Cash Flow Type" to "Ongoing" results in the model processing the cash flow as being distributed evenly throughout each 12-month period. In addition,

[498] TELUS Tariff Notice 542, *Introduction of a new wholesale Internet ADSL service speed for residential and business services*, 22 October 2018, Response to TELUS(CRTC)4Dec18-3, 19 December 2018, first three paragraphs, page 1 of 1, TELUS(CRTC)4Dec18-3.

CNOC notes the caveat that TELUS applies the “OneTime” setting in the EASE tool to recognize the cash flow in advance of the service utilization by an average of six months.

333. The relief requested by TELUS[499] would classify all capital cash flows as “OneTime”. As a consequence, the capital cash flows would be processed as occurring at the beginning of each 12-month period over the life of the cost study. On that basis, the Net Present Value (NPV) discounted cash flow calculation, as described in the Manual,[500] would result in a significant increase in the Phase II cost results of the TELUS model, since all capital cash flows in the model would be assumed to occur on 1 January of each 12-month period of the 5-year cost study life, as opposed to midway through each year of the study period as is the case with the timing of the annual incremental of growth in demand.

334. As noted in the above citation from TELUS(CRTC)4Dec18-3, in the case of capital cash flows to serve increases in demand over the study period, TELUS applies the “OneTime” setting in the EASE tool to recognize the cash flow in advance of the service utilization by an average of six months. TELUS’ explanation for this disconnect in timing between the demand driven capital cash flows and the related annual demand growth is flawed as described in the subsequent paragraphs.

335. Contrary to TELUS’ claim, its proposed approach to the timing of capital cash flows is completely inconsistent with the directions of the Manual. The definition of a capital expenditure cash flow in the Manual clearly details that the capital cash flow must be timed with the use of the service: [501]

> “Capital expenditure is <u>the cash outflow at the time an asset is used by the service under the proposed course of action.</u> It includes the cost of material as well as the related capitalized installation and engineering costs.” (emphasis added).

336. TELUS’ proposed approach implies that the cash flow associated with facilities and equipment costs, including installation, are completed a full 6 months prior to the use of the capital equipment by the service under study. Such an assumption is highly inappropriate and cannot be

[499] TELUS Application, at para 67(b).
[500] TELUS Manual, Appendix A, Time Value of Money Formulae.
[501] *Id.*, Section 1-14 a): Capital expenditure.

justified under Phase II where the cash outflow is recognized at the time the asset is used by the service under study**.**

337. CNOC is very concerned by TELUS' admission that this fundamentally flawed capital cashflow timing approach is "consistent with previous TELUS regulatory cost studies"[502]. TELUS' inappropriate advancement of capital cash flows by 6-months in each 12-month period of a multi-year service cost study has the effect of inflating costs and increasing the corresponding rates above just and reasonable levels, as set by proper application of Phase II. That is not only true for aggregated HSA service, but also for any TELUS service that is subject to a cost study within which TELUS has applied this inappropriate treatment of capital cash flows.

338. Under Phase II, capital cash flows associated with existing service demand present at the start of the study period are included at the beginning of the first year of the study period and capital cash flows associated with growth demand over a 12-month period are expected to apply the mid-year rule.[503] This is because the beginning of the study period is when existing demand is satisfied while growth demand is averaged to 1 July of the study year in question.

339. CNOC is also concerned by other consequences of TELUS' proposed classification of all capital cash flows, associated with both existing and growth demand, as "OneTime".[504]

340. In particular, TELUS' proposed model seems incapable of discriminating between existing capital associated with existing demand at the beginning of the study period and growth capital associated with growth demand in the first 12 months of the study period.

341. The incremental demand growth in the TELUS cost model, as previously noted, has an average timing of midway through the year.[505] TELUS has also submitted the following: "In this cost study, capital cash-flow items that are causal to demand, such as the growth in average peak

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502 TELUS Application, at para 44.

503 The Commission approves Phase II cost study models that use this approach. See for example, The Commission approved the confidential Phase II cost model filed by Execulink associated Execulink TN 72C in *Execulink Telecommunications Inc. - Revision to Direct Connect service rate*, Telecom Order CRTC 2014-499, 26 September 2014.

504 TELUS response to TELUS(CRTC)4Dec18-3 quoted at para 30 of this submission.

505 TELUS Application, at paras 46 and 47.

period usage per end-user (Mbps), are based on the demand estimated at the end of each period (December 31)."[506]

342. On that basis, application of the "OneTime" label to all capital cash flows in the cost model would result in cash flows associated with <u>growth demand in the first year of the cost model study period</u> to be inappropriately bundled or comingled with the capital flows calculated by the model associated with <u>existing demand at the beginning of the study period</u>. In other words, TELUS' model may not discriminate between cash flows associated with growth demand in the first year of the cost model study period on the one hand and capital cash flows calculated by the model associated with existing demand at the beginning of the first year of the study period on the other hand. The consequence of this comingling of existing and growth demand capital cash flows would be an inappropriate distortion of the timing of the model's capital cash flows such that Phase II costs are overstated.

343. These implications of TELUS' proposed approach reveal significant cost model design problems with regards to the appropriate timing treatment of capital cash flows associated with both existing and growth demand in the TELUS Phase II cost study.

344. For all of the above reasons, CNOC requests that the Commission deny TELUS' request to set the timing of capital costs to the "One Time" setting to reflect the timing of cash outflows to support new growth end-users of the service over the study period. CNOC also requests that the Commission deny TELUS' request to set the timing of capital costs to the "One Time" setting to reflect the timing of cash outflows to support existing end-users of the service at the beginning of the study period, until such time as the Commission has been able to verify that the TELUS confidential electronic cost model appropriately treats capital cash flow timings associated with both existing and growth demand in the first year of the study period.

6.3.3 No Errors Relating to Retroactive Mark-up Changes

345. TELUS claims that the Order unfairly rescinds the supplementary markup of 10%.[507] TELUS also posits that there is a direct Commission precedent to support the alleged principle that changes to the markup should only be made on a prospective basis.[508] On this basis, TELUS argues

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[506] TELUS(CRTC)4Dec18-3, third para, at p. 1 of 1.
[507] TELUS Application, at para 60.
[508] *Id.*, at para 60.

that if the Commission does not remove the retroactive application of the rates entirely, then at a minimum, the change in markup to 30% should only be applied prospectively from the date of the decision.[509]

346. TELUS submits that there is an important distinction between mark-up and costs and this "distinction between markup and costs assists in explaining why the retroactive change to markup levels applied by the Commission is both unreasonable and unprecedented."[510] TELUS argues that "previously, when changes to markup were contemplated by the Commission, there was a thorough review of the markup and any changes were implemented on a prospective basis only".[511]

347. TELUS then concludes as follows:[512]

> The retroactive application of the change in markup raises concerns and causes much uncertainty for the future investment climate for telecommunications in Canada. There can be no assurance in the markup and investment rates of return <u>when the regulator demonstrates its willingness to change the markup without proper review</u>, and applies this change retroactively over a period for which the pending policy change was unannounced. Therefore, <u>following past Commission precedent on this issue</u> and if the Commission does not eliminate the retroactive application of the rates in entirety, the reduction in the markup to 30% should only be applied prospectively from the date of the order, August 15, 2019, with retroactive rates recalculated to maintain the pre-existing markup of 40%. (emphasis added)

348. For the reasons below, TELUS' arguments relating to the supplementary mark-up are incorrect. Therefore, TELUS' request for (alternate) relief consisting of a prospective application of the 30% mark-up should be rejected.

349. The Commission's determinations regarding the supplementary mark-up applicable to FTTN facilities are clear and supported by factual evidence. TELUS has failed to present a case to the contrary.

350. The following excerpts from the Order warrant emphasis:[513]

> "The Commission considers that the ILECs' focus has shifted from expanding their FTTN networks to growing their FTTP footprints as much as possible, given the important benefits associated with higher speeds and long-term service reliability. In this regard, the

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509 *Id.*, at para 67 (d).
510 *Id.*, at para 62.
511 *Id.*, at para 62.
512 *Id.*, at para 66.
513 Order, at para 309.

Commission notes that the ILECs' volume of new FTTN builds has become minimal and is dropping significantly each year, particularly when compared to new FTTP builds.

"In light of this, the Commission considers that the rationale set out in Telecom Regulatory Policy 2010-632, in which the Commission considered that the investment risk associated with the construction of FTTN facilities is greater than the risk associated with other ILEC facilities, is no longer supported. Consequently, the Commission considers that the 10% supplementary markup that has applied to both the access and the transport components of aggregated wholesale HSA services should not be maintained."

"With respect to the impact of changing the wholesale HSA service rates for FTTN during the 10-year period upon recovery of the upfront investment made, the Commission considers that the ILECs have had sufficient time to realize a reasonable return on FTTN investments, given that the 10% supplementary markup has been applied to both the access and transport components of the ILECs' wholesale HSA services since 2011."

351. The Commission was unequivocally clear that the only change in the approved mark-up was the elimination of the supplementary mark-up of 10% associated with the greater risk involved in the construction of FTTN facilities. The Commission made no changes to the base mark-up of 30% used prior to that determination. An evaluation of the appropriateness of the supplementary mark-up applicable to FTTN facilities is a straightforward review and does not require, as TELUS claims, a dedicated review with outcomes limited to prospective mark-up adjustments.

352. It also bears noting that all parties who participated in the proceeding leading to the Order provided comments and submissions on the issue of the mark-up.[514] In fact, TELUS itself provided comprehensive comments on this matter in a lengthy response to a Commission RFI.[515] These matters were therefore clearly canvassed in the proceeding leading to the Order.

353. TELUS also argues that the retroactive change to markup levels applied by the Commission is unprecedented. With reference to Telecom Decision CRTC 2013-73[516] ("TD 2013-73"), TELUS submits the following: [517]

"In a more recent example, a change in markup was implemented in Telecom Decision CRTC 2013-73 in relation to the wholesale HSA service rates. While the Commission decided to apply rate changes to residential services retroactively, the rate changes for business services were only applied as of the date of the decision. The distinguishing factor was that changes for the residential rates were due to costing while the changes to the

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514 *Id.*, at paras 287-305.
515 TELUS(CRTC)Mar2018-2.
516 *Canadian Network Operators Consortium Inc.-Application to Review and Vary Telecom Regulatory Policies 2011-703 and 2011-704*, Telecom Decision 2013-73, 21 February 2013.
517 TELUS Application, at para 64.

> business rates were due to a change in the markup. As a result, the Commission did not "consider it necessary or appropriate to apply retroactively the changes to business wholesale HSA service rates, as these changes were not the result of costing errors"[46] [emphasis added] and proceeded to apply the markup change as of the date of the decision. This same principle should be applied to the changes made in TO 2019-288."

354. In reality, the Commission's determinations in TD 2013-73 do not support TELUS' position. In fact, TELUS has completely misinterpreted the Commission's determinations in that decision. Whereas TELUS represents that the Commission determined the issue of retroactivity of business service rates on the basis that those rates were subject to a change in mark-up (while residential rates were associated with costing changes) – the Commission's retroactivity determinations for business service rates were actually anchored on an assessment of the market share of independent service providers. It is this change in circumstances associated with market share considerations that the Commission referred to when stating in TD 2013-73 that changes to business rates "were not the result of costing errors"[518].

355. So while it is true that changes to ILEC business wholesale rates in TD 2013-73 were mainly due to a change in the mark-up for business services, it is the rationale in support of those mark-up changes that explains the Commission's conclusions on retroactivity. As stated by the Commission:[519]

> "The Commission considers that the obligation to provide wholesale HSA services for competitor use advances the policy objectives of the Act, in particular, to enhance the competitiveness of business and residential retail high-speed Internet services.[9] The Commission is of the view that competition within the retail business Internet market should determine retail prices, and that higher business wholesale HSA service rates resulting from greater markups artificially favour the incumbents in question relative to the independent service providers that rely on the wholesale services in that market. The Commission is also of the view that the higher rates resulting from the greater markup for business wholesale HSA services interfere with the operation of competitive forces in the retail business Internet service market to a greater extent than necessary to meet the Act's policy objectives."
>
> "As a result, the Commission considers that the current market share of independent service providers in the retail business Internet services market does not justify maintaining the higher business wholesale HSA service markups." (emphasis added)

[518] TD 2013-73, at para 109.
[519] *Id.*, at paras 32-33.

356. In the present case, the Commission's adjustments to TELUS's rates are directly attributable to the Commission's determination that the rationale that originally justified a supplementary mark-up, as described in TRP 2010-632, is no longer supported. The Commission determined that the supplementary mark-up of 10% applied since 2011 generated sufficient revenue to realize a reasonable return on FTTN investments.[520] It is therefore appropriate to apply the changes to the supplementary mark-up retroactively since the Commission determined that the supplementary mark-up revenues generated from November 2011 to 31 March 2016 had adequately compensated the ILECs for the FTTN investment risk.[521] It therefore follows that the supplementary mark-up should not have applied after 31 March 2016 – and a retroactive adjustment is necessary to correct the overbilling of TELUS' wholesale HSA customers. Contrary to TELUS' claims, TD 2013-73 is a precedent that supports the Commission's determinations.

357. For all these reasons, CNOC submits that the Commission should deny TELUS' request to vary the Order such that the change in markup to 30% only be applied prospectively from the date of the decision.

7.0 THE PROPOSED FINAL RELIEF WOULD HAVE PROFOUNDLY NEGATIVE CONSEQUENCES

358. There exists no doubt, let alone substantial doubt, as to the correctness of the Order. The Applicants have utterly failed to make a case to the contrary. Consequently, they have not satisfied the test for a review and variance of a Commission decision, as set out in TIB 2011-214. There can thus be only one outcome to this proceeding: the complete dismissal of the Applications and rejection of the relief requested therein.

359. Given that the Applicants have not made a case for a review and variance of the Order, there is no need for the Commission to assess the final relief that is requested in the Applications. Nevertheless, it bears noting that the final relief requested by the Applicants would have profound consequences if implemented. The Applicants propose blunt measures that would significantly undermine the levels of competition in downstream retail markets, with corresponding harms to consumers. The headings of relief proposed by the Applicants reveal a singular and common

[520] Order, at para 309.

[521] As noted at para 3 of the Order, this proceeding was initiated on 31 March 2016 with the publication of Telecom Decision TD 2016-117. Further, the supplementary mark-up was established by the Commission with the publication of TD 2011-703 on 15 November 2011, at para 85.

motive. That is, to delay in perpetuity the establishment of just and final rates for wholesale HSA services. They are, in effect, asking the Commission to ignore Subsection 27(1) of the *Telecommunications Act.*

360. Bell requests that the Commission simply make final the Interim Rates.[522] They wish for the Commission to pretend that the Order and the entire record that developed between TO 2016-369 and the Order never happened. Not only do they seek erasure of years of progress in the setting of just and reasonable rates for wholesale HSA services, they also propose to adopt on a final basis a set of Interim Rates that the Commission approved "based on an examination that is necessarily less than fully comprehensive."[523] Indeed, that examination was less than comprehensive due to the Applicants' willful and total disregard for Commission staff's guidance, the Manual and past Commission determinations.[524] To suddenly approve those rates as final is simply incomprehensible and completely contrary to the requirements of Subsection 27(1) of the *Telecommunications Act.*

361. The Applicants request elimination of the retroactive application of the rates approved in the Order.[525] Yet, as demonstrated throughout Section 5.2 of this intervention, they have not raised any valid objection to the Commission's retroactivity determinations. The Applicants' request is no more than a plea for the Commission to rubber stamp three years' worth of wrongful transfer of wealth from service-based competitors to the Applicants. The Applicants are not entitled to these funds. Repayment of these amounts will meaningfully contribute towards repairing competitive dynamics of the marketplace that remain hinged on Interim Rates that are extremely inflated. What's more, the refunds required by the Order will empower service-based competitors to compete more aggressively and deliver meaningful benefits to consumers – by investing, by innovating, by improving services and by reducing prices.

