December 19, 2014 **FILED ELECTRONICALLY**

Mr. John Traversy
Secretary General
Canadian Radio-television and
Telecommunications Commission
Ottawa, Ontario
K1A 0N2

Dear Mr. Traversy:

Re. "Review of Wholesale Services and Associated Policies", Canadian Radio-Television and Telecommunications Commission (the "CRTC")Telecom Notice of Consultation CRTC 2013-551, as amended (the "Notice").

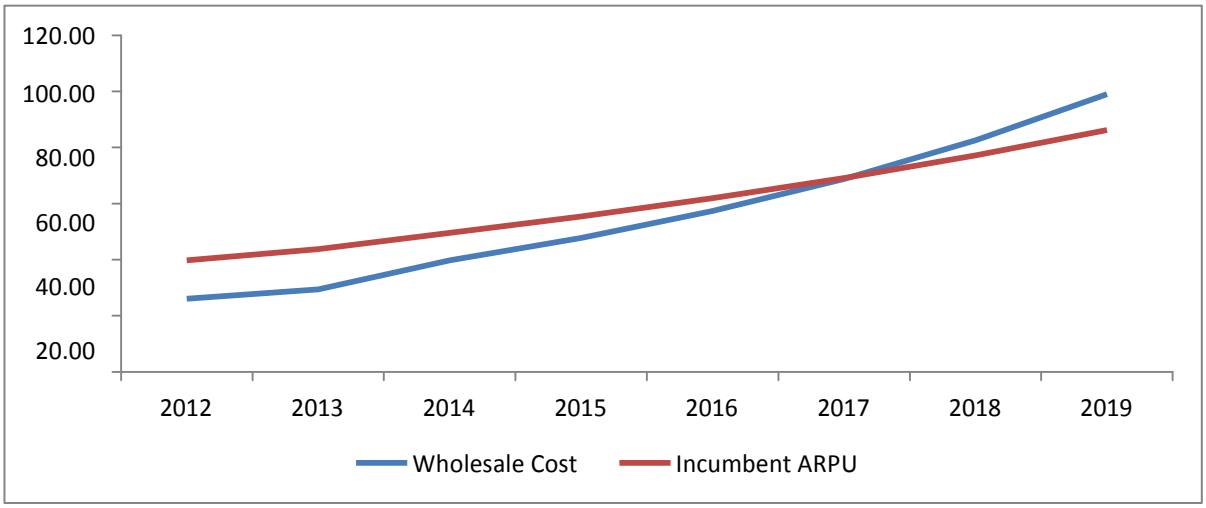
1. VMedia hereby submits its final reply in connection with the above noted proceedings, including the hearing held in Gatineau, Quebec between November 24 and December 3(the "Hearing").

2. In our written submissions, and at our appearance at the Hearing, VMedia has focused our comments on the relationship between the pricing of wholesale internet access mandated by the Commission, and the impact on the ability of independent ISPs to continue to provide competitive alternatives and choices to Canadian consumers, in an era in which the internet is transforming an increasing rate into the dominant video content distribution platform.

3. This transformation in one respect creates opportunities for ISPs to expand their range of services to include distribution of video as BDUs governed by *The Broadcasting Act*, as VMedia has done. This evolution also provides more choice and competition for the benefit of Canadian consumers, which are subject to the increasing concentration of content and carriage services in the hands of just three incumbents in the markets outside Quebec, and just two within Quebec.

4. On the other hand, based on the current wholesale pricing regime, including the methodology for determining those prices, ISPs face extinction as the dramatic growth in that very video consumption is driving up capacity utilization, which, based on capacity-usage pricing models is threatening to price ISPs out of the market.

5. The simple chart below reflects the obvious and troubling trend, projecting the existing rate of the growth of wholesale internet costs forward five years. The assumptions driving the growth of wholesale prices is based on a recent study[1] commissioned by NLKabel, the Dutch telco, and CableEurope, the European trade association representing telcos in the EU.



6. The study projects a CAGR for downstream traffic demand of 40 per cent. Our own observations of growth in these relatively early days of the availability of high-quality video over the internet is 30 per cent over the three years since CBB was adopted, and so we have applied that measure going forward. The scenario is even more grievous if we take into account the acknowledgement by an incumbent at the Hearing that its capacity is growing at 60% a year[2].

7. The blue line shows the growth of wholesale costs, calculated as the sum of fixed basic end-user charges and capacity usage charges of $14.00 per Mbps. The red line compares those costs with incumbent internet ARPUs. The underlying calculations are set out below.

