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December 3, 2025

Marc Morin
Secretary General
Canadian Radio-Television and Telecommunications Commission
Gatineau, QC
K1A 0N2

Re: CRTC 2025-226 Call for comments – Development of a regulatory policy on measures to improve the resiliency of telecommunications networks and the reliability of telecommunications services

Mr. Morin,

1. National Capital FreeNet (NCF) is a small, local not-for-profit Internet Service Provider serving the National Capital Region. Founded in 1992, we are committed to advancing digital equity and believe that everyone has a right to affordable, high-quality internet access that they can understand how to use, while feeling safe online.

2. Our work to advance digital equity includes the recognition that the digital divide both mirrors and worsens other social inequities, disproportionately affecting marginalized groups including those living on low incomes, rural and remote communities, Indigenous peoples, communities and nations, newcomers, seniors, and people with disabilities.

3. We appreciate the Commission's work through this consultation to ensure all Canadians have access to reliable telecom services and want to underscore that many of the groups most affected by the digital divide are also disproportionately affected by telecommunications service disruptions and emergencies, whether they are in urban, rural, remote, or Indigenous communities.

4. As a social enterprise, NCF has been a wholesale-based competitor since 2005, managing our own network in conjunction with networked services we access through Bell, Rogers and Cogeco. We currently serve more than 4000 members, more than 2000 of whom subscribe to our wholesale services. This includes our Community Access Fund, a lower-cost plan we offer to Ottawa Community Housing tenants.

5. In 2024, in response to the constraints of the current high speed access service framework, we also launched a pilot project to offer free-to-use community WiFi for those living on low incomes in Vanier-Overbrook.

6. Known as CommuniFi, we built this network with support from CIRA (the Canadian Internet Registration Authority) and in partnership with Ottawa Community Housing (OCH), and Hiboo Networks, a wholly owned subsidiary of Hydro Ottawa.

7. We believe that this kind of community-owned network infrastructure, built by not-for-profits and municipally-owned agencies, can play an important part in ensuring safe and reliable connectivity to those who can't afford home internet or cellphone data. We also believe community networks like ours can serve as a community-wide telecommunications resource during emergencies or incumbent outages like the Rogers outage in 2022.

8. In its first year of service, offering free WiFi in the indoor and outdoor common spaces at two OCH-owned buildings on Donald Street, the CommuniFi network has connected 3844 unique devices, offered synchronous download and upload speeds up to 820Mbps driving average usage in line with that of average mobile data usage, and blocked more than 130,000 malware and phishing attempts through the use of CIRA's DNS Firewall Service.[1]

9. Our comments in this proceeding are grounded in our mission to provide high-quality services, our ongoing work to ensure network resilience across our wholesale broadband and CommuniFi networks, the challenges we have faced in this work, and our recommendations for how the Commission can regulate reliable telecommunications services without making things even harder for small and community-based providers.

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[1] https://www.ncf.ca/en/documents/148/CommuniFi_by_NCF_-_Dec_2025_Presentation_-_FINAL.pdf

Network resilience in a wholesale context

10. NCF's network was based in one of the Carleton University data centres for more than 30 years. During that time, we evolved our plans to ensure network resilience.

11. This included:

   - Establishing redundancy and failover between all our network equipment, from routers to switches to servers, firewalls and more.
   - Ensuring circuit resilience by using multiple transit providers, BGP routing, and different circuit paths.
   - Where we were restricted to only using Bell high-speed access (HSA) services, ordering multiple circuits so that if any one circuit were locally affected, the others could carry the load.
   - Taking advantage of two distinct sources of power within the Data Centre.
   - Enabling smooth transitions to back-up generator power in case of a power outage.
   - Establishing a network change review protocol including assessing risks and identifying opportunities for additional risk mitigations.
   - Implementing remote network access and management.
   - Building our network, including all our servers, locally so we can ensure rapid response and ensure all our data is hosted locally rather than on the cloud, insulating us from major failures like those that have recently affected AWS and Cloudflare.
   - Notifying NCF members as far ahead as possible of any network maintenance or upgrades and scheduling service-affecting work overnight to ensure that if there were any unexpected outages, the least number of members possible were affected.
   - Being as transparent and communicative as possible with our members when facing outages or other network performance issues.

12. These measures served NCF well for many years and we continue them today. However, in 2023 we received notice from Carleton first of a 24-hour power disruption and, once we had come through that, a request to leave on relatively short notice.

13. This lay bare the need for multiple network points of presence (POPs) in addition to resilient network resources within a Data Centre.

14. When we moved, we wanted to establish two POPs in carrier-neutral data centres as an additional resilience measure, enabling the widest possible access to service providers and opportunities for peering.