362. Bell requests a re-sequencing of upcoming proceedings such that the Wireline Review occurs first and then is followed by the Rate Setting Review.[526] The Cable Carriers request that the Commission vary the methodology and resulting rates approved in the Order in conjunction

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522 Bell Canada Application, at para 180.
523 TO 2016-369, at para 26.
524 *Id.*, at para 22.
525 Bell Canada Application, at para 180; Cable Carrier Application, at para 2; TELUS Application, at para 67.
526 *Id.*, at para 180.

with the Rate Setting Review.[527] Both of these requests are transparent attempts to delay the setting of just and reasonable final rates. It is telling that Bell and the Cable Carriers chose not to request specific costing relief, despite their claims that the Commission made costing errors in arriving at the rates approved in the Order. Targeted adjustments to the Commission's costing determinations would result in immediate changes to final rates. Instead, these parties have elected to defer rate relief until a decision that is to be rendered at the end of one or even two successive proceedings at a distant point in the future. This is an obvious delay tactic without any rational foundation. From the perspective of the Applicants, delaying unfavorable rate decisions yields tremendous benefits. The collection of amounts in excess of just and reasonable rates is effectively a multi-year interest free loan that the Applicants collect from service-based competitors. For as long as this situation remains in effect, competitors are also subject to burdensome opportunity costs. Put simply, the *status quo* feeds the market power of the Applicants while suppressing service-based competitors. In this dynamic, the stakeholders who suffer the greatest harm are Canadian consumers.

363. TELUS requested specific relief aimed at the Commission's costing determinations.[528] However, as shown in Section 6.2 of this intervention, these requests are grounded on fatally flawed costing arguments that are not in accordance with Phase II costing. Consequently, the Commission should reject TELUS' costing related relief.

8.0 THE APPLICANTS HAVE NOT SATISFIED THE TEST FOR INTERIM RELIEF

364. Bell[529] and the Cable Carriers[530] request an interlocutory stay of the Order if the interlocutory injunction granted by the FCA is lifted for any reason. CNOC firmly opposes these requests for interim relief on two grounds.

365. First and foremost, Bell and the Cable Carriers have not satisfied the test for interim relief, as established by the Supreme Court of Canada in *RJR-MacDonald Inc. v Canada (Attorney General)*[531] ("*RJR*"). CNOC addresses the three elements of the *RJR* test in Subsection 8.1 through

527 Cable Carrier Application, at para 2.
528 TELUS Application, at para 67.
529 Bell Canada Application, at para 126.
530 Cable Carrier Application, at para 2.
531 *RJR MacDonald Inc v Canada (Attorney General)*, [1994] S.C.J. No. 17.

8.3 below and in so doing, also demonstrates that there is also no other public interest basis for the granting of a stay of the Order.

366. Second, to the extent that Bell and the Cable Carriers are relying[532] on the FCA's granting of the interlocutory injunction as a basis for the Commission to grant similar relief, the FCA's lifting of the interlocutory injunction for any reason would imply that the conditions giving rise to the FCA's stay are no longer present.

8.1 There is no Serious Issue to be Tried

367. Under the *RJR* test, a party seeking interim relief must first demonstrate a serious issue to be tried. The Applicants fail to meet the low standard[533] for this element of the *RJR* test. Bell simply refers to its application as a whole and "the number of parties that have raised concerns with the Order and its impacts."[534] The Cable Carriers also vaguely state that there is a serious issue to be tried based on the submissions included in their application.[535]

368. Pursuant to Subsections 27(5) and 37(1) of the *Telecommunications Act*, the Commission has broad discretion in choosing means for the setting of rates and any supporting costing methodology. It exercised that discretion carefully based on a complete factual record. In doing so, it ensured the establishment of just and reasonable final rates for wholesale HSA services in accordance with Subsection 27(1) of the *Telecommunications Act*. The Commission's jurisdiction to approve such rates and to do so retroactively is unassailable.

369. The Applications are unsupported by evidence and transparently motivated by an incentive to delay unreasonably the establishment of just and reasonable rates. In these circumstances, there is no serious issue to be tried.

8.2 The Applicants would not Suffer Irreparable Harm if the Interim Relief was Denied

370. The second element of the *RJR* test asks whether the applicant would suffer irreparable harm if a stay is not granted.[536]

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532 See for example, Bell Canada Application, at paras 128 and 135.
533 *RJR*, at para 62.
534 Bell Canada Application, at para 131.
535 Cable Carrier Application, at para 99.
536 *RJR*, at para 57.

371. Bell claims to suffer irreparable harm consisting of the following:[537]

a. irreparable harm in the form of unrecoverable retroactive payments made to Resellers; and
b. irreparable harm to our commercial interests, including:
  (i) permanent loss of revenue and market share in the wholesale market; and
  (ii) permanent loss of revenue and market share in the retail market

372. For their part, the Cable Carriers claim harm "to investment and retail markets".[538]

373. There is no credibility to any of the above-listed claims of irreparable harm, which are addressed in greater detail in the subsections that follow.

374. CNOC notes that the Cable Carriers make certain representations regarding interim relief and then, at paragraph 101 of their application, state that they "rely on and incorporate by reference the evidence submitted to the FCA in support of the stay order granted by that Court." This is procedurally unacceptable. Parties in a regulatory proceeding are not entitled to incorporate "by reference" extensive submissions in court proceedings – and vice-versa. The Cable Carriers do not even append these submissions to the Application. The Cable Carriers' FCA materials are shaped by different procedural rules and refer to a distinct factual record and set of authorities that is unique to Court file 19-A-58.

375. There is no compelling reason for why the Cable Carriers could not have argued interim relief in full within their application. Their decision to bootstrap their application with extensive court filings incorporated by simple reference is highly inappropriate and frustrates the Commission's process.

8.2.1 No Wholesale Market Distortion

376. Bell claims that in the absence of a stay, it will suffer permanent and unrecoverable losses in the form of a permanently distorted HSA Internet wholesale market, substantial losses, and potentially permanent erosion of its wholesale customer base.[539] Bell argues that its wholesale HSA service customer base will necessarily migrate to the Cable Carriers because the Order

537 Bell Canada Application, at para 134.
538 Cable Carrier Application, at para 99.
539 Bell Canada Application, at para 148.

establishes lower rates for the faster service speeds offered by the Cable Carriers.[540] Bell even boldly claims, without any substantiating evidence, that it stands to lose most <u>if not all</u> of its approximately 250,000[541] wholesale end-user connections within two years.[542]

377. The above-cited claims do not constitute irreparable harm. The wholesale market distortions described by Bell consist of pure conjecture that is divorced from the real-world wholesale market dynamics. Bell overlooks factors that prevent its claims of market distortions from ever manifesting.

378. First, Bell overlooks the fact that a very significant proportion of Canadians do not currently subscribe to retail Internet services at speeds above 50 Mbps.[543] In fact, over 48% of Canadians subscribe to services below 50 Mbps.[544] It is therefore not credible to claim, as Bell does,[545] that "most if not all" of its wholesale end-users would be lost to the faster wholesale service offerings of the Cable Carriers.

379. Second, Bell focuses exclusively on the access rate component while unreasonably discounting the very significant capacity costs incurred by service-based competitors. More specifically, Bell argues as follows:

> "While higher speed services do incur greater capacity costs than lower speed ones, because users on faster speed plans generate on average more traffic per second, they do not generate additional traffic proportionally to the speed difference. Instead, the increase in traffic is small. Therefore, the total cable-based rates will still remain vastly more attractive than our rates."[546]

380. After nearly a decade of experience with the Commission's capacity-based billing model, CNOC's members can assure the Commission that there is an intricate relationship between service speed, customer usage patterns and CBB costs. It is hardly surprising that customers who

540 *Id.*, at para 150.
541 Although Bell files the number of end-users in confidence in the Bell Canada Application, it stated on the public record of FCA Docket 19-A-59 that "At present, Bell provides wholesale FTTN services for over 250,000 end-users. If the Decision is not stayed, Bell projects that it would lose most if not all of those end-users within two years." in Written Representations of Bell Canada, Bell MTS and MTS Inc., Motion to Stay Telecom Order CRTC 2019-288, at para 39.
542 Moving Parties' Factum, at para 39.
543 Retail Fixed Internet Data, Open Portal, Figure 9.4.
544 *Ibid.*
545 Bell Canada Application, at para 153.
546 *Id.*, at para 154.

adopt upper tier service speeds tend to apply those services to demanding applications on a more usage-intensive basis.

381. Not only would service-based competitors incur more capacity-based costs on the cable platforms, but the Order set capacity rate components for the Cable Carriers that are more **than two times** higher than Bell's rates.[547] For reference, Bell's and Bell MTS' respective capacity rates are $102.58 and $57.81. In contrast, the Cable Carrier rates are: $224.32 for Rogers; $233.49 for Cogeco; $227.05 for Videotron; and $251.14 for Shaw.

382. Third, Bell could make its faster FTTH service available to service-based competitors on reasonable commercial terms but has chosen not to do so. That is not surprising given that the current regulatory framework for mandated wholesale access to FTTH facilities is unworkable, for the reasons set out in detail in CNOC's Part 1 Application[548] on this matter. In these circumstances, Bell is shielded from wholesale-based competition over FTTP facilities, thereby allowing Bell to exercise unfettered market power in retail markets for services over this next generation broadband technology. Thus, Bell has no incentive to offer access to FTTH services on reasonable commercial terms. Given this backdrop, Bell cannot credibly complain about customer migration to the faster services offered by the Cable Carriers while refusing to make its own faster services available to service-based competitors on reasonable commercial terms.

383. Fourth and finally, Bell repeats the unsubstantiated claim that the rates established by the Order are below its actual costs. CNOC refuted these arguments in Section 6.1.

384. In any event, the wholesale HSA services market is ostensibly of minimal importance to Bell. As already noted, George Cope, then President and Chief Executive Officer of BCE Inc., told an investor conference that wholesale subscribership was "not strategic" for Bell, and that this market is not something that the company has "any interest in pursuing, other than regulatory

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[547] Order, Appendix 1.

[548] CNOC Part 1 Application dated 13 November 2018 to Review and Vary Review of Wholesale Wireline Services and Associated Policies, Telecom Regulatory Policy CRTC 2015-326 and Follow-up to Telecom Regulatory Policy CRTC 2015-326 – Implementation of a Disaggregated Wholesale High-Speed Access Services, Including Over Fibre-to-the-Premises Access Facilities, Telecom Decision CRTC 2016-379 (CRTC File No. 8662-C182-201809534).

requirements".[549] There is simply no means of reconciling such characterizations of Bell's wholesale business with the present claims of irreparable harm.

385. Altogether, there is no factual foundation to Bell's claim of distortions to the wholesale HSA market. Devoid of any demonstrable evidence, the harms alleged by Bell are purely speculative. The law is clear that speculative harms do not constitute irreparable harms.[550]

8.2.2 No Retail Market Distortions

386. Bell and the Cable Carriers assert that retail market distortions will occur absent a stay.[551] The Cable Carriers do not provide any explanation surrounding this claim.[552] Bell argues that the rates set in the Order will cause it to "…suffer irreparable harm in the form of a massive and likely permanent erosion of our retail FTTN Internet customer base"[553]

387. In Canadian jurisprudence it is well established that mere financial losses do not give rise to irreparable harm.[554] Bell's entire argument rests on the incorrect presumption that customers will necessarily migrate in droves to lower priced services that service-based competitors will be able to offer based on the rates established by the Order.[555] Bell adds that lost subscribers are difficult, if not impossible to recover.[556] While CNOC's members would certainly welcome a manifestation of the theory put forward by Bell, the actual factors that are weighed in a customer's decision to change providers are far more complicated than the simple equation portrayed by Bell.

388. The Competition Bureau recently studied the factors that are most important to Canadian consumers of such services and concluded:

> "Price is a significant factor in a consumer's choice of ISP and internet package, **<u>but other factors are actually more important in aggregate, including upload and download speeds, monthly download limits, and whether the ISP is wholesale- or facilities-based</u>**."[557] (Emphasis added)

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[549] BCE Q1 2019 Results Conference Call, May 2, 2019.
[550] *Glooscap Heritage Society v. Minister of National Revenue*, 2012 FCA 255, at para 31; See also *Aventis Pharma S.A. v. Novopharm Ltd*., 2005 FC 815, at para 59.
[551] Bell Canada Application, at Subsection 11.2.2.2; Cable Carrier Application, at para 99.
[552] Cable Carrier Application, at para 99.
[553] Bell Canada Application, at para 156.
[554] See for example *CKLN Radio Inc. v. Canada (Attorney General)*, 2011 FCA 135, at paras. 12-13.
[555] Bell Canada Application, at para 156.
[556] *Id.*, at para 156.
[557] Competition Bureau Market Study Report, at p.23.

389. With this insight into consumer behavior it is clearly speculative for Bell to presume that choosing not to reduce rates would automatically result in retail customer losses to service-based competitors. Indeed, the Order has no effect on the other factors that the Competition Bureau has identified as being more important, in aggregate, than price. In other words, Bell can choose not to reduce prices while retaining their ability to compete aggressively on non-price service elements. In doing so, Bell could protect its market share and even expand it following the Commission's denial of a stay. For this reason, the pricing related harms claimed by Bell are entirely speculative.

390. In a recent proceeding wherein CNOC requested interim relief, the Commission determined that CNOC did not demonstrate irreparable pecuniary harm, stating: "CNOC did not provide any specific evidence quantifying its claims of irreparable pecuniary harm, such as estimates of the number of lost customers or lost revenues that its members would suffer absent interim relief."[558] In that case, the Commission nonetheless proceeded to grant interim relief on the basis that it would serve the public interest.[559] On the facts currently before the Commission, neither Bell nor Cable Carriers have put forward any estimation of pecuniary harms in their respective Applications. Furthermore, as explained below in Section 8.3, the public interest clearly favors a denial of the stay. Therefore, there is no public interest basis for granting interim relief whether or not the Commission determines that the Applicants have demonstrated irreparable harm, which they have not.

391. The Order is not the first Commission decision that makes significant adjustments to wholesale HSA service rates that were found to be not just and reasonable. In TO 2016-396, the Commission reduced on an interim basis Bell CBB rate for wholesale HSA services from $1,383.12 to $149.08 – a rate reduction of $1234.04 or 85.61%. To put that in context, the Order reduced Bell's CBB rate by $46.50 and the highest reduction of Bell's access rates was $29.10.[560]

392. Given that TO 2016-396 was issued three years ago, that decision serves as a valuable case study about what happens to retail markets after significant wholesale HSA rate reductions. In 2016, when TO 2016-396 was issued, residential Internet service subscriber market shares were

558 Telecom Commission Letter addressed to the Distribution list dated 20 March 2019, CRTC File No. 8662-C182-201809534, available at: https://crtc.gc.ca/eng/archive/2019/lt190320.htm.
559 *Ibid.*
560 Order, Appendix 1.

as follows: 49% for the Cable Carriers; 39% for the ILECs; and 13% for "Other service Providers"[561], which includes service-based competitors.[562] One year later – after the retail markets reacted to the wholesale HSA rate changes – those market shares were as follows: 49% for the Cable Carriers; 39% for the ILECs; and 13% for "Independent Service Providers"[563], which includes service-based competitors.[564]

393. Thus, after a 2016 rate reduction that was <u>twenty-six times</u> greater than the most significant rate reduction imposed on Bell in the Order, <u>retail market shares did not change whatsoever</u>. This case study proves that there is no credibility to Bell and the Cable Carrier's claims of retail market distortions. Those claims are thus completely unsubstantiated, or at best, highly speculative. The law is clear that such claims cannot constitute irreparable harm.