	2012	2013	2014	2015	2016	2017	2018	2019
Wholesale Cost	26.08	29.35	39.79	47.75	57.30	68.76	82.52	99.02
Incumbent ARPU	39.80	43.80	49.64	55.44	61.91	69.14	77.22	86.24

[1] *Fast Forward » How the speed of the internet will develop between now and 2020*, June 2014, Dialogic

[2] Volume 7, 2 December 2014, *TRANSCRIPTION OF PROCEEDINGS BEFORE THE CANADIAN RADIO-TELEVISION AND TELECOMMUNICATIONS COMMISSION*, SUBJECT: Review of wholesale service and associated policies (the "Transcript"), paragraph 9004.

8. The consequence of the continuation of the trend is obvious - the end of a competitive ISP alternative, and the concentration of all content delivery services in the hands of duopolies in all markets.

9. More importantly however, the comparison raises more questions about the credibility of the basis of the Phase II costing process that led to the CBB pricing model, and highlights the need for a complete review and redo of wholesale pricing, under a process which assures complete transparency in the review of the costing information provided by the incumbents.

10. That very lack of transparency has hobbled ISPs in their ability to refute the results of a methodology that has historically provided cover for the incumbents, and allowed them to exact costs which have no relation to unregulated comparable costs in the marketplace, and which results in anomalies where on the one hand an incumbent can plead that what they are currently receiving is not enough, and on the other hand can acknowledge that its internet revenues generate 100% margin[3].

11. So, limited as we are to reviewing available information, ISPs are often reduced to making inferential arguments about the need to review and revise downward the cost of wholesale access.

12. For example, VMedia showed in its materials that incumbent margins in Canada are significantly higher, by as much as 20%, than that of their US counterparts. More importantly, in the chart above, VMedia has shown that it is simply impossible for incumbents to generate such margins in the same universe where supposed wholesale costs will soon exceed the incumbents' retail costs. There is something wrong with this picture.

13. In that regard, an incumbent suggested that the robust Canadian margins do not take into account depreciation and amortization[4], implying that Canadian incumbents are disproportionately impacted by capital intensity, presumably due to the usual arguments of greater geography and less density in Canada versus the US incumbents' market. However, when depreciation and amortization are added to cost, the margin differential in fact widens based on publicly filed financial statements of certain US and Canadian incumbents.

14. And finally, as VMedia pointed out during the question and answer stage of the Hearing, the costs that we do know related to supplying bandwidth are far less than the wholesale cost of the mandated services. Clearly there is something wrong with this picture, and only a completely transparent process can fix it.

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[3] Volume 4, 11 September 2014,*TRANSCRIPTION OF PROCEEDINGS BEFORE THE CANADIAN RADIO-TELEVISION AND TELECOMMUNICATIONS COMMISSION*, SUBJECT:Let's Talk TV: A Conversation with Canadians paragraphs 8014-8020, at 8020.

[4] The Transcript, paragraph 8793.

15. Indeed, on that last point, VMedia was contradicted in the testimony of one of the incumbents, to the effect that "...When they come and speak of that factor, and the fellow from VMedia gave his example, I can buy a 5 or 10 GB for $5,000, so that is 0.50 cents a megabyte, so it should be about $5 for 100 MB. He is talking about inter-city transport. And so one example would be, say one high-capacity pipe from say Toronto to Buffalo might be his example to get into the worldwide web."[5]

16. That is not the case at all. VMedia was talking about services equivalent to CMTS to the point of interconnection, the portion which was acknowledged to constitute 20% of the CBB costs[6], described by the incumbents themselves as intra, not inter, city costs.

17. The services currently used by VMedia for those intra-city connections are outlined in the map below.

[5] The Transcript, paragraphs 9011 and 9012
[6] The Transcript, paragraphs 9032, 9033

18. The relevant costs between those points are as follows:

A—B: $3500/month for 10,000 Mbps line
C—B $3825/month for 10,000 Mbps line
D—B $1316/month for 1000 Mbps line
E—B $6400/month for 10,000 Mbps line
F—B $1316/month for 1000 Mbps line

19. As those portions consist of comparable services to the 20% share of CBB portion(the "Intra City Portion") acknowledged by the incumbent, then the Intra City Portion comprises $2.80 per Mbps of the $14.00 CBB of the incumbent. However, as can be plainly seen from the above, those costs, which presumably have profit margins built into them, are only $0.35 to $0.64 per Mbps based on 10GIG of capacity. This means that the Intra City Portion alone is four to eight times the comparable market price for equivalent service, without taking into account additional discounts that an ISP can get for purchasing multi-10GIG capacity, which could drive those prices down further to a point where the Intra City Portion is more than ten times the commercial price. This too shows that there is something wrong with this picture.