15. Unfortunately, there is only one carrier-neutral data centre in Ottawa, PureColo. And Bell would only install 1G circuits at that location, which is insufficient for wholesale FTTP services which offer up to 3Gbps services. As a result, we were forced to choose a Bell data centre in Ottawa as one of our two new data centres. So in addition to Bell being our sole network provider for the regulated HSA DSL and FTTP services, they are also our only available on-site transit provider.

16. In addition, to ensure we have multiple Bell GAS (Gateway Access Service) circuits, we are required by the wholesale tariff minimums to commit to at least 30% usage on each circuit. For us, given the ongoing loss of our DSL subscriber base, this means we are now committed to 3GBs per 10GB GAS circuit (6GB total) despite needing less capacity than that, significantly driving up our costs just to ensure a limited form of network resilience within one Bell data centre.

17. There are many other ways we end up over-spending to ensure network resilience and reliable services.

18. We support the outlined "Principles that should guide the development and implementation of the resiliency regulatory policy". However, given the aforementioned challenges, we recommend, as with other CRTC-mandated telecommunications service provider (TSP) requirements, that a revenue or subscriber threshold be established under-which TSPs are encouraged but not required to meet any new network resilience standards. We suggest thresholds of either 10,000 subscribers or annual service revenue of at least $10-Million.

19. As a wholesale-based provider, we also ask that the Commission consider regulating required and timely notification between incumbent network providers and the independent ISPs that use their networks to deliver service. In the past we have sometimes felt like we are the last to hear about an incumbent network outage that is not under our control but that is necessary for our operations. This was certainly the case during the 2022 Rogers network outage.

20. Finally, we ask that the policy regulate transparent reporting about network resiliency measures and outages.

Network resilience in a community network context

21. We are still building out our free-to-use CommuniFi network, however we have already implemented a UPS and battery back-up system for the core "supernode" network to run for 12-18 hours during a power outage.

22. This decision was based in part on the experience of Red Hook WiFi in Brooklyn, New York. During Hurricane Sandy in 2012 when there were extended power outages and many telecommunications services were either down or clogged with overuse, this community network enabled local residents to stay connected with the outside world as well as each other by leveraging the network as source of free community WiFi and a local intranet.

23. Other network resilience considerations we are implementing as we build out CommuniFi include:
    - Ensuring all client devices accessing the network are individually isolated from each other.
    - Separating the publicly-available CommuniFi network from both the management and administrative networks.
    - Establishing a second supernode for failover between core fixed wireless locations, each supported by dedicated internet transit and/or transport back to our core network resources at PureColo.
    - Utilizing CIRA's DNS Firewall service to block malware, phishing attempts and botnet attacks for CommuniFi users.
    - Connecting multiple community sites to the supernode via fixed wireless, offering connectivity across the neighbourhood. This ensures that those who can not afford mobile data can access free-to-use WiFi. This also supports the provision of online community services to those who face the greatest barriers to access, including a free tax-filing clinic on site as well as connectivity to support those accessing health services. Post-pandemic, when more government, health and community services have moved online as a first (and often easier) option, we consider community networks as a kind of social innovation that supports community digital resilience more broadly.

24. Our recommendations based on this work include that the Commission consider regulations that support and enable community-owned telecommunications infrastructure that can supplement and act as necessary fail-safes for national incumbent networks when they are not accessible either through cost, outages or availability during emergencies.

25. Further to this point, we note the similarities between broadcasting and telecommunications in serving local communities during emergencies.

26. For instance, in 2013 Minden, ON experienced what they called a "hundred-year flood". Due to media consolidation, including some of the same companies that offer national telecommunications services, the few local commercial radio stations that served the area offered broadcasting based outside the local community. CKHA-FM, also known as Canoe FM, based in nearby Haliburton offered round-the-clock live coverage of the flood as well as regular broadcasts of municipal announcements, all delivered by staff and community volunteers.

27. While each campus and community radio station is small, both in terms of capacity and its coverage area, this model is strengthened when you consider the number of locally based campus and community radio stations across Canada, each responsive to the specific needs of their local community, as they arise.

28. Similarly, NCF and other community networks, though the community telecom sector is comparably nascent to that of c/c radio, are invested in ensuring everyone in their regions have affordable and internet access, not just those who can afford to pay a premium.

29. Although it is outside the scope of this process, we suggest that network resilience and service reliability would be strengthened by offering relevant funding to community networks, which could be supported by additional changes to the Broadband Fund or other funding mechanisms.

Conclusion

30. As a wholesale provider, NCF understands first-hand the importance of a policy to regulate network resilience amongst the biggest network providers. We also ask that the Commission consider alternative forms of network resilience that are smaller,

but are also often more responsive to those who are most affected by the inaccessibility of telecommunications services, whether through cost, network outages or emergencies.

Thank you,

Shelley Robinson
Executive Director,
National Capital FreeNet (NCF)

END OF SUBMISSION