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Mr. Claude Doucet
Secretary-General
Canadian Radio-television and
Telecommunications Commission
1 Promenade du Portage
Ottawa, ON K1A 0N2

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Dear Mr. Doucet:

Re: Rogers Communications Canada Inc. – supplemental intervention in TNW Wireless Inc.’s Part 1 Application - Wholesale Roaming Agreements required under Telecom Regulatory Policy CRTC 2015-177

1. Rogers Communications Canada Inc. (“Rogers”) is filing this supplemental intervention in response to the updated Part 1 Application filed by TNW Wireless Inc. (“TNW”) on April 13, 2018. Rogers requests that the Commission considers the following comments alongside its previous intervention in this proceeding.
2. The Commission gave TNW the opportunity to file an updated application in light of its recent release of Telecom Decision CRTC 2018-97, *Reconsideration of Telecom Decision 2017-56 regarding final terms and conditions for wholesale mobile wireless roaming service* (“TD 2018-97”). While TNW believes that this decision supports its requested forms of final relief, TD 2018-97 unequivocally reaffirms the Commission’s prior conclusion that public Wi-Fi networks are not part of a wireless service provider’s home network.¹ Because they will roam permanently and not incidentally, TNW iPCS customers who reside outside of TNW’s home territory in Northern Canada are not eligible for roaming service under the mandated roaming regime. Rogers therefore maintains its original position that the Commission should deny TNW’s requested final relief.
3. Failure by Rogers to respond to any particular position or argument in TNW’s submissions should not be interpreted as agreement with such position or argument.

Introduction

4. TNW is a regional service provider with a small mobile wireless network providing service in rural and remote parts of British Columbia and the Yukon. It holds two licences from the Ministry of Innovation, Science and Economic Development Canada (ISED) for 25 MHz of Cellular spectrum that it acquired through ISED’s *Policy for the Provision of Cellular Services by New Parties*.

¹ TD 2018-97, para. 59.

5. TNW claims to have developed a proprietary communications technology that combines Wi-Fi and mobile wireless connectivity. As explained in its Part 1 Application, iPCS consists of a smart phone based software application and a TNW subscriber identity module (SIM) card. When connected to an available Wi-Fi hotspot, an iPCS customer's handset remotely connects back to TNW's mobile wireless network in Northern Canada.² TNW claims that this connection back to its mobile wireless network activates some portion of its radio access network (RAN), including its licensed radio spectrum. When out of range of a Wi-Fi hotspot, TNW's service operates using traditional mobile wireless roaming, connecting to the available RAN of one of its wholesale roaming service providers. TNW asserts that the connection back to its mobile wireless network and RAN satisfies various regulatory requirements which dictate that TNW's customers must be primarily served by TNW's own mobile wireless network.
6. In July 2017, TNW filed a Part 1 Application with the Commission. In its application, TNW asserts that Bell Canada ("Bell") and TELUS Communications Inc. ("TELUS") denied its requests for wholesale mandated roaming service in contravention of the Commission's wholesale roaming regime. TNW asked the Commission for the following interim relief:

*"to have the Commission compel Bell and Telus to provide in good faith and on economic terms, Wholesale Roaming Agreements as per their respective Carrier Access Tariffs including all necessary interconnection processes and guidelines as set out by the GSM Association Permanent References with Syniverse within 30 days of the delivery of the Wholesale Roaming Agreements and in the interim, the ability to use iPCS technology until such time as it rules on final relief."*³

7. Additionally, TNW requested the following final relief from the Commission:

a. TNW requests that the Commission direct both Bell and Telus to provide TNW in good faith with Wholesale Roaming Agreements as per their respective Carrier Access Tariffs under reasonable economic terms and that the Commission direct both Bell and Telus to proceed with all necessary interconnection processes and guidelines as set out by the GSM Association Permanent References and to complete the interconnection through Syniverse's facilities no more than 30 days after the delivery of the Wholesale Roaming Agreement.

b. TNW requests that within the Wholesale Roaming Agreements, the Commission direct Bell and Telus not to make as pre-conditions to an agreement inclusions of clauses and components or even discussions regarding specific contract items as already ruled to be excluded from their tariffs in CRTC 2017-56 such as identified in paragraphs 55, 75 and 106 of the Decision.

² TNW Part 1 Application, para. ES-8.