20. Another approach is to compare the Intra City Portion cost to laying dark fiber. In the case of A - B in the above diagram, a group of ISPs priced out the cost of multi-strand dark fiber for the distance of 16 kilometers. This price came to $40,000/km, or $640,000. This quotation was for 64 strands of fiber, each of which could be further divided based on the wavelengths into multiple 10G or 100G circuits, depending on the equipment chosen on both ends. The 100G-capable equipment from CISCO ranges in cost between $100,000-200,000. This would supply ISPs with 100GIG capacity for $1,000,000.

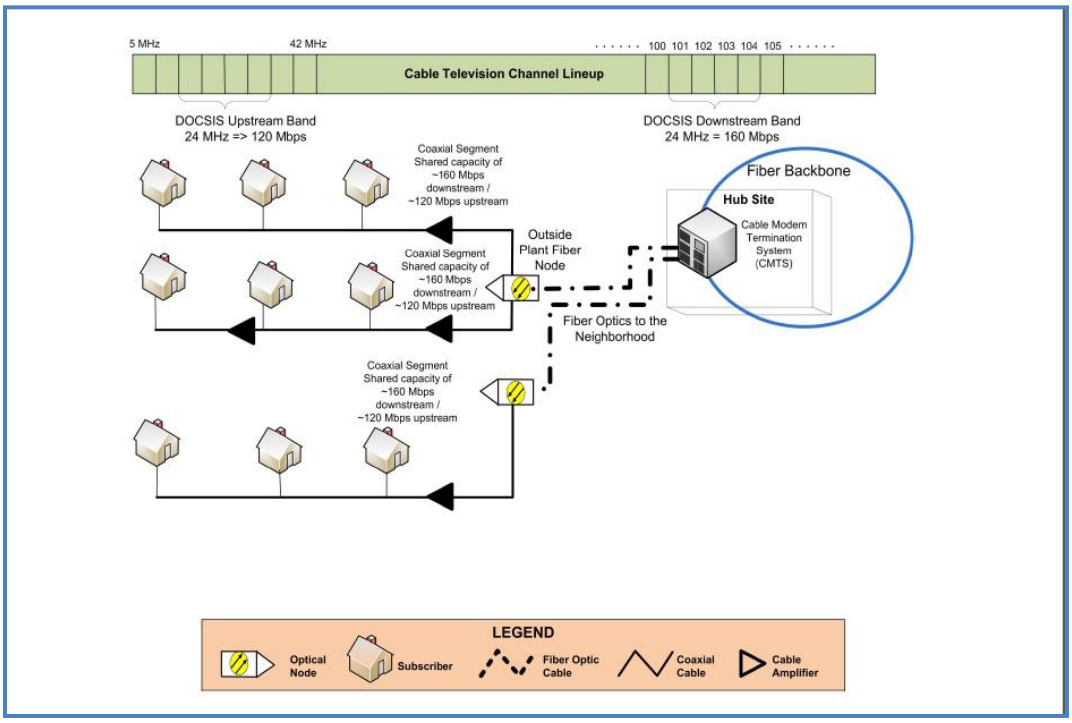
21. Using the price posted above of $3500 per 10GIG capacity, multiplied by actual consumption of 100GIG, the investment would be amortized by the ISPs in 29 months ($1,000,000/10X10GIG, @ $3500/month per 10GIG).

22. However, at the low end of the amount by which the Intra City Portion exceeds the above noted costs, its cost of incremental capacity is fully recovered in seven months, and at the high end, in three and a half months. After that, as the incumbent itself acknowledged, it is 100% margin. Yet ISPs are required to pay those costs in perpetuity. There is definitely something wrong with this picture.

23. Regarding the 80% of CBB that is not related to the Intra City Portion, the claim is made that there is no comparison between Intra City Portion, and the costs related

to reaching homes from a head end.[7] VMedia has several points to make regarding the questionable legitimacy of extrapolating costs on the basis of miles laid.

24. First, the connection between the CMTS and the home is not one seamless element, but itself can be further subdivided into a portion from the CMTS to a fibre node, and then from the node to the homes connected to it. The diagram below illustrates the topology.