394. Bell asserts that many of their customers purchased bundled products.[565] According to the Bell, if service-based competitors cause them to lose Internet business, television and telephone business will be lost as well.[566] Contrary to Bell's suggestion, the fact that they bundle products makes it less likely for a customer to switch to a competitor. That is because bundled services are typically subject to significant discounts. Bundled offerings also tend to be subject to a fixed term contract with penalties for early termination. Consequently, retail customers will be unlikely to abandon a full suite of bundled services in order to subscribe to a competitor's cheaper Internet service. Therefore, Bell's claim that they stand to lose revenue across multiple product lines is not credible.

395. For all these reasons, the alleged retail market distortions projected by Bell and the Cable Carriers are unsubstantiated and speculative and therefore do not constitute irreparable harm.

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561 "Other Service Providers" includes small facilities-based carriers and service-based competitors; Section 5.3 of the 2017 CMR.

562 2017 CMR, Figure 5.3.1.

563 "Independent Service Providers" includes small facilities-based carriers and service-based competitors.

564 2018 CMR, Infographic 5.3.

565 Bell Canada Application, at para 157.

566 *Ibid.*

8.2.3 Retroactive Repayments are not Unrecoverable

396. Bell argues that even if it is ultimately successful in the Application, it will be extremely difficult if not impossible to recover retroactive payments.[567]

397. In support of this position, Bell incorrectly represents that *Canadian Broadcasting Corporation v. SODRAC Inc.*[568] ("*CBC v SODRAC*") is analogous to the facts at hand.[569] As shown below, this case is clearly distinguishable.

398. *CBC v SODRAC* involved the payment of significant sums by Astral and CBC to SODRAC, a copyright collective.[570] The role of SODRAC is that of an intermediary that collects royalties from uses of copyrighted musical works and distributes them to authors, performers and sound recording makers.[571] The court in *CBC v SODRAC* ultimately found irreparable harm due to the mechanisms set out in the *Copyright Act* which made it improbable for SODRAC to allocate the royalties paid to it under other tariffs, agreements or licenses for the purpose of reimbursing the CBC or Astral.[572]

399. Unlike in *CBC v. SODRAC*, the facts before the Commission do not involve an intermediary tasked with the distribution of royalties pursuant to a sophisticated statutory copyright regime. The payments in questions are simply refunds of amounts that were paid to Bell, by its wholesale HSA service customers. There is no intermediary in this exchange and no obstacle to returning the payments should the appeal ultimately be successful. For this reason, the *CBC v. SODRAC* case does not support Bell's claim of irreparable harm.

400. The Commission should accord no weight to Bell's uninformed theory that service-based competitors will use retroactive refunds to pay out shareholder dividends to the point of becoming insolvent.[573] This is pure speculation without any substantiating evidence whatsoever. Bell cites the affidavit of Ivan Mihaljevic to back these claims.[574] However, this affidavit evidence merely

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567 *Id.*, at para 137.
568 *Canadian Broadcasting Corp. v. Society for Reproduction Rights of Authors, Composers and Publishers in Canada*, [2013] F.C.J. No. 1445 (C.A.).
569 Bell Canada Application, at para 142.
570 *CBC v SODRAC*, at paras 5-11.
571 *Id.*, at para 28.
572 *Id.*, at para 30.
573 Bell Canada Application, at para 141.
574 *Id.*, at footnote 125.

recounts vague "personal experience" regarding companies whose owners extracted value through dividends such that they had difficulty paying their bills to Bell.[575] Bell has produced no tangible evidence that proves that these circumstances are likely to occur if a stay is denied.

401. Bell estimates that retroactive refunds could be as high as $100 million.[576] Naturally, large service-based competitors will account for most of these retroactive refunds. These companies tend to be longstanding fixtures of retail markets. Bell has demonstrated no evidence that these financially secure companies are at a risk of bankruptcy during the period in which a stay would apply.

402. According to Bell, small service-based competitors are "closely-held companies with precarious finances".[577] Bell produces no evidence to substantiate this characterization. However, even if smaller companies are more vulnerable to risk than larger counterparts, the retroactive refunds owed to such companies are also commensurately smaller. In other words, even if smaller service-based competitors were at a slightly greater risk of failing, the risk of non-payment would be *de minimis* relative to the total amount of reimbursements that Bell is required to make.

403. In summary, Bell faces – at worst – an unlikely possibility that an insignificant percentage of its smaller wholesale HSA customers have difficulty repaying a commensurately small proportion of the retroactive refunds that the Order requires. This is not material to Bell, who has decades of experience with collection activities relating to outstanding billings. Should an even smaller minority of cases remain unresolved after a collections effort, Bell would have a straightforward claim that it could choose to bring in the appropriate courts.

404. Thus, the alleged impossibility of recovering reimbursements is a fiction. Bell's claims are unsubstantiated and speculative. Once again, the law is clear that such claims do not constitute irreparable harms.

8.2.4 No Investment Harm

405. The Cable Carriers allege that, absent a stay, the Order will require them to reduce investments thereby subjecting them to irreparable harm.[578] Part 5.0 of this intervention proves

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575 *Id.*, at para 137.
576 *Id.*, at para 146.
577 *Id.*, at para 141.
578 Cable Carrier Application, at para 99.

that there is no merit to the investment considerations put forward by any of the Applicants, which are a repetition of the tired and empty refrain that they lament in response to any Commission decision that they perceive as unfavorable. The cost-based rates established by the Order allow the Applicants to generate a fair return on capital that ensures appropriate incentives to make efficient investments. Service-based competitor deployments and public funding initiatives will also ensure healthy levels of investment and innovation. For these reasons, the speculative reductions to investment that are alleged by the Applicants do not constitute irreparable harm.

8.3 The Balance of Convenience Favors Denial of Interim Relief

406. Bell and the Cable Carriers claim that the balance of convenience, when factoring the public interest, favors granting of the stay.[579] They argue: (i) service-based competitors will not be harmed if a stay is granted;[580] (ii) there is no urgency to implementation of the Order;[581] (ii) a stay would promote investments and thus further the public interest.[582]

No inconvenience to Bell and the Cable Carriers

407. If a stay is not granted, Bell and the Cable Carriers will at worst face negligible inconvenience. Conversely, granting the stay will impose significant harm to service-based competitors (who are already in a vulnerable position *vis-à-vis* wholesale HSA service providers), as well as to the Canadian public more generally. The balance therefore leans heavily against Bell and the Cable Carriers at this third stage of the *RJR*- framework.

408. If the stay is denied, Bell and the Cable Carriers will merely be required to offer wholesale HSA services pursuant to rates that the Commission has confirmed to be just and reasonable. The Order does not prevent Bell from competing in the retail markets. Instead, it levels the playing field for the smaller service-based competitors. Any resulting financial losses would be inconsequential to Bell and the Cable Carriers, who hold commanding retail market shares and have annual revenues in the billions of dollars.

409. Bell and the Cable Carriers can also leverage their dominant market position to overcome any minor inconvenience resulting from retail price reductions made by small market players.

579 Bell Canada Application, at para 172; Cable Carrier Application, at para 100.
580 Bell Canada Application, at para 163, 164 and 166; Cable Carrier Application, at para 100.
581 Bell Canada Application, at para 164; Cable Carrier Application, at para 100.
582 Bell Canada Application, at paras 167-170; Cable Carrier Application, at para 100.

Compared to service-based competitors, Bell and the Cable Carriers have uniquely benefitted from decades of marketing and brand development, widespread store-front presences, vertical and horizontal integration, the ability to bundle services, access to telecommunications facilities and support infrastructure, and much more. These competitive advantages completely offset and even exceed any negligible inconvenience that may be caused by retail price reductions from small market players.

410. Finally, the payment of retroactive refunds to the service-based competitors is of no inconvenience to Bell and the Cable Carriers. As demonstrated above, these amounts are small relative to their annual revenues, and those refunds can be reimbursed if its appeal is ultimately successful.

Significant inconvenience to service-based competitors

411. Conversely, a stay of the Order would subject the service-based competitors to significant harm and inconvenience in two main ways: (a) it would prolong the market distortions that have disadvantaged service-based competitors for years; and (b) it would delay service-based competitors' ability to recover the payment of retroactive refunds.

412. A stay would require the industry to revert back to pre-Order wholesale HSA rates that were determined not to be just and reasonable, and that were made interim because wholesale HSA providers had chosen to disregard established Commission costing methodologies, rules and principles. Those inflated interim rates have suppressed competitive market forces for many years. The result, therefore, is that service-based competitors will be required to continue paying overinflated rates for wholesale HSA services. Perpetuating these market distortions that favour Bell and the Cable Carriers creates significant disadvantages for service-based competitors, who are already in a relatively vulnerable position *vis-à-vis* wholesale HSA service providers.

413. If a stay is granted, service-based competitors would also be greatly prejudiced by a further delay in the payment of retroactive refunds dating back to 2016. If the Order is stayed, these amounts will only continue to grow, with no interest payable to the service-based competitors. Nor will those funds be available for the service-based competitors to use for further investments in their own networks. The withholding of these refunds would impose a significant opportunity cost

on competitors, adding to the inconvenience that will be experienced by already vulnerable market players.

414. Therefore, while the market dominance of Bell and the Cable Carriers allows them to overcome any transient financial inconveniences with ease, service-based competitors will be disproportionately affected by the consequences of a stay.

The public interest favours denial of the stay

415. The public interest is also an important factor to consider in balancing harms and convenience in cases such as these. Courts have confirmed that a Commission decision may represent an important aspect of the public interest, and that the continuing viability of a business "also has a public interest component that cannot be rightfully ignored".[583] In this case, both considerations weigh heavily against granting the requested stay.

416. The Order's preamble confirms that it "will facilitate greater competition, promote innovative broadband services and more affordable prices for consumers".[584]

417. Moreover, the fact that several service-based competitors immediately reduced retail rates in response to the Order is indisputable evidence that the final wholesale HSA service rates will increase competition in the retail service market. Furthermore, no less than 125,000 Canadians have already sent letters to their MPs, to the government and the Commission requesting swift implementation of the Order.

418. There is no credibility to claims that the public interest will be adversely affected by investment reductions caused by the Order. Such claims ignore the fact that other providers and government funding programs will substitute the reductions investment, if any, made by the Applicants.

419. For all of these reasons, the balance of convenience in respect of the parties and the public interest favours refusing the stay.

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583 *North American Gateway Inc. v. Canada (Canadian Radio-Television and Telecommunications Commission)*, [1997] F.C.J. No. 628, per McDonald J.A., at para. 18.

584 See preamble of the Order.

8.4 Conclusion: The Applicants have not Met the Test for Interim Relief

420. As demonstrated in this Part 8.0, Bell and the Cable Carriers have failed to satisfy each element of the *RJR* test or any other public interest rationale for staying the Order. Consequently, the Commission should deny any interim relief if the FCA decides to lift its interlocutory injunction for any reason.

9.0 TELECOMMUNICATIONS POLICY OBJECTIVES AND POLICY DIRECTIONS

421. The Order is fully consistent with, and advances, Canada's telecommunications policy objectives as they are articulated in the *Telecommunications Act*[585] in a manner that is consistent with the 2006 Policy Direction and the 2019 Policy Direction.

422. The Order sets just and reasonable final rates for aggregated wholesale HSA services. The rates set by the Order allow service-based competitors to compete effectively in retail markets while also ensuring that the Applicants earn a fair return on capital that preserves healthy incentives to make efficient investments. The Order also ensures that rates are always just and reasonable by making them effective retroactively to the dates that rates were first made interim.

The telecommunications policy objectives

423. The outcomes described above advance several of the telecommunications policy objectives articulated in Section 7 of the *Telecommunications Act.* For instance, the Order facilitates 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.[586] It does so by making available regulated rates that allow service-based competitors to participate meaningfully and effectively in the Canadian telecommunications system. This objective is also furthered by the strong investment incentives that the Order: (i) enhances for service-based competitors; and (ii) preserves for the Applicants. Altogether, these outcomes of the Order yield material social and economic benefits for Canadians.[587]

424. The Order also consists of regulation that renders reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas

[585] Section 7 of the *Telecommunications Act*.
[586] Paragraph 7(a) of the *Telecommunications Act*.
[587] Paragraph 7(f) of the *Telecommunications Act*.

in all regions of Canada.[588] It does so by facilitating competition and ensuring healthy levels of investment and innovation. [589]

425. Naturally, the Order enhances the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications.[590] It does so by establishing just and reasonable rates for wholesale HSA services that will allow service-based competitors to finally take significant steps towards realizing their full potential to compete in downstream markets.

426. Finally, the Order is required regulation that is both efficient and effective.[591]

The 2006 Policy Direction

427. All the telecommunications objectives addressed above are also advanced in a manner that accords with the 2006 Policy Direction.

428. The Order reflects a correct application of Phase II costing. The establishment of just and reasonable cost-based rates consists of a regulatory measure that is efficient and proportionate to its purpose and which interferes with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives.[592]

429. Furthermore, the Order neither deters economically efficient competitive entry nor promotes economically inefficient entry.[593] To the contrary, the just and reasonable rates approved by the Order will encourage economically efficient entry and expansion into downstream retail markets for broadband and other telecommunications services.

The 2019 Policy Direction

430. Finally, the Order represents a very significant step towards the attainment, for the same reasons discussed above,[594] of key priorities set out in the 2019 Policy Direction, including:

- encouraging all forms of competition and investment;[595]

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588 Paragraph 7(b) of the *Telecommunications Act*.
589 Paragraph 7(g) of the *Telecommunications Act*.
590 Paragraph 7(c) of the *Telecommunications Act*.
591 Paragraph 7(f) of the *Telecommunications Act*.
592 Subparagraph 1(a)ii) of the 2006 Policy Direction.
593 Subparagraph 1(b)ii) of the 2006 Policy Direction.
594 I.e., with respect to the telecommunications policy objectives and the 2006 Policy Direction.
595 Subparagraph 1(a)(i) of the 2019 Policy Direction.

- fostering affordability and lower prices, particularly when telecommunications service providers exercise market power;[596]

- ensuring that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas;[597]

- enhancing and protecting the rights of consumers in their relationships with telecommunications service providers, including rights related to accessibility;[598]

- reducing barriers to entry into the market and to competition for telecommunications service providers that are new, regional or smaller than the incumbent national service providers;[599]

- enabling innovation in telecommunications services, including new technologies and differentiated service offerings;[600] and
- stimulating investment in research and development and in other intangible assets that support the offer and provision of telecommunications services.[601]

10.0 CONCLUSION

431. The Applicants do not meet the criteria for a review and variance of the Order. In these circumstances, the interim and final relief requested in the Applications is not only unjustified – but also extremely harmful to competition and Canadian consumers of broadband services.

432. CNOC requests that the Commission reaffirm its commitment to the just and reasonable final rates for wholesale HSA rates established by the Order, with retroactive effect to the date that those rates were first made interim. Doing so requires nothing short of full dismissal of the Applications and rejection of the relief requested therein.

596 Subparagraph 1(a)(ii) of the 2019 Policy Direction.
597 Subparagraph 1(a)(iii) of the 2019 Policy Direction.
598 Subparagraph 1(a)(iv) of the 2019 Policy Direction.
599 Subparagraph 1(a)(v) of the 2019 Policy Direction.
600 Subparagraph 1(a)(vi) of the 2019 Policy Direction.
601 Subparagraph 1(a)(vii) of the 2019 Policy Direction.

APPENDIX "A"

Assessment of an Expert Report by the Brattle Group Regarding Telecom Order CRTC 2019-288

Prepared for

Canadian Network Operators Consortium Inc.

by
Zhiqi Chen, PhD

January 31, 2020

Executive Summary

ES1. I have conducted an assessment of an expert report prepared by members of the Brattle Group (the “Brattle Report”) that analyzes the impact of final rates for aggregated wholesale high-speed access services (the “Final Wholesale Rates”) set out in Telecom Order CRTC 2019-288 (the “Order”) on the cash flows and investment incentive of five cable companies (the “Cablecos”). I have found that the differential cash flow analysis (the “cash flow analysis”) in the Brattle Report suffers from three significant deficiencies. They are: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based competitors’ market share and the Cablecos’ average revenue per user (ARPU), and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes.