³ TNW Part 1 Application, para. 20.

c. Further to 21 b. TNW requests that the Commission direct Bell and Telus not to refuse to provide Wholesale Roaming Agreements on the basis of any perceived misuse they deem may occur.

d. TNW requests that the Commission review its iPCS technology for compliance with CRTC 2017-56 and a determination that the use of iPCS while on Wi-Fi using Wi-Node cannot be deemed roaming.⁴

8. In its answer to TNW's Part 1 Application, Bell asked the Commission to deny TNW's requests for relief, noting that it did not provide TNW with wholesale roaming service because TNW's subscribers would "obtain non-incident access to our host roaming network in clear contravention of the Commission's rules."⁵ TELUS argued similarly with additional arguments that it should not be obligated to provide any additional wholesale service to TNW based on the substantial unpaid debts owed to TELUS by TNW.⁶
9. For its part, Rogers argued in its intervention that TNW should not qualify for mandated wholesale roaming because its iPCS service failed all five indicators of permanent roaming that the Commission listed in TD 2017-56.⁷ This would indicate that TNW would effectively be reselling its wholesale roaming partners' networks and not roaming incidentally as allowed by the Commission's regulatory policies on roaming and ISED's Conditions of Licence.⁸ Rogers further noted that if iPCS were approved by the Commission, it would undermine the incentives for TNW and potentially other competitors to invest in their own facilities as they would rely on low cost regulated access to the national wireless carriers' networks instead of building out their own.
10. On October 23, 2017, the Commission denied TNW's request for interim relief.⁹ In its decision, the Commission noted that because TNW had not yet launched iPCS, it would not suffer any harm while the Commission considered its requested final relief. At the same time, the Commission suspended consideration of TNW's requested final relief pending the reconsideration of TD 2017-57.

TD 2018-97 does not support TNW's requested final relief

11. On March 22, 2018, the Commission completed its reconsideration of TD 2017-57 as prompted by the Order in Council. In the Commission's decision, TD 2018-97, it decided to maintain its existing exclusion of Wi-Fi connectivity from the definition of "home network." The Commission gave several important reasons for not expanding the definition of home network to include Wi-Fi connectivity, including the fact that including Wi-Fi access would introduce regulatory uncertainty,¹⁰ it would have an uncertain impact on affordability,¹¹ and there is a risk that it

⁴ TNW Part 1 Application, para. ES-19.

⁵ Bell's answer to TNW Part 1 Application, para. ES-2.

⁶ TELUS' answer to TNW Part 1 Application, paras. 14, 57 – 64.

⁷ Rogers' intervention to TNW Part 1 Application, paras. 26 – 39.

⁸ ISED CPC-2-0-17 — Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements, Part B, section 2.

⁹ Telecom Procedural letter addressed to Mr. Lawry Trevor-Deutsch (TNW Wireless Inc.), 23 October 2017

¹⁰ TD 2018-97, para. 57.

¹¹ TD 2018-97, para. 66.

would have a negative impact on network investment. With regard to the risk to network investment, the Commission wrote the following:

The effect of broadening the definition of “home network” to include other forms of connectivity, including Wi-Fi, would allow any company to access the wholesale roaming tariff as if they were a wireless carrier, without the necessity of having invested and built one’s own wireless network. One consequence of this action would be to disincent existing wireless competitors from investing in their networks, since they could more broadly rely on the national wireless carriers’ networks to offer service outside their traditional network footprints.

...

Given the circumstances, the Commission considers that the record is persuasive insofar as it establishes that there is a risk to the investment by certain wireless carriers, especially with respect to expansion in rural areas, if the Commission were to expand access to wholesale wireless roaming.¹²

12. Despite the Commission’s clear determinations based on a large and thorough record leading up to TD 2018-97, TNW asserts that its particular Wi-Fi based technology, iPCS, is different and would not lead to a reduction in network investments in Canada. In its supplemental application, TNW makes the hollow claim that if its requested relief is granted “the financial impact to other carriers ... would be negligible,” while providing no evidence to support this assertion.¹³ TNW similarly asserts that granting relief would also not create regulatory uncertainty.
13. The only notable difference between TNW’s iPCS service and the Wi-Fi first service providers considered in TD 2017-56, and again in TD 2018-97, is the artificial use of TNW’s licensed spectrum on its small mobile wireless network in Northern Canada, while its customers are wirelessly connected using Wi-Fi access thousands of kilometers away. As Rogers explained in its prior intervention to this proceeding, this is simply a technological smoke-screen that TNW has built in a transparent attempt to argue that its customers are served by TNW’s home RAN while, in fact, they are served using Wi-Fi access.