25. That portion, from the CMTS to the node, involves engineering and construction not dissimilar to the Intra City Portion, but in any event far less complex than as suggested in the extract at footnote 7. It is simplistic and arguably misleading to suggest that 200,000 homes are individually connected to that Intra City Portion, effectively a mile per home. Instead, in fact, the CMTS itself connects to those nodes at a cost not materially greater than the cost of connection along the Intra City Portion, bundling many homes together for further economies of scale.

26. So in order to arrive at an understanding of the costs underlying the remaining 80% it is important to focus on the cost of the CMTS to node element. One example is Point D-B in paragraph 18, which connects 151 Front Street in Toronto with a building on Edilcan Drive in Vaughan. The cost is $1.31 per Mbps, arguably higher than available for larger capacity purchases, but still a far cry from even a significant portion of the remaining 80% of CBB of $11.20.

[7] The Transcript, paragraphs 9013-9015.

27. The number of homes served by each node depend on the specific cable system, but to our knowledge there are typically a few hundred homes or businesses. Typical cable industry practice is to reduce the segment size or add channel capacity when the peak utilization reaches a particular threshold. This is typically done in a case-by-case, incremental way, for the part of the cable system with the need. But we believe that this crucial intermediate portion should be assessed as a separate element of the remaining 80%, and understood to represent another scalable portion that limits the incremental costs of additional capacity.

28. Second, much is often made of the fact that density is a factor in capital costs, and pricing. However, it should be pointed out that the cost of CBB in Winnipeg is a quarter of what it is in Toronto, notwithstanding the greater density of the latter. It was this irreconcilable disparity that from the time the CBB decision was announced undermined the credibility of the pricing that arose from that decision.

29. Finally, if customers reached per mile is truly that sensitive a factor, then there should be much different pricing for apartment buildings, where a large proportion of the urban Canadian population resides. At the very least it can be inferred from the above noted comments that reaching 400 tenants in an apartment complex is far less costly than in a subdivision.

30. Again, VMedia acknowledges that much of what we have submitted, here and elsewhere in these proceedings, are arguments by inference. But no other conclusion can be drawn from these observations other than that the current pricing regime is deeply flawed.

31. VMedia submits, again, that the only way to achieve a fair wholesale pricing framework, is to ensure the Phase II costing process be rendered completely transparent, so that the full range of industry expertise can be brought to bear on arriving at a result which assures

    a. (a)incumbents of a fair rate of return on their investment,

    b. (b)ISPs of access to wholesale services at a price which allows them to effectively compete with the incumbents, and

    c. (c)Canadian consumers of access to a competitive array of internet and TV services which will provide them with fair pricing, choice and innovation.

32. There is nothing sacrosanct about the information that comprises the elements of the Phase II costing process. As an incumbent acknowledged at the Hearing, we are not talking about proprietary technology or intellectual property or even exclusive know-how or expertise, but only about the "costs of digging up the roads, laying fibre, et cetera."[8] There is nothing competitive in that information, those costs are similar for everyone in the business, commodity-priced. There is no compelling

[8] The Transcript, paragraph 9014.

reason to keep those costs hidden, obscuring the process in perpetuity. Once those costs are made public, and examined, and critiqued, there will be no further need to continually revisit pricing, obtaining inconclusive results that threaten policy objectives, all at taxpayers' expense. It can be gotten right.

33. Moreover, it should be noted that ISPs' suppliers of internet access, and VMedia' suppliers of TV channels, essentially the same parties, have intimate knowledge of the major cost components of our business. They know exactly what our cost of goods are in both internet and TV services, potentially rendering us far more vulnerable to the abuse of that information than would be the case with an understanding of the incumbents' own cost of goods.

34. It is in a way an exceedingly patronizing one-way relationship, but its existence sets a clear precedent for the proposition that everyone already knows everyone's business in most material respects. The key elements that go into Phase II costing have no rationale for being exempt from that state of affairs.

35. VMedia has made submissions requesting the Commission to mandate access to facilities to deploy VLANs, or servers to permit caching and reduce unnecessary redundancy in usage, and the importance of mandating access to FTTH.

36. However, nothing matters as much as arriving at fair pricing, determined through a transparent process. To be clear, VMedia does not seek special pricing for the provision of BDU services, only wholesale prices properly determined to ensure fairness. And that is all about transparency. That remains the beginning, middle and end of the solution to a problematic framework that will, without that, surely signal the demise of ISPs, and our ability to provide alternatives to the duopolies which increasingly dominate the everyday lives of Canadians.

37. VMedia is grateful for the opportunity to have been able to participate in this important process, and looks forward to an outcome that will include that solution.

Yours Very Truly,

VMedia Inc.

Alexei Tchernobrivets
Chief Executive Officer

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