ES2. Specifically, the description of the method and data used in the cash flow analysis does not contain the level of details that would enable a reader to assess the validity of the procedures and the reasonableness of the assumptions in the analysis. The most significant omission is the lack of disclosure about the statistics associated with the *status quo* and the three scenarios considered in the cash flow analysis, specifically the growth rate of service-based competitors’ market share and the growth rate of the Cablecos’ ARPU. The absence of these statistics in the Brattle Report creates a barrier for a reader to assess the reasonableness of the assumptions embedded in the three scenarios.

ES3. To help assess the reasonableness of these assumptions, I have calculated the growth rates implied by the *status quo* and the three scenarios using information in the Brattle Report and data from the 2018 Communications Monitoring Report. Based on these calculations, I have found the first of the three scenarios implicitly assumes that the growth rate of the Cablecos’ ARPU will be reduced by more than 72 percent from the *status quo* and that service-based competitors’ market share will grow at a rate more than twice the growth rate in the *status quo*. The other two scenarios implicitly assume an even larger reduction in the

Cablecos' ARPU growth rate and/or an even higher growth rate of service-based competitors' market share. In my opinion, these assumptions are unrealistic.

ES4. The cash flow analysis fails to take into consideration a basic economic principle that the demand for a good will increase when the price of the good falls. To be more specific, the analysis assumes that the retail prices of Internet services after the implementation of the Order will be lower than what would have prevailed in the *status quo*, yet it fails to take into account the resulting increases in the growth rate of subscriptions. This failure inflates the estimated loss in the Cablecos' operating cash flows. A more serious consequence of this failure is that it artificially rules out the possibility that the Order may actually increase the Cablecos' operating cash flows relative to that in the *status quo*, which could occur if the price elasticity of demand is greater than 1.

ES5. The unrealistic assumptions embedded in the three scenarios and the failure to take into account increases in the rate of subscription growth lead to a vast overstatement of the potential negative impact of the Order on the Cablecos' operating cash flows. This calls into question the credibility of the estimates from the cash flow analysis.

ES6. The Brattle Report claims that the Order will significantly diminish the Cablecos' incentive to invest in broadband networks. Yet it presents no evidence to demonstrate that the Final Wholesale Rates are too low to confer the Cablecos a fair return on their investments. What the cash flow analysis purports to show is that the Order will substantially reduce the Cablecos' operating cash flows relative to the *status quo*. While a reduction in operating cash flows could decrease the rate of return on investment, it does not necessarily mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentive. Therefore, the cash flow analysis by itself cannot support the claim that the Order will diminish the Cablecos' investment incentive.

ES7. The Brattle Report claims that the economics literature generally finds that mandated resale regulation discourages infrastructure investment by incumbents and has not led entrants to invest in their own facilities. This claim, however, is inconsistent with the findings in the articles that the report itself cites as the sources of the claim. In particular, the findings in one of these articles, Briglauer, *et al*. (2016), imply that mandated resale access is likely to have no significant impact on the investment decisions of the Cablecos.

ES8. In its final concluding paragraph, the Brattle Report claims that the strongest reduction in investment caused by the Order is most likely to be felt in rural and remote areas where population is relatively sparser. However, it presents no credible evidence to substantiate this claim. Moreover, there is a reason to believe that the negative impact of the Order on the Cablecos' operating cash flows, if there is any, will be smaller in areas where population is sparser. The reason is that service-based competitors have tended to focus their marketing efforts on highly populated areas in Southern Ontario and Southern Quebec. This implies that service-based competitors have a much smaller presence or no presence at all in less populated areas. Therefore, the Order will likely have little impact on the Cablecos' operating cash flows in rural and remote areas where service-based competitors have little or no presence. It is expected that this factor, which favours investment in rural and remote areas, would be considered in the Cablecos' investment decisions.

I. Introduction

1. I have been retained by Canadian Network Operators Consortium Inc. ("CNOC") to assess an expert report prepared by members of the Brattle Group, entitled "Analysis of CRTC's Final Rates for Aggregated Wholesale High-Speed Access Services: Impact on Broadband Network Investment and Innovation" (the "Brattle Report"). The report conducts a differential cash flow analysis to estimate the impact of the final wholesale access rates (the "Final Wholesale Rates") set out in *Telecom Order CRTC 2019-288* (the "Order")[1] on the operating cash flows of five cable companies (the "Cablecos").[2] The findings from this analysis, in conjunction with a review of the relevant economics literature, are then used to predict the impact of the Order on the Cablecos' incentive and ability to invest in broadband networks. In addition, the report contains a discussion about the competitive landscape and trends of the Canadian broadband industry.
2. I am a professor of economics at Carleton University, where I have been a faculty member since 1991. My fields of specialization are industrial organization and international trade. Since receiving my PhD in economics from the University of Western Ontario in 1991, I have published more than 40 articles in refereed journals on topics in these and other fields of economics, including three articles on the telecommunications industry. Moreover, I have written numerous reports commissioned by the Government of Canada, specifically, by the Department of Industry (recently renamed as Innovation, Science and Industry Canada) and the Department of Foreign Affairs and International Trade (now Global Affairs Canada). These reports examined issues related to Canadian industries and international trade policies.
3. I have extensive experience in the application of economics to competition and trade issues. I twice served as the T.D. MacDonald Chair in Industrial

[1] CRTC, *Follow-up to Telecom Orders 2016-396 and 2016-448 – Final rates for aggregated wholesale high-speed access services*, August 15, 2019.
[2] These five cable companies are Bragg Communications Inc. (carrying on business as Eastlink), Cogeco Communications Inc., Rogers Communications Canada Inc., Shaw Cablesystems G.P., and Videotron Ltd.

Economics at the Canadian Competition Bureau, from September 1998 to August 1999 and from September 2004 to August 2005. I spent another six months as a visiting economist at the Competition Bureau from September 2011 to February 2012. In those roles, I provided expert economic advice on many competition cases involving mergers, abuse of dominance and price-fixing. My curriculum vitae is attached as Appendix B.

4. My report is organized as follows: Section II assesses the differential cash flow analysis in the Brattle Report. Section III critiques the report's prediction about the impact of the Order on the Cablecos' incentive and ability to invest in broadband networks. Section IV concludes.

II. Assessment of the Differential Cash Flow Analysis

5. The most important part of the Brattle Report is the differential cash flow analysis (the "cash flow analysis") that estimates the impact of the Final Wholesale Rates set out in the Order on the Cablecos' operating cash flows from their consumer internet businesses. To be more specific, this analysis calculates the Cablecos' incremental operating cash flows over the coming five-year period (2020 to 2024) under the prevailing interim rates established in Telecom Order CRTC 2016-396 and Telecom Order CRTC 2016-448 (the "Interim Rates") in comparison with those under the Final Wholesale Rates.[3]
6. In these calculations, the benchmark scenario under the Interim Rates (the "*status quo*") assumes that the market shares and the Cablecos' prices would continue to evolve according to recent market trends.[4] Specifically, these trends are measured by the average year-over-year changes in market share and average revenue per user (ARPU) for the prior three-year period.[5]
7. To calculate the operating cash flows under the Final Wholesale Rates, the analysis considers three scenarios based on different assumptions about the

[3] Brattle Report, para. 7.
[4] Brattle Report, para. 38.
[5] *Ibid*, footnote 42.

growth in the market share of service-based competitors[6] and the growth rate of the Cablecos' ARPU.[7] In the first scenario ("Scenario A"), service-based competitors are assumed to achieve a market share by 2024 that is 5 percentage points higher than it would have been in the *status quo* and Cableco ARPUs would grow at the rate of inflation of 1.9 percent. The second scenario ("Scenario B") assumes the same ARPU growth rate for the Cablecos as in Scenario A but a higher rate of service-based competitor growth such that they achieve a market share by 2024 that is 10 percentage points higher than it would have been in the *status quo*. The third scenario ("Scenario C") assumes the same high rate of service-based competitor growth as in Scenario B but reduces the Cablecos' ARPU growth rate to 0.[8]

8. According to the Brattle Report, the ARPU growth rate of 1.9 percent assumed in Scenarios A and B is "a slightly slower rate than recent historical growth".[9] Moreover, the additional 5 percent in service-based competitor market share assumed in Scenario A is characterized as "moderate" service-based competitor growth.[10]

9. With these assumptions in the three scenarios, the cash flow analysis considers more than just the direct impact of the Order on the Cablecos' revenue from selling wholesale access to service-based competitors. It also accounts for the indirect impact of the Order on their revenue from the retail markets. The theory underlying the three scenarios is that lower wholesale rates will induce service-based competitors to become more aggressive with retail pricing in order to

[6] Although the Brattle Report refers to non-facilities-based service providers as "resellers", that terminology does not accurately reflect what these service providers do. As noted in Competition Bureau, "Delivering Choice: A Study of Competition in Canada's Broadband Industry" (the "Competition Bureau Study"), August 7, 2019, pp.14-15: "There is some misunderstanding about exactly how wholesale-based competitors deliver services to the marketplace. Wholesale-based competitors are not simply 'resellers', who sell existing internet plans on behalf of a telephone or cable company. Instead, wholesale-based competitors, through their investments, control a significant range of service variables, including the capacity limits and prices of their internet plans. Although wholesale-based competitors are often referred to in the industry as resellers, this is an inaccurate term that can have negative connotations in the eyes of consumers" [Footnotes omitted]. For that reason, in this report, I refer to those entities called "resellers" in the Brattle Report" as "service-based competitors".
[7] Brattle Report, para. 38.
[8] *Ibid*.
[9] *Ibid*.
[10] *Ibid*.

capture additional market share, which results in larger retail market share for service-based competitors but lower ARPU for the Cablecos.[11]

10. Based on an analysis of the three scenarios, the Brattle Report estimates that the Final Wholesale Rates will lead to a loss in the Cablecos' operating cash flows in the range of $2.6 billion (in Scenario A) to $3.7 billion (in Scenario C) over the coming five years. These estimates for lost operating cash flows represent 38 percent to 54 percent of planned broadband capital expenditures over the same time horizon.[12]
11. In my opinion, the cash flow analysis suffers from three significant deficiencies. They are: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based competitors' market share and the Cablecos' ARPU, and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes.

Inadequate Disclosure of Information

12. In addition to the discussion about the three scenarios and the *status quo* in paragraph 38 (including the footnotes therein), footnotes 8 and 9 in the Brattle Report describe the method and data used in the cash flow analysis. This description, however, is in broad terms. As such, it does not contain the level of details that will enable a reader to assess the validity of the procedures and the reasonableness of the assumptions used in the analysis.
13. For example, the report states that the operating cash flows are calculated on the basis of "costs that are incremental to broadband only."[13] But it does not disclose any information about the cost items included in the calculations.[14] Neither does it tell the reader what assumptions are used to estimate these costs in the 5-year period between 2020 and 2024. As a result, the reader has no way

[11] *Ibid*. Note that the Brattle Report offers no evidence to support this theory.
[12] Brattle Report, para. 41.
[13] *Ibid*, footnote 8.
[14] To be clear, here I have in mind a qualitative description of the cost items included in the calculations of operating cash flows. I am not demanding the disclosure of the actual accounting data of individual cable companies. I understand that such data are confidential.

of assessing whether these cost items are indeed “incremental to broadband only” and whether the cost estimates for 2020-2024 are derived under reasonable assumptions.

14. The most significant omission, in my opinion, is the lack of disclosure about the statistics associated with the *status quo* and the three scenarios in the cash flow analysis, specifically the growth rate of the service-based competitors’ market share and the growth rate of the Cablecos’ ARPU. While the report provides a qualitative description about how these statistics are calculated in paragraph 38 (including footnote 42), it does not disclose the actual values used in the cash flow analysis.[15]

15. I would also note the absence of these statistics in the discussion of industry background in section III of the Brattle Report. Given the critical role these statistics play in the cash flow analysis, I would have expected that some comments would be made about them in the discussion of competitive landscape and industry trends in section III. I am particularly surprised by the absence of statistics on the subscriber shares of different types of Internet service providers, because (a) they are a critical input into the cash flow analysis, and (b) market share is a common statistic used to describe the competitive landscape of an industry.

16. The absence of these statistics in the Brattle Report creates a barrier for a reader to assess the reasonableness of the assumptions imbedded in the three scenarios. For example, the Brattle Report claims that the rate of 1.9 percent assumed for the Cablecos’ ARPU growth in Scenarios A and B is only “slightly slower” than recent historical growth.[16] By not disclosing what the recent historical growth rate is, the report has made it difficult for a reader to judge whether the assumed rate of 1.9 percent is indeed only “slightly lower”. As I will demonstrate below, the 1.9 percent is, in fact, *substantially* below the recent trend of the Cablecos’ ARPU growth.

[15] To be clear, here I am talking about aggregate statistics for service-based competitors and the Cablecos as two groups. They do not involve confidential data of individual companies.
[16] Brattle Report, para. 38.

Unrealistic Assumptions

17. To help assess the reasonableness of the assumptions imbedded in the three scenarios, I have calculated the growth rates implied by the *status quo* and the three scenarios using information in the Brattle Report and data from the 2018 Communications Monitoring Report.[17] To be more specific, I calculated the growth rate of the Cablecos' ARPU and the growth rate of service-based competitors' market share in the *status quo* using the formula described in footnote 42 of the Brattle Report, and I computed the growth rates of the same variables in each of the three scenarios using the definition of these scenarios presented in paragraph 38 of the report. Details of these calculations are presented in section 1 of Appendix A.
18. In these calculations, I have chosen to use the data in CMR 2018 instead of the recently published CMR 2019 because the latter was not available at the time when the Brattle Report was written. The purpose of these calculations is to uncover the growth rates of ARPU and market share assumed in the *status quo* and the three scenarios of the cash flow analysis. For this purpose, it is necessary that I use only information available at the time when the Brattle Report was written, so that it would have been feasible for the authors of the report to calculate the number presented below in Table 1.[18]

Table 1. Growth Rate in the *Status Quo* and the Three Scenarios

Growth Rate	*Status Quo*	Scenario A	Scenario B	Scenario C
Growth Rate of Cablecos' ARPU	6.85%	1.9%	1.9%	0%
Growth Rate of Service-Based Competitors' Market Share	3.93%	10.84%	16.65%	16.65%

Source: Author's calculations.
Note: Because CMR 2018 does not contain separate data for service-based competitors' number of subscribers, the growth rates of service-based competitors' market share were estimated under the assumption that their market share grew at the same rate as the "Other Service Providers" (which include both service-based competitors and other carriers).

[17] CRTC, *Communications Monitoring Report 2018* ("CMR 2018"). The 2019 version of the report will be referred to as "CMR 2019".
[18] To demonstrate the robustness of my conclusions, in section 2 of Appendix A I present the results of calculations that include the latest data from CMR 2019. These results reaffirm the conclusions presented in the main text.

19. Table 1 presents the results of my calculations. In particular, the second column in the table shows the growth rate of the Cablecos' ARPU and the growth rate of service-based competitors' market share in the *status quo*. Recall that the *status quo* in the Brattle Report represents a situation where "the market shares and the Cablecos' prices would continue to evolve according to recent market trends",[19] and specifically the recent market trends are measured by "the average year-over-year changes in market share and ARPU for the prior three year period."[20]

20. Comparing the growth rate of the Cablecos' ARPU in the three scenarios with that in the *status quo*, we see that the 1.9 percent growth rate assumed in Scenarios A and B are substantially below the recent market trend of 6.85 percent; in fact, it is at only 27.7 percent of the *status quo* growth rate. In other words, Scenarios A and B assume that the growth rate of the Cablecos' ARPU will be reduced by 4.95 percentage points, which is a reduction of more than 72 percent.