20. TNW has designed its iPCS system to connect its Wi-Fi based end users back to its RAN so that TNW can falsely claim that these customers are primarily served by its mobile wireless network. By claiming that Wi-Fi usage outside of its network footprint in fact is using its RAN, TNW hopes to inflate the usage amounts on its own network in order to argue that any usage on visited networks is incidental. However, there is no technical need for the iPCS service to utilize any part of TNW’s RAN and its licensed spectrum while a customer is roaming on another company’s RAN and licensed spectrum or is

¹² TD 2018-97, paras. 69 and 75.

¹³ TNW Supplemental Application, para. 63.

using a Wi-Fi hotspot thousands of kilometres away. In fact, there would be substantial costs associated with the connection back to TNW's mobile wireless network that simply do not need to be incurred to provide voice, SMS, or data services to customers that are roaming or using a Wi-Fi hotspot in another province. Why would a call made in downtown Toronto use any antennas or radio spectrum in the Yukon? Such a network design clearly contradicts common sense. The only purpose of the connection back to TNW's mobile wireless network is a transparent attempt to satisfy the requirement that roaming must be incidental and not permanent as required by TD 2017-56. TNW is also attempting to satisfy ISED's requirement that its customers must be served by its own home network first.

21. Both of Canada's telecommunications regulators, the Commission and ISED, clearly expect that a service provider's customers would directly access their service provider's RAN and network when they are not roaming. That is, the customers would be physically present in the service provider's home territory, and their handsets would directly and exclusively connect with the service provider's RAN using the service provider's licensed spectrum.

22. Tellingly, TNW's Part 1 Application does not explain a single tangible benefit that the connection back to its mobile wireless network and RAN provides. This betrays the fact that it is simply intended to exploit what TNW views as a loophole in the Commission's roaming requirements.

23. In [Telecom Decision CRTC 2017-57], the Commission wrote that "even if there is some minimal connection between the end-user and Ice Wireless's network backbone, the use of public Wi-Fi by a Sugar Mobile end-user outside Ice Wireless's territory ... would not amount to the use of a home network for the purpose of roaming."¹⁴ This determination holds in the case of TNW as well. Given that the sole purpose of the iPCS service's connection back to TNW's home mobile network is to exploit a perceived regulatory loophole in TD 2017-56 and provides no benefit to its end users, it can certainly be described as "minimal." As was the case with Sugar Mobile, TNW has failed to provide any evidence that the connection back to its home network and RAN is necessary. As such, an iPCS customer remotely connected to TNW's mobile wireless network through a Wi-Fi hotspot should not be considered to be primarily served by TNW's home network. This means that TNW's iPCS does not qualify for roaming under ISED's Conditions of Licence or the Commission's mandated roaming regime.¹⁵

¹⁴ TD 2017-57, para. 29.

¹⁵ Rogers' intervention, paras. 20 – 23.

14. These facts have not changed since Rogers submitted its previous intervention to this proceeding.
15. TNW has since had ample opportunity in its supplemental application to describe the purpose and benefit of the iPCS connection back to TNW's home network and its remote use of licensed spectrum. The fact that TNW has not done so confirms that the connection back is unnecessary and solely intended to make it appear that customers are primarily served by TNW's home network when in reality they will make no legitimate use of it.
16. In fact, TNW appears to concede this where it boasts that "iPCS is the result of innovators looking at a specific telecommunications problem within an established regulatory framework and developing a technology to deal with it".¹⁶ In other words, in order to get around the fact that the regulatory framework precludes Wi-Fi access from forming part of a wireless carrier's home network, a technology has been developed to circumvent this rule.
17. In any event, the fact that a TNW iPCS customer's Wi-Fi connection would tunnel over the Internet to TNW's mobile wireless network in the far north is irrelevant since TNW's iPCS customers are primarily served using Wi-Fi access and TD 2018-97 establishes that Wi-Fi "should not form part of a wireless carrier's home network for the purpose of establishing what constitutes incidental use of the visited network".¹⁷ TD 2018-97 does not provide any exceptions to this rule. While TNW was previously attempting to exploit a perceived loophole in TRP 2015-177 and TD 2017-56, any such loophole has now been definitively closed by TD 2018-97.
18. TNW's iPCS service will result in widespread excessive roaming. TNW is simply attempting to sell its service throughout Canada without making any meaningful investments in mobile wireless networks outside of its very limited mobile wireless operating footprint. TNW's customers residing outside of its mobile wireless operating footprint would be served primarily and exclusively by TNW's wholesale roaming partners' networks.
19. While TNW has submitted an updated application in light of TD 2018-97, this document does not satisfactorily explain how iPCS is compliant with the Commission's determinations from that decision, despite the fact that the service will rely on the use of Wi-Fi access outside of TNW's mobile network area.
20. TNW asserts that it should not be considered a Wi-Fi first service provider because it owns a legitimate mobile wireless network in remote Northern Canada.¹⁸ Rogers is not disputing the fact that TNW's customers residing within TNW's mobile wireless network operating area are eligible for mandated wholesale domestic roaming service and are entitled to roam on an incidental basis. However, as Rogers explained both above and in its previous intervention, TNW's small mobile wireless network does not play a necessary or legitimate role in the company's iPCS service, where customers residing thousands of kilometers from TNW's mobile wireless network will either use Wi-Fi access or will roam. As such, TNW's small and