21. In my opinion, such a drastic reduction in the growth rate assumed in Scenarios A and B and the even larger reduction assumed in Scenario C are unrealistic, for two reasons. First, the magnitudes of service-based competitors' impact on the Cablecos' ARPU growth rate assumed in the three scenarios are grossly out of proportion with service-based competitors' relatively small market share. In 2018, the subscriber market share of service-based competitors is 8.9 percent.[21] Yet the cash flow analysis assumes that the Final Wholesale Rates will enable the service-based competitors to drive down the growth rate of the Cablecos' ARPU by more than 72 percent.

22. Second, the decrease in ARPU (relative to the *status quo*) caused by declines in prices will be offset by increased usage per user. A basic economic principle is that quantity consumed will increase as price falls. If lower wholesale rates cause the retail prices of Internet services to fall, consumers will increase their usage by moving towards larger, faster packages, which will generate higher

[19] Brattle Report, para.38.
[20] *Ibid*, footnote 42.
[21] CMR 2019, Infographic 9.2.

ARPUs for Internet service providers (including the Cablecos).[22] Therefore, it is highly unlikely that the Final Wholesale Rates will cause the Cablecos' ARPU to fall by the order of magnitude assumed in the three scenarios.

23. Indeed, it appears that the Brattle Report does not expect a drastic decrease in the growth rate of the Cablecos' ARPU, either. The stated intention of using the 1.9 percent grow rate in Scenarios A and B is to assume a growth rate that is "slightly lower" than the recent trend. This can be seen from the following description of Scenario A: "This scenario is meant to reflect an evolution of the market under which resellers become more aggressive with pricing than under the status quo in order to capture additional market share than they otherwise would have under the interim rates, and in response the Cablecos *slightly lower* their rate of ARPU Growth" [emphasis added].[23]

24. Next, I consider the growth rate of service-based competitors' market share implied by the three scenarios. Recall that Scenario A (respectively, Scenarios B and C) assumes that service-based competitors will achieve a market share by 2024 that is 5 (respectively, 10) percentage points higher than it would have been in the *status quo*. To achieve these levels by 2024, the market share of service-based competitors has to grow at certain rates between 2020 and 2024. In the third row of Table 1, I present these growth rates as implied by the assumptions in the three scenarios.

25. As we can see from Table 1, the assumptions in Scenario A imply that service-based competitors' market share will grow at an annual rate of 10.84 percent in the five-year period between 2020 and 2024. This is more than twice the growth rate in the *status quo* (which is 3.93 percent). Moreover, the assumptions in Scenarios B and C imply an annual growth rate of 16.65 percent, which is more than four times the growth rate in the *status quo*.

26. In my opinion, these high growth rates implicitly assumed in Scenarios B and C are unrealistic. While lower wholesale rates may indeed enable service-based

[22] This is consistent with a general trend that has been observed by CRTC: "[w]hile some packages have experienced price declines, these declines have been offset by movement towards larger, faster packages." CRTC, *Communications Monitoring Report 2017*, p. 260. The reduction in retail prices assumed in the three scenarios should accelerate this trend.
[23] Brattle Report, para. 38.

competitors to lower their retail prices and capture a larger market share than they could otherwise, the facilities-based service providers (including the Cablecos) will not sit idly by as service-based competitors take their market shares. They will likely respond in a number of ways including lower prices and higher quality (*e.g.*, faster upload and download speeds). In this regard, it is important to recognize that prices are not the only significant factor in a consumer's choice of Internet service providers and Internet packages. The Competition Bureau Study has found that other factors, including upload and download speeds, monthly download limits, and the type of service providers, are actually more important in aggregate.[24] A significant non-price advantage that the Cablecos (and the incumbent telephone companies) have over the service-based competitors is brand recognition. The Competition Bureau Study has found that a significant proportion of consumers are not aware of service-based competitors.[25] Therefore, there is a limit to how much market share the service-based competitors will be able to gain through lower retail prices.

27. Note also that the Brattle Report refers to Scenario A as a "moderate" service-based competitor growth scenario. This indicates that Scenario A is not intended to be one where service-based competitors' market share grows at a rate more than twice as high as that in the *status quo*.

28. As has been recognized in the Brattle Report, faster service-based competitor growth in market share and slower ARPU growth for the Cablecos increase the magnitude of estimated loss in the Cablecos' operating cash flows.[26] Therefore, the unrealistically large reductions in the growth rate of the Cablecos' ARPU and unrealistically large increases in the growth rate of service-based competitors' market share assumed in the three scenarios have led to a vast overstatement of the negative impact that the Order may have on the operating cash flows of the Cablecos.

29. I have done some calculations to estimate the magnitude of overstatement caused by the unrealistic assumptions embedded in the three scenarios. Since I

[24] Competition Bureau Study, *supra* note 6, p. 23.
[25] *Ibid*.
[26] Brattle Report, para. 8.

do not have access to the data used in the cash flow analysis, I am not able to calculate the precise magnitude of the overstatement. However, using the information in Figure 10 of the Brattle Report I was able to obtain a rough estimate of the overstatement caused by the unrealistic assumptions about the growth rate of the Cablecos' ARPU.

30. Details of these calculations are presented in section 1 of Appendix A. They show that the assumption of unrealistically large reduction in the growth rate of the Cablecos' ARPU in Scenario A has overstated the negative impact of the Order on their operating cash flows by approximately $2 billion dollars over the five-year period between 2020 and 2024. This represents 79 percent of the estimated loss in the Cablecos' operating cash flows in Scenario A.

31. Note that this is an estimate of the overstatement caused by the unrealistic assumption about the Cablecos' ARPU growth rate alone. The actual magnitude of overstatement will be significantly larger because this estimate does not take into account the unrealistic assumption about the growth rate of service-based competitors' market share and the failure to consider increases in the rate of subscription growth.

Failure to Consider Increases in the Rate of Subscription Growth

32. A common assumption in all three scenarios considered in the cash flow analysis is that the Final Wholesale Rates will cause retail prices to fall (relative to the *status quo*). Economic principles suggest that the decrease in retail prices should lead to an increase in demand for Internet services. In the present context, part of this increase in demand will manifest itself through faster growth in the number of subscriptions. In other words, lower prices by the Cablecos will enable them to attract more subscriptions than they would otherwise. Given the growing trend in the number of subscriptions,[27] the decreases in retail prices assumed in the three scenarios should cause the Cablecos' number of subscriptions to grow at a rate higher than the recent trend.

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[27] See, for example, Figure 6 in the Brattle Report.

33. However, the Brattle Report does not contain any discussion about what assumption it has made regarding the subscription growth in the three scenarios. This suggests that the cash flow analysis has been conducted under the default assumption that the number of subscriptions will grow at the same rate as in the *status quo*.

34. Recall from basic economic principles that a decrease in price has two opposing effects on the revenue of a firm. The direct effect of a lower price is to reduce its revenue. At the same time, the decrease in price increases the quantity sold. This second effect tends to raise the firm's revenue. The overall impact of a decrease in price on revenue depends on which of these two effects are stronger, which, in turn, depends on the price elasticity of demand. The firm's revenue will fall if the demand elasticity is less than 1. On the other hand, the firm's revenue will increase with a lower price if the demand elasticity is greater than 1.

35. Therefore, the failure to take into account the increase in the rate of subscription growth overstates the estimated loss in operating cash flows in the three scenarios. A more serious consequence of this failure is that it artificially rules out the possibility that the Order may actually increase the Cablecos' operating cash flows relative to that in the *status quo*, which could occur if the demand elasticity is greater than 1.

36. To summarize, the differential cash flow analysis in the Brattle Report suffers from a number of significant deficiencies. In particular, the unrealistic assumptions embedded in the three scenarios and the failure to take into account increases in the growth rate of subscriptions have led to a vast overstatement of the possible negative impact of the Order on the Cablecos' operating cash flows. This calls into question the credibility of the estimates from the cash flow analysis.

III. Critique of the Predictions Regarding Investment Incentive

37. The Brattle Report does not contain a systematic analysis on how the Order will affect the Cablecos' incentive to invest in broadband networks. Instead, it draws its conclusion about investment incentive from two sources. The first source is the differential cash flow analysis, and the second source is a review of academic literature that studies the impact of resale access regulations on investment decisions and innovation of facilities-based suppliers.
38. Regarding the first source, the Brattle Report observes that the estimates of lost operating cash flows for the Cablecos over the coming five-year period translate into a range of 38 percent to 54 percent of total planned broadband capital expenditures by the Cablecos over the same period. Based on this observation, it states, "This strongly suggests that the Order will significantly diminish the Cablecos' incentive and ability to invest in broadband networks to the detriment of service, innovation, and facilities-based competition."[28]
39. Regarding the literature review, the Brattle Report claims, "This body of economics literature is consistent with the outcomes of our analyses, as well as our understanding of the positions of the Cablecos in their appeals of the Order."[29]
40. Before I comment on these claims in the Brattle Report, I would note that the issue of diminished investment incentive would not be relevant if the Order should lead to an increase in the Cablecos' operating cash flows relative to the *status quo*.[30] Therefore, my discussions in this section will focus on the alternative case where the Order would lead to a decrease in the Cablecos' operating cash flows.

No Evidence to Support the Claim of Diminished Investment Incentive

41. To ensure adequate incentive for facilities-based providers to invest in broadband networks, the rates of wholesale high-speed access services have to

[28] Brattle Report, para. 11.
[29] Brattle Report, para. 12.
[30] As I have discussed above in paragraph 35, this possibility is artificially excluded from the cash flow analysis because of its failure to take into account higher rates of subscription growth.

be set at appropriate levels that will allow them to recover their costs and earn a fair return on their investments (including compensation for the risks associated with their investments). Therefore, to argue convincingly that the Order will diminish the Cablecos' incentive to invest in networks, it is necessary to show that the Final Wholesale Rates are not set at levels that confer the Cablecos a fair return on their investments.

42. This, however, is not done in the Brattle Report. The report presents no evidence to demonstrate that the Final Wholesale Rates are too low to allow the Cablecos to earn a fair return on their investments. What the cash flow analysis purports to show is that the Order will substantially reduce the Cablecos' operating cash flows relative to the *status quo*. While a reduction in operating cash flows could decrease the rate of return on investment, it does not necessarily mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentive. Therefore, the cash flow analysis by itself cannot support the claim that the Order will diminish the Cablecos' investment incentive.

43. In this regard, it is relevant to consider whether the Interim Rates are set at levels that allow the Cablecos to earn a fair return on capital. If the Interim Rates do not confer a fair return on capital and consequently the Cablecos do not have sufficient incentive to invest at these rates, then the lower Final Wholesale Rates will exacerbate the problem. If, on the other hand, the Interim Rates are so high that the Cablecos can earn more than a fair return on capital, a reduction in operating cash flows caused by the lower Final Wholesale Rates will not necessarily lead to inadequate investment incentive.[31] On this issue, however, the Brattle Report considers outside its scope to opine on any rates and accordingly, it does not analyze the reasonableness of the Interim Rates.[32] Therefore, given this limitation on the scope of its analysis, the Brattle Report is

[31] Note that in the Order, the Canadian Radio-television and Telecommunications Commission set the Final Wholesale Rates for the Cablecos at levels significantly lower than their Interim Rates. This indicates that, in the view of the Commission, the Interim Rates were significantly inflated. A summary of the Interim Rates and the Final Wholesale Rates for the Cablecos can be found in Figure 7 of the Brattle Report.

[32] Brattle Report, para. 5.

incapable of offering useful insights into the impact of the Order on the Cablecos' investment incentive.

44. The Brattle Report also claims that the Order will significantly diminish the Cablecos' ability to invest, but it offers no explanation for why reduced cash flows will have such an effect. One argument in support of this claim may be as follows. The reduction in operating cash flows resulted from lower wholesale rates will likely decrease the Cablecos' profits. This will reduce the internal funds available for network investment, thus weakening their ability to invest.

45. This argument, however, does not take into account the fact that a firm can raise the funds needed for investments externally by issuing debt or equity.[33] To raise capital from external sources, however, the firm has to offer investors a fair return on their investments. Therefore, ultimately the firm's ability to invest depends on whether it can earn a fair rate of return on capital. This brings us back to the question whether the Final Wholesale Rates will confer the Cablecos a fair return on capital. As noted above, the Brattle Report presents no evidence on this question.

Inaccurate Characterization of the Economics Literature

46. While the literature review in Appendix A of the Brattle Report covers a range of issues related to investment, the most relevant to the present discussion is the literature on the relationship between resale regulation and investment incentive reviewed in section C of the appendix. The review in Section C covers both the theoretical literature and the empirical literature on this topic.

47. The review of the theoretical literature focuses on arguments that support the view that resale regulation diminishes investment incentive for both incumbents

[33] See, for example, Gatchev, V.A., P.A. Spindt, and V. Tarhan, "How Do Firms Finance Their Investments? The Relative Importance of Equity Issuance and Debt Contracting Costs," *Journal of Corporate Finance*, 15(2009), 179-195. Note that I ignore here a situation where a firm is unable to raise capital from external sources because of a high risk of insolvency. Since the Brattle Report has not raised the issue of insolvency upon an examination of the Cablecos' cash flows, this situation is not relevant.

and entrants.[34] Yet in the introduction to section C, the report cites, perhaps inadvertently, an example that directly contradicts this view:[35]

> For example, some economists have found that by increasing demand, some degree of access-based pricing may encourage investment, but such results require that the access rates be high enough (perhaps unregulated) to allow the facilities-based competitors to capture a sufficient portion of the ensuing profits to compensate them for their investment.

In a nutshell, this passage says that mandated resale access may *encourage investment* if the access rates are high enough to compensate the facilities-based competitors for their investments.

48. The Brattle Report summarizes the empirical literature about the effects of mandated resale regulation on investment incentive in this way: "Generally, these studies find that mandated resale regulation discourages infrastructure investment by traditional facilities-based service providers and has not led entrants to invest in their own facilities."[36] In the footnote attached to this sentence (*i.e.*, footnote 78), the report cites two articles as the sources for its claim: Cambini and Jiang (2009)[37] and Briglauer, *et al*. (2016).[38] My reading of these two articles, however, has led to me conclude that the above characterization of the empirical literature is inaccurate. In fact, the findings from the empirical literature show that the effects of mandated resale regulation on investment incentive are mixed.

49. Cambini and Jiang (2009) survey the theoretical and empirical literature on the relationship between regulation and investment in telecommunications infrastructures. Below is how they summarize the literature, in their own words: "The picture that emerges is not conclusive, and further research is still needed,

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[34] Brattle Report, paras 60-61.
[35] *Ibid*, para. 58.
[36] *Ibid*, para 62.
[37] Cambini, C., and Y. Jiang, "Broadband Investment and Regulation: A Literature Review," *Telecommunications Policy*, 33(2009), 559-574.
[38] Briglauer, W., K. Gugler,, and A. Haxhimusa, "Facility- and Service-Based Competition and Investment in Fixed Broadband Networks: Lessons from a Decade of Access Regulations in the European Union Member States," *Telecommunications Policy*, 40(2016), 729-742.

both theoretically and empirically, to better understand the real impact of regulatory incentives on investments."[39]

50. Since the survey by Cambini and Jiang is more than 10 years old, here I present a more recent summary of the empirical literature by Houngbonon and Jeanjean (2016):[40]

> Several attempts have been made to uncover the relationship between competition and investment within specific industries. In the telecommunications industry, most papers have analysed the impact of competition on investment in the fixed broadband market. Cambini and Jiang (2009) review this literature and find that the impact is rather ambiguous. Likewise, Grajek [and Röller] (2012) finds that competition through access regulation negatively affects investment in fixed broadband networks, whereas Bacache, Bourreau, and Gaudin (2014) find that access regulation has no effect on new entrants' investment in fixed broadband networks.

51. The other article cited by the Brattle Report as a source of its claim, Briglauer, *et al*. (2016), also finds mixed effects. It is an empirical study that examines the impact of service- and facility-based competition on firm-level investment in 23 European countries from 2003 to 2012. Of particular relevance to the present subject are its findings regarding the impact of service-based competition on investment. Specifically, the study finds that service-based competition has no significant impact on the investment decision of incumbents, and this finding is robust to all model specifications in its regression analysis.[41] It also finds no significant impact of service-based competition on the investment decision of entrants.[42] The latter finding, however, is not as robust. When the sample period is split into two phases, the study finds that service-based competition exerts a

[39] *Supra* note 37, p.559.

[40] Houngbonon, G.V. and F. Jeanjean, "What Level of Competition Intensity Maximises Investment in the Wireless Industry," *Telecommunications Policy*, 40(2016), p.776. Cited in this quote are: Cambini and Jiang (2009), *supra* note 37; Grajek, M., and I. Röller, "Regulation and Investment in Network Industries: Evidence from European Telecoms," *Journal of Law and Economics*, 55(2012), 189-216; Bacache, M., M. Bourreau, and G. Gaudin, "Dynamic Entry and Investment in New Infrastructures: Empirical Evidence from the Fixed Broadband Industry," *Review of Industrial Organization*, 44(2014), 179–209.

[41] See Table 3 and columns (1) and (2) of Table 5 in Briglauer, *et al*. (2016), *supra* note 38.

[42] See Table 4 in Briglauer, *et al*. (2016), *supra* note 38.

negative impact on entrants' investment in the second phase of the sample period.[43]

52. Since the Cablecos in the present case are incumbents, the findings in Briglauer, *et al*. (2016) imply that mandated resale access is likely to have no significant impact on the investment decisions of the Cablecos.

53. In conclusion, I disagree with the general characterization of the literature in the Brattle Report. It is not accurate to characterize the literature as generally finding a negative impact of resale regulation on infrastructure investment. Rather, the findings from both the theoretical and empirical literature are mixed, showing that resale regulation may have a negative impact, no impact, or positive impact on investment.

Unsubstantiated Claim regarding Investment in Rural and Remote Areas

54. In its final concluding paragraph, the Brattle Report claims, by way of a quote from the Competition Bureau Study, that the strongest reduction in investment caused by the Order is most likely to be felt in rural and remote areas where population is relatively sparser.[44] However, the Brattle Report presents no evidence to substantiate this claim.

55. The passage from the Competition Bureau Study quoted by the Brattle Report is not specifically about the impact of the Order. Rather, in this passage the Competition Bureau makes a general observation that the negative impact caused by inappropriately set wholesale rates will most likely be strongest in areas where population is relatively sparser.[45] However, the Competition Bureau does not take a position on whether wholesale rates are set at appropriate levels.[46]

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[43] See columns (3) and (4) of Table 5 in Briglauer, *et al*. (2016), *supra* note 38.

[44] Brattle Report, para. 44.

[45] The passage quoted in the Brattle Report is from page 49 of the Competition Bureau Study. But to understand its full context, one should read both page 48 and page 49 of the study.

[46] About the debate over whether or not wholesale rates are set at appropriate levels, the Competition Bureau states, "On balance, with the information and expertise available to the Bureau, it is difficult to assess which side is correct." Competition Bureau Study, p.48.

56. Moreover, there is a reason to believe that the negative impact of the Order on the Cablecos' operating cash flows, if there is any, will be smaller in areas where population is sparser. Recall that the theory underlying the cash flow analysis in the Brattle Report is that lower wholesale rates will induce service-based competitors to become more aggressive with retail pricing, with the result of larger market share for service-based competitors and lower ARPU for the Cablecos. These, in turn, will lead to a reduction in the Cablecos' operating cash flows.

57. If we apply this theory to regions of different population densities, it will imply that the reduction in the Cablecos' operating cash flows will be smaller in areas where population is sparser. This is because, as noted in the Competition Bureau Study, service-based competitors have tended to "focus their marketing efforts on highly populated areas in Southern Ontario and Southern Quebec."[47] This implies that service-based competitors have a much smaller presence or no presence at all in less populated areas. Therefore, the Order will likely have little impact on the Cablecos' operating cash flows in rural and remote areas where service-based competitors have little or no presence. It is expected that this factor, which favours investment in rural and remote areas, would be considered in the Cablecos' investment decisions.

IV. Conclusions

58. I have conducted an assessment of the cash flow analysis and the predictions about investment incentive in the Brattle Report. I have found that the cash flow analysis suffers from three significant deficiencies. They are: (i) inadequate disclosure of information about the method and data used in the analysis, (ii) unrealistic assumptions about the growth rates of service-based competitors' market share and the Cablecos' ARPU, and (iii) failure to consider increases in the growth rate of Internet service subscriptions caused by (assumed) price changes. The unrealistic assumptions and the failure to take into account

[47] Competition Bureau Study, p.19.

increases in the rate of subscription growth lead to a vast overstatement of the potential negative impact of the Order on the Cablecos' operating cash flows. This calls into question the credibility of the estimates from the cash flow analysis.

59. The prediction in the Brattle Report that the Order will significantly diminish the Cablecos' incentive to invest in broadband networks is not supported by evidence. The cash flow analysis does not demonstrate that the Final Wholesale Rates are too low to confer the Cablecos a fair return on their investments. While a reduction in operating cash flows could decrease the rate of return on investment, it does not necessarily mean that the lower rate of return is below the fair rate of return needed to ensure adequate investment incentive. Therefore, the cash flow analysis by itself cannot support the claim that the Order will diminish the Cablecos' investment incentive.

60. Similarly, there is no evidence to support the prediction in the Brattle Report that the strongest reduction in investment caused by the Order is most likely to be felt in rural and remote areas where population is relatively sparser. Moreover, there is a reason to believe that the negative impact of the Order on the Cablecos' operating cash flows, if there is any, will be smaller in areas where population is sparser. The reason is that service-based competitors have tended to focus their marketing efforts on highly populated areas. Therefore, the Order will likely have little impact on the Cablecos' operating cash flows in rural and remote areas where service-based competitors have little or no presence. It is expected that this factor, which favours investment in rural and remote areas, would be considered in the Cablecos' investment decisions.

Appendix A

Calculations of Growth Rates in the *Status Quo* and the Three Scenarios

1. Calculations Using Data from CMR 2018

With the exception of the Cablecos' ARPU growth rates in the three scenarios, the numbers in Table 1 were calculated using data from CMR 2018 and the definitions of the *status quo* and the three scenarios in the cash flow analysis of the Brattle Report. The Cablecos' ARPU growth rates in the three scenarios in Table 1 are from the report itself.

First, I discuss how I have calculated the growth rates in the *status quo* shown in the second column of Table 1. The Brattle Report states that the levels of market share and ARPU in the *status quo* were calculated using "the average year-over-year changes in market share and ARPU for the prior three year period."[48] Since CMR 2018 contains data on residential Internet services for five years up to 2017, I used the data for the three-year period between 2015 and 2017 to calculate the average year-over-year changes in the ARPU of the Cablecos and the market share of service-based competitors.

Table A1. Growth Rate of the Cablecos' ARPU in the *Status Quo*

Cablecos' ARPU			Year-over-Year ARPU Growth Rate		Average Growth Rate
2015	2016	2017	2015-2016	2016-2017	2015-2017
50.94	54.82	58.16	7.617%	6.093%	6.85%

Sources: Table 5.10 of CMR 2018 Fixed Internet Open Data and the author's calculations.

Table A1 shows the input and output in the calculations of the Cablecos' ARPU growth rate in the *status quo*. The Cablecos' ARPUs in the first three columns of Table A1 are from Table 5.10 of CMR 2018 Fixed Internet Open Data. Using these statistics, I have calculated the year-over-year growth rate shown in the 4th and 5th columns of Table A1. Taking the average of these growth rates, I have obtained the Cablecos' ARPU growth rate in the *status quo*, shown in the last column.

[48] Brattle Report, footnote 42.

One problem I encountered in the calculation of service-based competitors' market share was that CMR 2018 does not contain separate data on their number of residential Internet service subscribers. What it contains is the number of subscribers for "Other Service Providers" which are comprised of both service-based competitors and other carriers.[49] On the other hand, the Brattle Report itself does not provide any information about what data it used to calculate the market share of service-based competitors in the *status quo*. Since service-based competitors were not among the sponsors of the Brattle Report, it appears unlikely that the authors of the report had access to the data on their number of subscribers.

Given the data limitation, I have estimated the market share growth rate in the *status quo* based on the assumption that the market share of serviced-based competitors grew at the same rate as that of the Other Service Providers in the three-year period between 2015 and 2017. Accordingly, I have used the data on the number of the Other Service Providers' subscribers to estimate the market share of service-based competitors.

Table A2. Growth Rate of Service-Based Competitors' Market Share in the *Status Quo*

Market Share of Other Service Providers			Year-over-Year Growth Rate of Market Share		Average Growth Rate
2015	2016	2017	2015-2016	2016-2017	2015-2017
12.04%	12.58%	13.01%	4.481%	3.387%	3.93%

Sources: Table 5.6 of CMR 2018 Fixed Internet Open Data and the author's calculations.

In the first three columns of Table A2 are levels of the Other Service Providers' market share calculated using the data in Table 5.6 of CMR 2018 Fixed Internet Open Data. In the next two columns are the year-over-year growth rates of the market share, which I have used as the estimate of the growth rates of service-based competitors' market share. Taking the average of these two growth rates, I obtained an estimated growth rate of service-based competitors' market share in the *status quo*, shown in the last column of Table A2.

[49] The definition of "Other Service Providers" can be found in CMR 2018 Fixed Internet Data Dictionary.

Second, I explain how I have calculated the growth rates of service-based competitors' market share implied by the three scenarios. To derive the growth rates, I need the estimated market shares in 2020 and 2024 in the three scenarios. The definition of the three scenarios in the Brattle Report only says that their market share by 2024 is assumed to be 5 or 10 percentage points higher than that in the *status quo*, but the report does not disclose the actual level of the *status quo* market share. An important step in my calculations, then, is to find an estimate for the market share in the *status quo*.

Table A3. Growth Rate of Service-Based Competitors' Market Share in the Three Scenarios

Market Share of Other Service Providers (%)				Annual Growth Rate of Market Share (%)		
2020	2024	Scenario A	Scenarios B & C	Status Quo	Scenario A	Scenarios B & C
14.60	17.04	22.04	27.04	3.93	10.84	16.65

Source: The author's calculations.

To do so, I have used the market share of the Other Service Providers in 2017 (13.01 percent) and its average growth rate between 2015 and 2017 (3.93 percent) to predict the levels of market share in 2020 and 2024. These levels of market share are presented in the first two columns of Table A3. Adding 5 (respectively, 10) percentage points to the level of market share in 2024, I obtained the market share assumed in Scenario A (respectively, Scenarios B and C). They are shown in the 3rd and 4th column of Table A3. Finally, I used these levels of market share to calculate the annual growth rates implied by these scenarios. These growth rates, along with the *status quo* growth rate from Table A2, are presented in the last three columns of Table A3. As assumed, I use these growth rates of the Other Service Providers as estimates of the growth rates of service-based competitors.[50]

[50] As a robustness check, I also used data from CMR 2019 to calculate the growth rates assumed in the *status quo* and the three scenarios using the actual market share of service-based competitors. The actual average growth rate of service-based competitors' market share between 2015 and 2017 is 4.45 percent, and the corresponding growth rate implied by Scenario A (respectively, Scenarios B and C) is 14.53 percent (respectively, 22.49 percent). Since these growth rates implied by the three scenarios (relative to that in the *status quo*) are significantly larger than those in Table A3, they strengthen my conclusion that the growth rates of service-based competitors' market share assumed in the three scenarios are unrealistically high.

Third and finally, I discuss how I have estimated the magnitude of overstatement caused by the unrealistically large reduction in the Cablecos' ARPU growth rate assumed in Scenario A. The method I used for this estimation is based on the observation that the only difference between Scenario B and Scenario C is the Cablecos' ARPU growth rate, which is reduced from 1.9 percent in Scenario B to 0 in Scenario C. This implies that the difference in the estimated loss in operating cash flows between these two scenarios is entirely due to the 1.9 percent reduction in the ARPU growth rate. Using the data in Figure10 of the Brattle Report, I find that this difference is $816 million dollars. This implies that a reduction of 1 percentage point in the growth rate of the Cablecos' APRU is associated with an increase in the estimated loss in the cash flow analysis by $816/1.9 or $429.47 million dollars.

Therefore, if the assumptions in Scenario A overstate the reduction in the growth rate of the Cablecos' ARPU by z percentage points, this will lead to an overstatement of the loss in the Cablecos' operating cash flows by $z \times 429.47$ million dollars.[51] The next question is, then, what is the value of z? To answer this question, I would note that Scenario A is intended to be one where "Cableco ARPUs would grow at a slightly slower rate than recent historical growth".[52] While there is an element of subjectivity in determining what constitutes a "slightly slower" rate, I believe a reduction of a quarter of a percentage point from the recent growth trend is consistent with the notion of a "slightly slower" growth rate. Hence, this is what I have used in the determination of the value of z.

Recall from Table 1 that the growth rate of the Cablecos' ARPU in the *status quo*, calculated using the method for computing recent market trends in the Brattle Report,[53] is 6.85 percent. Accordingly, I estimate that a slightly lower growth rate below the recent trend is: $6.85 - 0.25 = 6.60$ percent. Since the corresponding growth rate assumed in Scenario A is 1.9 percent, this implies that Scenario A has overstated the reduction in the growth rate by $6.6 - 1.9 = 4.7$ percentage points, that is, $z = 4.7$.

[51] This estimation method assumes that the loss in the Cablecos' operating cash flows is proportional to the reduction in the growth rate of their ARPU, *ceteris paribus*.
[52] Brattle Report, para. 38.
[53] Brattle Report, footnote 42.

Therefore, the overstatement of the loss in the Cablecos' operating cash flows caused by the unrealistically large reduction in the growth rate assumed in Scenario A is: $4.7 \times 429.47 \approx 2{,}019$ million dollars, or 2 billion dollars. This represents 79 percent of the estimated total loss in the Cablecos' operating cash flows in Scenario A of the Brattle Report.

2. Calculations Using Data from CMR 2019

To verify the robustness of the conclusions from my assessment of the cash flow analysis, I have conducted an analysis using additional data in CMR 2019. Specifically, in the analysis I have included the new 2018 data in the calculations of the growth rates in the *status quo*. Moreover, the availability of data on the service-based competitors' numbers of subscribers has enabled me to calculate the actual growth rate of their market share in recent years (instead of estimating it using the growth rate of the Other Service Providers).

Other than these two changes, I have used the same analytical procedures as those described in Section 1 of this appendix. Therefore, I will not reiterate these procedures, and I will go straight to the presentation of the results from the analysis.

Table A4. Growth Rates of ARPU and Market Share in the *Status Quo*

	Year-over-Year Growth Rate			Average Growth Rate
	2015-2016	2016-2017	2017-2018	2015-2018
Cablecos' ARPU	7.617%	6.093%	4.986%	6.23%
Market Share of Service-Based Competitors	2.868%	6.038%	7.676%	5.53%

Source: The author's calculations.

In Table A4, the year-over-year growth rates of the Cablecos' ARPU are calculated using data from Table 9.10 of CMR 2019 Retail Fixed Internet Sector and Broadband Availability Open Data, while those of the service-based competitors' market share are computed using data from Table 9.7 of the same source. The averages of these growth rates over 2015-2018 are then used as the growth rates in the *status quo*.

Table A5. Growth Rate of Service-Based Competitors’ Market Share in the Three Scenarios

Market Share of Service-Based Competitors (%)				Annual Growth Rate of Market Share (%)		
2020	2024	Scenario A	Scenarios B & C	Status Quo	Scenario A	Scenarios B & C
9.92	12.30	17.30	22.30	5.53	14.92	22.45

Source: The author’s calculations.