¹⁶ TNW Part 1 Application, para. 53.

¹⁷ TD 2018-97, para. 59.

¹⁸ TNW Supplemental Application, para. 23.

remote mobile wireless network must not factor into any determination about iPCS customers' eligibility for mandated roaming service.

21. On the other hand, public Wi-Fi networks form a fundamental and inseparable part of any Wi-Fi first service provider's operating model. While Wi-Fi first service providers can indisputably exist without a radio access network or licensed spectrum, they cannot exist without Wi-Fi connectivity. TNW's iPCS service is no different than any other Wi-Fi first service provider in this regard. As such, the Commission's determinations in TD 2018-97 to exclude Wi-Fi access from the definition of "home network" means that an iPCS customer connected to Wi-Fi would not primarily use TNW's home network. In fact, their use of mandated roaming would not be incidental and they would permanently roam on TNW's wholesale roaming providers' networks.
22. TNW appears to miss the point entirely where it states that "[TD] 2018-97 supports its position that iPCS while on Wi-Fi cannot be considered roaming as under the iPCS environment there is no use of or registration on a visited network and only TNW network resources (including licensed spectrum) are being used."¹⁹ Rogers does not dispute the fact that a TNW iPCS customer is not considered roaming when they use a Wi-Fi connection. The issue at hand is the fact that when they are not using Wi-Fi access they will be roaming on a visited mobile wireless network. The Commission has maintained its earlier view that Wi-Fi access does not form part of a wireless carrier's home network for the purpose of establishing what constitutes incidental roaming. TNW's iPCS customers outside of its small mobile wireless operating footprint would therefore not incidentally roam, but would permanently roam on its wholesale roaming providers' networks.
23. Apart from asserting that its iPCS service is different than Wi-Fi first services, and that it should be entitled to mandatory roaming, TNW also claims that its service is "a true innovation" and that "the company has invested heavily" in it.²⁰ Based on these claims, TNW argues that as a small operator it cannot compete with or keep up with the national wireless service providers or the larger regional wireless service providers.²¹ It asserts that, as a "nimble and bold organization" it has a unique role to play in the Canadian mobile wireless marketplace and that granting its requested relief would be consistent with certain policy objectives.
24. TNW's plea for special treatment ignores the fact that regional companies are already capable of operating within the regulatory framework established by the Commission and ISED as made evident by those wireless service providers who, like TNW, have invested in small mobile wireless networks in rural and remote areas. In addition, under the same framework, other larger, regional wireless service providers have invested in their own mobile wireless networks, particularly in urban and suburban areas. All such carriers invest in their own mobile wireless networks, provide innovative services, and contribute to the competitiveness of the Canadian wireless market, benefiting consumers. There is simply no need to alter the existing regulatory framework to accommodate TNW.

¹⁹ TNW Supplemental Application, para. 28.

²⁰ TNW Supplemental Application, para. 53.

²¹ TNW Supplemental Application, paras. 49 – 57.

25. In TD 2018-97, the Commission concluded that Canada's regional carriers are likely to be disproportionately impacted if Wi-Fi based service providers were eligible for mandated roaming. The Commission states the following in this regard:

72. The business case for these other wireless carriers to expand their networks into new markets, particularly in less densely populated areas outside major metropolitan centres, is challenging. For an investment to make sense, the company's projected revenue in the expansion area must exceed the projected costs of expansion over a given time frame, and must also compare favourably relative to other potential investment opportunities (in larger cities).