Using the market share growth rates in Table A4, I have calculated the predicted market share in 2020 and 2024 as well as the market share assumed in the three scenarios, shown in the first four columns of Table A5. From these numbers, I have derived the implied annual growth rate of service-based competitors’ market share in the three scenarios, shown in the last two columns of Table A5.

Based on the information in Tables A4 and A5, I assess again the reasonableness of the assumptions in the three scenarios. First, note in Table A4 that the average growth rate of the Cablecos’ ARPU during the period 2015-2018 is 6.23 percent. This means that the assumption of 1.9 percent in Scenarios A and B represents a reduction in the growth rate by 70 percent from the recent trend. Second, Table A5 shows that the annual growth rate of service-based competitors’ market share implied by the assumptions in Scenario A (respectively, in Scenarios B and C) is 14.92 percent (respectively, 22.45 percent). Compared with the recent growth trend of 5.53 percent, Scenario A implicitly assumes that the market share of service-based competitors will grow at a rate more than twice the recent trend, and Scenarios B and C implicitly assume that it will grow at more than four times the recent trend. Since these findings are qualitatively the same as those from the analysis based on data from CMR 2018, they reaffirm the conclusion that the assumptions embedded in the three scenarios are unrealistic.

Turning to the magnitude of overstatement caused by the unrealistically large reduction in the Cablecos’ ARPU growth rate assumed in Scenario A, note that the average growth rate of the Cablecos’ ARPU in Table A4 implies that Scenario A has overstated the reduction in the growth rate by $6.23 - 0.25 - 1.9 = 4.08$ percentage points. Accordingly, the overstatement of the loss in the Cablecos’ operating cash flows caused by the unrealistically large reduction in the growth rate assumed in Scenario A is estimated to be: $4.08 \times 429.47 \approx 1{,}752$ million dollars, or 1.8 billion dollars, which represents 68 percent of the estimated total loss in the Cablecos' operating cash flows in Scenario A of the Brattle Report. This result reaffirms the conclusion that the unrealistic assumptions in the three scenarios lead to a vast overstatement of the potential negative impact of the Order on the Cablecos' operating cash flows.

Appendix B

Curriculum Vitae

ZHIQI CHEN

OFFICE ADDRESS
Department of Economics
Carleton University
Ottawa, Ontario
CANADA K1S 5B6
Voice: (613)520-2600 ext. 7456; Fax: (613)520-3906
E-mail: zhiqi.chen@carleton.ca

PRESENT POSITION

Full Professor, Department of Economics, Carleton University, Ottawa, Ontario, since 2002

CAREER HIGHLIGHTS

- Published 49 articles in refereed journals, including top journals in economics such as *American Economic Review*, *Economic Journal*, *International Economic Review*, and *RAND Journal of Economics*
- Co-edited one book on Canadian industrial policy
- Received more than 2200 citations (Google Scholar data)
- RePEc world rankings (as of October 2019): Top 8% overall; Top 5% in terms of Number of Journal Pages (Weighted by Number of Authors), Top 5% in terms of Number of Distinct Works (Weighted by Number of Authors), Top 7% in terms of Number of Citations (Weighted by Number of Authors and Impact Factors)
- Received 15 external research grants, including seven SSHRC grants
- Served as a Co-Editor of *Journal of Economics and Management Strategy* since 2004
- Served as the Executive Editor of *Frontiers of Economics in China* since 2013
- Supervised 11 completed PhD theses (including one co-supervision)
- Twice served as the T.D. MacDonald Chair in Industrial Economics at the Canadian Competition Bureau
- Worked for public and private clients as an economics expert on more than 30 cases related to competition policy and other issues
- Listed in *Canadian Who's Who*, since 2001
- Listed in *Who's Who Legal: Competition*, since 2016

EDUCATION

Ph.D. (Economics), University of Western Ontario, 1991
    Title of Dissertation: *Economic Growth: Dynamic Interactions with International Trade and Global Environment*
M.A. (Economics), Carleton University, 1987
B.A. Honours (Economics), Nanjing University, China, 1985

PREVIOUS POSITIONS

Visiting Economist, Competition Bureau, Government of Canada, September 2011 - February 2012

Director, Ottawa-Carleton Joint Doctoral Program in Economics, 2001 - 2004

T.D. MacDonald Chair in Industrial Economics, Competition Bureau, Government of Canada, September 1998 - August 1999, and September 2004 - August 2005

Associate Professor (1996 - 2002) and Assistant Professor (1991-1996), Department of Economics, Carleton University

Director, Carleton Industrial Organization Research Unit, 1996 - 1998

Senior Fellow, Department of Economics, National University of Singapore, 1997 - 1998

AWARDS AND PROFESSIONAL HONOURS

Department of Economics Research Excellence Award, Carleton University, 2018

Listed in *Who's Who Legal: Competition*, since 2016

Listed in *Who's Who Legal: Consulting Experts*, since 2016

Listed in *Who's Who Legal: Canada*, since 2016

CES-Chow Teaching Fellowship, 2010

Listed in *Canadian Who's Who*, since 2001

Research Achievement Award, Carleton University, 2000 - 2001

PUBLICATIONS

Articles in Refereed Journals

"Trade and Labour Standards: Will There Be a Race to the Bottom?" joint with Afshan Dar-Brodeur, accepted for publication by *Canadian Journal of Economics*

"Supplier Innovation in the Presence of Buyer Power," *International Economic Review*, volume 60, issue 1 (February 2019), 329-353

"Horizontal Mergers in the Presence of Capacity Constraints," joint with Gang Li, *Economic Inquiry*, volume 56, issue 2 (April 2018), 1346–1356

"Short-Term and Long-Term Margins of International Trade: Evidence from the Canada-Chile Free Trade Agreement," joint with Marcel Voia, *Frontiers of Economics in China*, volume 13, issue 1 (March 2018), 93−115

"Do Merger Efficiencies Always Mitigate Price Increases?" joint with Gang Li, *Journal of Industrial Economics*, volume 66, issue 1 (March 2018), 95-125

"Product Market Competition and Innovation: What Can We Learn from Economic Theory?" *Frontiers of Economics in China*, volume 12, issue 3 (September 2017), 341-355

"Specific Investment and Supplier Vulnerability," joint with Xiaoqiao Wang, *Economics Letters*, volume 151 (February 2017), 16-18

"Border Effects Before and After 9/11: Panel Data Evidence across Industries," joint with Horatiu Rus and Anindya Sen, *World Economy*, volume 39, issue 10 (October 2016), 1456 - 1481 (lead article)

"Downstream Competition and the Effects of Buyer Power," joint with Hong Ding and Zhiyang Liu, *Review of Industrial Organization*, volume 49, issue 1 (August 2016), 1 - 23 (lead article)

"Denying Leniency to Cartel Instigators: Costs and Benefits," joint with Subhadip Ghosh and Thomas W. Ross, *International Journal of Industrial Organization*, Volume 41 (July 2015) 19 - 29

"Product Line Rivalry and Firm Asymmetry," joint with Zhihong Chen, *Journal of Industrial Economics*, Volume 62, Issue 3 (September 2014), 417 - 435

"Venture Capital Networks and Investment Performance in China," joint with Zhiyang Liu, *Australian Economic Papers*, Volume 53, Issue 1-2 (June 2014), 97 - 111

"Unemployment and Welfare Consequences of International Outsourcing under Monopolistic Competition," joint with Richard Brecher, *Canadian Journal of Economics*, volume 47, Issue 2 (May 2014), 540 - 554

"Unemployment and Product Market Competition in a Cournot Model with Efficiency Wage," joint with Bo Zhao, *Canadian Journal of Economics*, volume 47, Issue 2 (May 2014), 555-579

"The Trouble with Offshoring: Static and Dynamic Losses in the Presence of Unemployment," joint with Richard Brecher and Zhihao Yu, *World Economy*, volume 36, Issue 1 (January 2013), 1 - 11 (lead article)

"Telephone Penetration and Economic Growth in the APEC Region: A Simultaneous Non-Linear GMM Approach," joint with Eng Kooi Lim, *Frontiers of Economics in China*, volume 7, Issue 3 (September 2012), 339 - 362

"The Impact of Trade Liberalization in Telecommunications Services: The Case of APEC Countries," joint with Eng Kooi Lim, *Telecommunications Policy*, volume 36 (May 2012), 274 - 281

"The Quiet Life of a Monopolist: The Efficiency Losses of Monopoly Reconsidered," joint with Jun Chen, *Frontiers of Economics in China*, volume 6, Issue 3 (September 2011), 389 - 412

"Unemployment of Skilled and Unskilled Labor in an Open Economy: International Trade, Migration and Outsourcing," joint with Richard Brecher, *Review of International Economics*, volume 18, Issue 5 (November 2010), 990 - 1000

"A Dynamic Model of Shirking and Unemployment: Private Saving, Public Debt and Optimal Taxation," joint with Richard Brecher and Ehsan Choudhri, *Journal of Economic Dynamics and Control*, volume 34, Issue 8 (August 2010), 1392 - 1402

"Credible Retaliatory Entry and Strategic Toe-Holds," joint with Thomas Ross, *Journal of Industrial Economics*, volume 57, Issue 2 (June 2009), 244 - 253

"Defining Buyer Power," *Antitrust Bulletin*, volume 53, No. 2 (Summer 2008), 241 - 250

"Markets Linked by Rising Marginal Costs: Implications for Multimarket Contact, Recoupment and Retaliatory Entry," joint with Thomas Ross, *Review of Industrial Organization*, volume 31 (2007): 1 – 21

"Buyer Power: Economic Theory and Antitrust Policy," *Research in Law and Economics: A Journal of Policy*, volume 22 (2007): 17 - 40

"Nuisance Suits and Contingent Attorney Fees," *Review of Law and Economics*, volume 2, issue 3 (October 2006), 363 - 370

"Dynamic Stability in a Two-Country Model of Optimal Growth and International Trade," joint with Richard A. Brecher, and Ehsan U. Choudhri, *Journal of Economic Dynamics and Control*, volume 29 (2005): 583 - 594

"An International Trade Model of Currency Crisis," *The Chinese Journal of Economic Theory*, volume 1 (2004): 36 - 44

"Price Dispersion in a Model of Identical Agents with Perfect Information," joint with Ying Kong, *Pacific Economic Review*, volume 9, No. 1 (February 2004), 29 - 44

"Dominant Retailers and the Countervailing Power Hypothesis," *RAND Journal of Economics*, volume 34, No. 4 (Winter 2003), 612 - 625

"A Theory of International Strategic Alliance," *Review of International Economics*, volume 11, November 2003, 758 - 769

“Cooperating Upstream while Competing Downstream: A Theory of Input Joint Ventures,” joint with Thomas Ross, *International Journal of Industrial Organization*, volume 21 (2003), 381 - 397

“Absolute and Comparative Advantage, Reconsidered: The Pattern of International Trade with Optimal Saving,” joint with Richard Brecher and Ehsan Choudhri, *Review of International Economics*, volume 10, November 2002, 645 - 656

“Unemployment and Growth in the Long-Run: An Efficiency-Wage Model with Optimal Savings,” joint with Richard Brecher and Ehsan Choudhri, *International Economic Review*, volume 43, August 2002, 875 - 894

“A Cournot-Nash Model of Family Decision Making,” joint with Frances Woolley, *Economic Journal*, volume 111, October 2001, 722 - 748

“Selective versus Universal Vouchers: Modelling Median Voter Preferences in Education,” joint with Edwin West, *American Economic Review*, volume 90, December 2000, 1520 - 1534. Reprinted in L. Zhou, Z. Tao, D. Xie and M. Song eds., *Essays in Modern Economics Research in Honour of Professor Gregory Chow*, Gelin Press, 2008

“Strategic Alliances, Shared Facilities and Entry Deterrence,” joint with Thomas Ross, *RAND Journal of Economics*, volume 31, Summer 2000, 326 - 344

“Adoption of New Technology by a Lagging Country: Leapfrogging or No Leapfrogging?” *Pacific Economic Review*, volume 4, February 1999, 43 - 57

“A Theory of Tenure for the Teaching University,” joint with Steve Ferris, *Australian Economic Papers*, volume 38, March 1999, 9 - 25

“Refusals to Deal and Orders to Supply in Competitive Markets,” joint with Thomas Ross, *International Journal of Industrial Organization*, volume 17 (1999), 399 - 417

“International Comparisons of Biotechnology Policies,” joint with Alison McDermott, *Journal of Consumer Policy*, volume 21, December 1998, 527 - 550. Reprinted in A. Mathias and B.M. Knoppers eds., *Biotechnology and the Consumer*, Kluwer Academic, 1999

“Orders to Supply as Substitutes for Commitments to Aftermarkets,” joint with Thomas Ross, *Canadian Journal of Economics*, volume 31, November 1998, 1204 - 24

“Refusals to Deal and Aftermarkets,” joint with Thomas Ross and William Stanbury, *Review of Industrial Organization*, volume 13, No. 1-2, April 1998, 131-51

“Can Economic Activities Lead to Climatic Chaos? An Economic Analysis on Global Warming,” *Canadian Journal of Economics*, volume 30, No.2, May 1997, 349-66. Reprinted in J.B. Rosser, Jr and K. L. Kramer, Jr. eds., *Complexity in Economics*, volume 174 in the International Library of Critical Writings in Economics series, Edward Elgar Publishing, 2004

"Negotiating an Agreement on Global Warming: A Theoretical Analysis," *Journal of Environmental Economics and Management*, Volume 32, No.2, February 1997, 170-88. Reprinted in *The Economics of International Environmental Agreements*, edited by A.A. Batabyal, Ashgate Publishers, 1999

"New Technology, Subsidies, and Competitive Advantage," *Southern Economic Journal*, Volume 63, No. 1, July 1996, 124-39

"The Heckscher-Ohlin Theorem with Endogenous Labour Supply," *Bulletin of Economic Research*, volume 47, No.4, October 1995, 275-83

"How Low is a Guaranteed-Lowest-Price?" *Canadian Journal of Economics*, volume 28, No.3, August 1995, 683-701

"Why Are Extended Warranties So Expensive?" joint with Thomas Ross, *Economics Letters*, volume 45, No.2, June 1994, 253-257

"Refusal to Deal, Price Discrimination and Independent Service Organizations," joint with Thomas Ross, *Journal of Economics and Management Strategy*, volume 2, No.4, Winter 1993, 593-614

"Long-run Equilibria in a Dynamic Heckscher-Ohlin Model," *Canadian Journal of Economics*, Volume 25, No.4, November 1992, 923-43

Chapters in Books

"Recent Developments in Industrial Organization Theory," joint with Guofu Tan, in S. Song and Z. Pan (eds.), *The Frontier of Western Social Sciences and Humanities Research: Economics*, Chinese Renmin University Press, 2008

"Liberalization of Trade and Investment in Telecommunication Services: A Canadian Perspective," in R.G. Lipsey and A.O. Nakamura eds, *Services Industries and the Knowledge-Based Economy*, University of Calgary Press, 2006

"Measuring the Barriers to Trade in Services: Literature and Methodologies," joint with Lawrence Schembri, *Trade Policy Research* (published by Department of Foreign Affairs and International Trade, Government of Canada), 2002

Books

Industrial Organization in Canada: Empirical Evidence and Policy Challenges, Co-editor (with Marc Duhamel), McGill-Queen's University Press, 2011

OTHER SCHOLARLY OR PROFESSIONAL ACTIVITIES

Research Grants and Contracts

“Consumer Protection in the Age of Internet Commerce and Big Data,” Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Grant, 2019 - 2024.

“Price Impact of Merger Efficiencies,” FPA Research Productivity Bursary, Carleton University, 2016

“Measurement of Non-Tariff Barriers,” for Department of Foreign Affairs and International Trade, Government of Canada, 2011 - 2012

“Barriers to Competition in Canada,” for Industry Canada, Government of Canada, 2010 - 2012

“Capital Investment, Cooperative R&D, and Product Market Rivalry,” Social Sciences and Humanities Research Council of Canada (SSHRC) strategic research grant, 2008 - 2011

“Product Market Competition in Chinese Industries,” Social Sciences and Humanities Research Council of Canada (SSHRC) strategic development grant, 2009 - 2010

“Productive Inefficiency and Unemployment: The Efficiency Consequences of Monopoly Reconsidered,” Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant, 2006 - 2009

“Rivalry, Market Structure, and Industrial Competitiveness: Issues and Evidence,” for Industry Canada, Government of Canada, 2006

“The Consideration of Buyer Power and Cooperation among Competitors in Antitrust Analysis,” for the Competition Bureau, Government of Canada, 2004 - 2005

“Slotting Allowances, Private Label Products, and Buyer Power,” Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant, April 2002 - March 2005

“E-Commerce and Canada’s Competition Policy,” Social Sciences and Humanities Research Council of Canada (SSHRC) Initiative on the New Economy (INE) Development Grant, 2002 - 2003

“Competition among Firms: Prices and Qualities,” Social Sciences and Humanities Research Council of Canada (SSHRC) standard research grant, April 1999 - March 2002

Director of Ottawa-Carleton Joint Program Research Grant, from the Office of Research Services, Carleton University, 2001 - 2004

“Price Guarantees and Tacit Collusion,” research grant from the Vice President (Academic) and Dean of Faculty of Public Affairs and Management, Carleton University, 2001

"International Trade in Services," joint with Lawrence Schembri, for Department of Foreign Affairs and International Trade, Government of Canada, December 2000 - June 2001

"Impact of the North America Free Trade Agreement on Canada-Taiwan Trade," joint with Lawrence Schembri, for Council of Economic Development and Planning, Taiwan, October 1999 - August 2000

"Issues in Anti-Trust Economics," research grant from the Competition Bureau, Industry Canada, Government of Canada, 1998 - 1999

"Consumers and Biotechnology," for the Office of Consumer Affairs, Industry Canada, Government of Canada, 1997

"Carleton Industrial Organization Conference," a conference grant from the Office of Research Services, Carleton University, 1996

Research on a variety of topics, funded by Carleton University GR6 grants, 1991 -1992, 1992 - 1993, 1993 - 1994

Scholarly Work in Progress

"Specific Investment, Supplier Vulnerability and Profit Risks," joint with Xiaoqiao Wang, revised and resubmitted to *Journal of Business Finance and Accounting*

"Strategic Corporate Social Responsibility under Demand Uncertainty," joint with Zhihong Chen and Heng Xu

"Buffer Strategic Alliances," joint with Thomas Ross, submitted to the *International Journal of Industrial Organization*

"Colluding on Surcharges"

"Private Label and Product Quality under Asymmetric information," joint with Heng Xu

Papers Presented (Since 2003)

"Retailer Buyer Power and Pricing Mechanisms of Generic Drugs in Canada," presented at Health Economics & Simulation Modelling Methods Cluster, University of British Columbia, November 2018

"Colluding on Surcharges," presented at University of California, Santa Barbara (October 2016), Hong Kong University of Science and Technology (March 2017), The 2017 Workshop on Anti-Monopoly Law and Competition Economics, Shanghai (May 2017), Peking University (June 2017), Renming University (May 2018), Canadian Economics Association Meetings, Montreal (June 2018), Hohai University (June 2018)

"Buyer Power: Economic Theory and Competition Policy," presented at Tianjin University of Finance and Economics (April 2015), ICN-OECD KPC Competition Economics Workshop for Chief and Senior Economists, Seoul (May 2018), and Dongbei University of Finance and Economics (June 2018)

"Short-Term and Long-Term Margins of International Trade: Evidence from the Canada-Chile Free Trade Agreement," presented at Forum on Free Trade Zone and New Openness in China, Shanghai (May 2015), International Forum on Silk Road Economy, Xi'an (May 2017), and Chinese Economists Society annual conference, Nanjing (June 2017)

"Role of Economists and Economic Analysis in Antitrust Enforcement," presented at Hong Kong University of Science and Technology (March 2017)

"Horizontal Cooperation Agreements: Economic Theory and Competition Policy," presented at Tianjin University of Finance and Economics (June 2016)

"Canada's Enforcement Approach to Collaboration among Competitors," presented at the 2016 Workshop on Antitrust and Industrial Organization, Shanghai (May 2016), and the 2016 Conference on Frontier Issues in Industrial Organization, Dalian (June 2016)

"Do Merger Efficiencies Always Mitigate Price Increases?" presented at Shanghai University of Finance and Economics (May 2015), and at University of Manitoba (March 2016)

"Supplier Innovation in the Presence of Buyer Power," presented at Queen's University (March 2014), Nanjing University (June 2016)

"Denying Leniency to Cartel Instigators: Costs and Benefits," presented at Shanghai University of Finance and Economics (June 2013) and the Canadian Economic Association Meetings, Toronto (May 2015)

"Supplier Incentives in the Presence of Buyer Power: A General Theory with Applications", at Nanjing University (June 2012), the 8th Conference on Industrial Economics and Economic Theory (Jinan, June 2013), University of Victoria (October 2012)

"Horizontal Mergers in the Presence of Capacity Constraints," presented at Shanghai Jiaotong University (June 2012), at the International Conference on Game Theory and Economic Behaviour (Qindao, June 2012), and at the Shanghai Workshop on Industrial Organization and Competition Policy (Shanghai, June 2011)

"Unemployment and Welfare Consequences of International Outsourcing under Monopolistic Competition," presented at Shanxi University of Finance and Economics (May 2012), and at the 2012 Microeconomics Workshop (Shanghai, June 2012)

"Downstream Competition and the Effects of Buyer Power," presented (jointly with Hong Ding) at the Annual Meetings of the Canadian Economics Association (Ottawa, June 2011), and at the International Conference on Frontier Issues in Industrial Organization (Dalian, June 2011)

“Product Line Rivalry and Firm Asymmetry,” presented at the 2011 International Conference on Industrial Economics (Hangzhou, June 2011), and at Dongbei University of Finance and Economics (June 2011)

“The Trouble with Offshoring: Static and Dynamic Losses in the Presence of Unemployment,” presented at Shanghai University of Finance and Economics (April 2011)

“The Quiet Life of a Monopolist: The Efficiency Losses of Monopoly Reconsidered,” presented at Shanghai University of Finance and Economics (December 2010), and at Nanjing University (December 2010)

“Unemployment and Product Market Competition in a Cournot Model with Efficiency Wage,” presented at the 6th Conference on Industrial Economics and Economic Theory (Jinan, June 2011), at the 71st International Atlantic Economic Conference (Athens, March 2011), at Shanghai University of Finance and Economics (June 2010), at the 2010 International Conference on Economic Theory (Hangzhou, June 2010), at Dongbei University of Finance and Economics (June 2010), Nanjing University (July 2010), and McGill University (September 2010)

“Strategic Alliances and Other Forms of Horizontal Cooperation Agreements: Theory and Competition Policy,” presented at the International Conference for Academic Disciplines, (Orlando, February 2009)

“Unemployment of Skilled and Unskilled Labor in an Open Economy: International Trade, Migration and Outsourcing,” presented at University of Waterloo (September 2008), Xiamen University (December 2008), University of Manitoba (March 2009), Shanghai University of Economics and Finance (May 2009), Zhejiang University (June 2009), University of International Business and Economics (June 2009)

"Strategic Alliances and Other Forms of Horizontal Cooperation," presented at the conference on China's Competition Policy and Anti-Monopoly Law (Beijing, October 2007)

“Defining Buyer Power,” presented at the American Antitrust Institute (AAI) Invitational Symposium on Buyer Power (Washington DC, June 2007)

“Monopoly and Unemployment: Perspective from an Efficiency Wage Model,” joint with Bo Zhao, presented at Summer Workshop on Industrial Organization and Business Strategy (Shanghai, May 2007)

“Rivalry, Market Structure and Industrial Competitiveness: Issues and Evidence,” presented at the Research Workshop on Rivalry, Market Structure, Entrepreneurship and Competitiveness (Montreal, November 2006) and Xiamen University (April 2007)

“Strategic Alliances and Competition,” presented at Xiamen University (May 2006) and University of International Business and Economics (July 2006)

"Markets Linked by Rising Marginal Costs: Implications for Multimarket Contact, Recoupment and Retaliatory Entry," presented at the 2005 Singapore Economic Review Conference (August 2005), and Xiamen University (June 2007)

"Monopoly and Product Diversity: The Role of Retailer Countervailing Power," presented at the Canadian Competition Bureau (September 2004), University of British Columbia (October 2004), University of Montreal (March 2006), International Industrial Organization Conference (Boston, April 2006), Xiamen University (April 2006), Summer Workshop on Industrial Organization and Business Strategy (Beijing, July 2006)

"Countervailing Power and Product Diversity," presented at the North American Econometric Society meetings, San Diego, January 2004

"Liberalization of Trade and Investment in Telecommunication Services: A Canadian Perspective," presented at the conference on Service Industries and Knowledge-Based Economy (Winnipeg, October 2003)

Prior to 2003, I presented papers at the following venues:

- The American Economic Association meetings
- The Canadian Economics Association meetings
- The Canadian Resource and Environmental Economics Study Group Conference
- The Competition Bureau, Government of Canada
- The Far Eastern Meeting of Econometrics Society
- The GREEN Conference
- Hitotsubashi University
- The Midwest Conference on International Trade Theory
- McGill University
- National Central University, Taiwan
- National Chengchi University, Taiwan
- National Chengkun University, Taiwan
- National University of Singapore
- Queen's University
- Simon Fraser University
- University of Alberta
- University of British Columbia
- University of Calgary
- University of Laval
- University of Victoria
- University of Windsor

Consultancy

Senior consultant, Delta Economics Group, since 2002

Affiliate, Law & Economics Consulting Group (LECG), 1999 - 2002

Worked for public and private clients as an economics expert on more than 30 cases related to competition policy and other issues

Other Professional Activities

Member of Program Selection Committee, annual meetings of the Canadian Economics Association, 2017, 2018 and 2019

Advisor, Specialized Committee on Competition Policy, Chinese Association of Industrial Economics (since 2017)

Executive Editor, *Frontiers of Economics in China*, since 2013, (Co-Editor from 2011 to 2013)

Co-Editor, *Journal of Economics and Management Strategy*, since 2004

Guest editor, *China Economic Review*, CES 2010 Special Issue, Volume 23, Issue 3, September 2012

Adjunct Research Professor, Nanjing University, since 2011

Adjunct Professor, Shanghai University of Finance and Economics, since 2007

Organizer, Carleton Library Series Workshop on Industrial Organization and Market Structure in Canada, March 2010

Vice President, Chinese Economists Society, 2009 - 2010. In this capacity, I acted as the program chair of the 2010 Annual Conference of the Society, held in Xiamen in June 2010

Member of Working Group on Making and Marketing Costs for the Patented Medicine Prices Review Board, 2008

Changjiang Scholar, Xiamen University, 2007 - 2010

External reviewer of *Global Competitive Advantage*, by Daniel F. Spulber, Cambridge University Press, 2007

Editorial advisor, *Canadian Journal of Economics*, 2002 - 2005

Member of Grant Application Adjudication Committee, Social Sciences and Humanities Research Council (SSHRC), 2003 - 2005

Director, Ottawa Economics Association, 2003 - 2010

Invited speaker, Shanghai International Forum on Human Capital, October 2000

Organizer, Carleton Industrial Organization Conference, June 1996

External referee for the following journals: *American Economic Journal: Microeconomics, American Economic Review*, *Australian Economic Papers, B.E. Journal of Economic Analysis & Policy, Canadian Journal of Economics, Contemporary Economic Policy, Economic Inquiry, Economics Letters*, *Economic Modelling, Economics of Education Review, European Economics Review*, *International Economic Review*, *International Journal of Industrial Organization, International Review of Law and Economics, Journal of Economic Integration, Journal of Economics and Business, Journal of Economics and Management Strategy, Journal of Environmental Economics and Management*, *Journal of Environmental Management, Journal of Industrial Economics, Journal of Industry, Competition and Trade*, *Journal of International Economics, Journal of Population Economics, Pacific Economic Review*, *Public Finance and Management, Quarterly Journal of Economics, RAND Journal of Economics*, *Resource and Energy Economics*, *Review of Industrial Organization, Review of International Economics*

External assessor for Social Sciences and Humanities Research Council (SSHRC), numerous applications

External referee for the University Grants Committee in Hong Kong, numerous applications

External examiner of PhD theses for
- University of British Columbia (two PhD theses)
- Concordia University (one PhD thesis)
- Queen's University (two PhD theses)

TEACHING

Undergraduate Courses

"Introduction to International Trade"
"Industrial Organization I, Theory and Evidence" (fourth year level)
"Intermediate Microeconomics"
"Intermediate Macroeconomics"
"Advanced Microeconomic Theory" (fourth year level)
"Honours Seminar: Microeconomics"
"Honours Capstone Seminar"

Graduate Courses

"Topics in Industrial Organization" (MA and PhD level)
"Microeconomic Theory" (PhD level)
"Industrial Organization I" (formerly "Firms and Markets", MA and PhD level)
"Microeconomic Theory" (MA level)
"Mathematical Methods for Economists"

Taught graduate courses at University of Havana in 1994, 1995, and 1996, at Xiamen University in 2006 - 2010, and at Shanghai University of Finance and Economics in 2007 - 2009

Supervised numerous MA and PhD students Directed Readings courses

Member of numerous examination boards of PhD comprehensive exams, since 1992

Thesis Supervision

Supervisor of three ongoing PhD theses (Matthew Strathearn, Yufan Hu, Kewei Diao)

Supervisor of 10 completed PhD theses:

Xiguang Liu (1997), Ying Kong (2000), Angela Zeiler (2003), Liping Zhang (2005), Jun Chen (2008), Eng Kooi Lim (2008), Bo Zhao (2009), Hong Ding (2013), Gang Li (2013), Heng Xu (2016)

Co-supervisor of one completed PhD thesis: Afshan Dar-Brodeur (2013)

Committee member of 17 completed PhD theses since 2009:

Guohan Zhu (2009), Reza Ghazal (2009), Rashid Nikzad (2009), Sui Sui (2009), Ahmed Nasim Sydee (2010), Jeffrey Peter (2011), Hong Thi-Dieu To (2011), Chahreddine Abbes (2011), Elias Collette (2012), Derek Olmstead (2012), Olayinka Williams (2015), Armaghan Rahimi (2015), Bao Anh Nguyen (2016), Steve Martin (2017), Alexander Maslov (2018), Parisa Pourkarimi (2018), Chenyu Wang (2019)

Supervisor of one completed MA thesis: Laura Sonley (2015)

ADMINISTRATIVE RESPONSIBILITIES

Supervisor of PhD Studies, Department of Economics, July 2000 - 2004

Member of:

Carleton University Board of Governor Committee on Student Affordability, 2014 - 2015
Carleton University Research Achievement Award Selection Committee, 2005, 2006, 2010
Carleton University Senate, 2003 - 2004
Carleton University Graduate Faculty Board, 2000 - 2004
Departmental Tenure and Promotion Committee, 1996 - 1997, 2008 - 2011, 2015 - 2018

Departmental Graduate Committee, 1992 - 1996, 1999 - 2004, 2005 - 2010, 2012 - 2016
Departmental Appointment Committee, 1993 - 1995, 2005 - 2007, 2009 - 2011, 2012 - 2013
BGInS (Bachelor of Global and International Studies) Appointment Committee, 2015-16
Departmental Undergraduate Committee, 1992 - 1993, 2016 - 2017
Program Committee of the OCGSE Conference, March 2017
Departmental Ad Hoc Hiring Committee, 2017 - 2018
Departmental Planning Committee, 2017 - 2018