73. If mandated resale competition were to occur in these areas it would likely splinter the market and reduce the number of customers that the other wireless carriers are relying on to generate revenue. Because of a challenging business case, the loss of customers to Wi-Fi-first service providers could reduce projected revenue enough to make the business case for a targeted expansion area unprofitable and prevent the facilities-based carrier from going ahead with the investment.²²

26. TNW does not deserve a special exception to the Commission's policies simply because it has a patent pending or because it has a small rural network.²³ The Commission must recognize that TNW's service would cause substantial harm to the mobile wireless marketplace by undermining incentives for ongoing investment, particularly investments by other regional providers.
27. Granting such exceptions to the Commission's policies would also lead to regulatory uncertainty. In TD 2018-97, the Commission recognized that such uncertainty could make investment planning difficult for mobile wireless service providers.²⁴ The Commission's policies must uniformly apply to all service providers.

iPCS is not comparable to Wi-Fi calling

28. TNW's supplemental application includes a lengthy digression on Wi-Fi calling.²⁵ In particular, TNW equates Wi-Fi calling with its iPCS service since, in TNW's opinion, both act as extensions of a carrier's home network.²⁶ However, TNW completely mischaracterizes the role that Wi-Fi calling plays in the mobile wireless marketplace.
29. Rogers and other facilities-based service providers use Wi-Fi to extend the effective range of their mobile wireless networks into areas that are otherwise difficult to serve, like basements

²² TD 2018-97, paras. 72 and 73.

²³ TNW Supplemental Application, paras. 53.

²⁴ TD 2018-98, para. 57.

²⁵ TNW Supplemental Application, paras. 34 – 45.

²⁶ TNW Supplemental Application, para. 43.

and tall buildings. However, Rogers does not rely on public Wi-Fi connectivity as a substitute for its mobile wireless network.

30. To the extent that customers use Wi-Fi calling when they are roaming, service providers do not consider this usage tantamount to usage of their home network. If a Rogers customer travels outside of Rogers' mobile wireless footprint and uses Wi-Fi calling, they are neither making use of a visited network as understood in the context of mandated roaming, nor are they using Rogers' home network. Whether or not the customer's handset registers with a visited network over licensed frequencies while making a Wi-Fi call is also not relevant.

TNW's request for final relief should be denied

31. As Rogers wrote in its earlier intervention,

As for Bell and TELUS denying TNW access to their wholesale roaming service based on "perceived misuse they deem may occur," TNW has provided more than enough evidence that its iPCS service will contravene both the Commission's and ISED's mandated wholesale roaming requirements, as shown by the application of the Commission's indicators of excessive roaming. It would be an inefficient use of scarce resources for a national service provider to onboard TNW as a wholesale roaming customer and then subsequently move to disconnect them in short order in the event that the Commission finds that TNW's service does not comply with the roaming requirements. Based on the facts, Bell and TELUS are more than justified in their refusal to provide roaming service to TNW.²⁷

32. Given that the Commission did not extend the definition of "home network" to include public Wi-Fi and further given that the facts of TNW's application have not changed in its supplemental application, TNW's iPCS technology is not compliant with TRP 2015-177, TD 2017-56, and now TD 2018-97.
33. For these reasons, the Commission should deny TNW's requested final relief.

Conclusion

34. Although a period of regulatory uncertainty might have followed from the Commission's reconsideration of TD 2017-56, that uncertainty has now been put to rest. TD 2018-97 definitively concludes that public Wi-Fi networks do not act as extensions of a wireless service provider's home network. Notably TD 2018-97 makes no distinction for any possible remote use of licenced spectrum while customers are connected to Wi-Fi.
35. Applied to TNW, this means that its iPCS customers using Wi-Fi access would not use TNW's home network as required by the mandatory roaming framework. Consequently, iPCS customers who live outside of TNW's small network footprint would exclusively depend on

²⁷ Rogers' intervention to TNW Part 1 Application, para. 57.

TNW's wholesale roaming providers for mobile wireless connectivity. This would be resale and permanent roaming which the Commission and ISED have repeatedly disallowed.

36. All of this is respectively submitted by Rogers.

Regards,



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Vice President – Regulatory Telecom
HS/ms

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