



## Telecom Notice of Consultation CRTC 2023-39

PDF version

Ottawa, 22 February 2023

*Public record: 1011-NOC2023-0039*

### **Call for comments – Development of a regulatory framework to improve network reliability and resiliency – Mandatory notification and reporting about major telecommunications service outages**

**Deadline for submission of interventions: 24 March 2023**

[\[Submit an intervention or view related documents\]](#)

#### **Summary**

The scale and frequency of telecommunications service outages caused by extreme weather, cyber-attacks, and accidents have been increasing over time as a result of factors such as climate change, the increasing economic and social importance of telecommunications networks, and technological evolution. As the complexity of telecommunications networks and the importance of communication in Canadians' daily lives increases, there is a need for additional measures to improve network reliability and resiliency and to mitigate the impact of service outages.

Building on the work of Innovation, Science and Economic Development Canada (ISED) and the Canadian Security Telecommunications Advisory Committee (CSTAC), the Commission is taking action to develop a framework to improve the reliability and resiliency of telecommunications networks. This notice of consultation is the first stage in this process.

In this notice, to build on the memorandum of understanding agreed to at CSTAC by 12 carriers at the request of the Minister of Innovation, Science and Industry, the Commission seeks comments on a proposal to require all Canadian carriers, on a going-forward basis and as a condition of service imposed pursuant to section 24 of the *Telecommunications Act*,

- to notify the Commission, ISED, and other relevant authorities of major service outages; and
- to submit a comprehensive post-outage report to the Commission.

On an interim basis pending the outcome of this proceeding, the Commission **directs** all Canadian carriers to report major service outages (including outages affecting only 9-1-1 networks) to the Commission within two hours of when the carrier becomes aware of such

an outage. Additionally, the Commission **directs** carriers to file a comprehensive report with the Commission within 14 days following the outage. This direction takes effect on **8 March 2023**.

The Commission will initiate additional public proceedings to address network resiliency in broader terms. Those proceedings may deal with issues including network resiliency principles, emergency services (9-1-1), public alerting, consumer communication, consumer compensation, accessibility, technical measures, and the imposition of administrative monetary penalties.

## **Background**

1. The safety and security of Canadians is a top priority of the Commission. In recent years, telecommunications carriers' networks have experienced large-scale service outages<sup>1</sup> affecting telephone, Internet access, and other telecommunications services, creating major disruptions in the lives of Canadians. For example, there were major service outages resulting from Tropical Storm Fiona in Atlantic Canada, a fibre cut in the Northwest Territories in June 2022, the derecho storm in Ontario and Quebec in May 2022, forest fires in Alberta and British Columbia in 2021, and Hurricane Dorian in Atlantic Canada in 2019, as well as the service outage experienced by Rogers Communications Canada Inc. in July 2022.
2. Service outages vary in scale, and their impact depends on the duration of the outage, the geographic nature of the outage, and the services and number of customers affected. There are various causes, including extreme weather events, cyber-attacks, events external to the networks (e.g., power outages), and accidents (e.g., fibre cuts and system upgrade/maintenance issues). These service outages may increase in frequency and severity due to, among other things, more extreme weather events resulting from climate change, technological evolution, and increased malicious activity because of the economic and social importance of telecommunications services. Further, these factors are making it much more complicated to restore services. Therefore, it is necessary to make telecommunications networks more reliable and resilient .

## **Roles, responsibilities, and objectives**

3. Pursuant to the *Telecommunications Act* (the Act), the Commission has the powers to regulate the provision of telecommunications services by Canadian carriers and other telecommunications service providers (TSPs). The availability of resilient and robust telecommunications networks underpins the attainment of the Canadian telecommunications policy objectives set out in section 7 of the Act. In particular, the objective set out in paragraph 7(b) is to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada, and that in paragraph 7(h) is to respond to the

---

<sup>1</sup> A service outage is a telecommunications network outage that disrupts the provision of telecommunication services to customers.

economic and social requirements of users of telecommunications services. Reliable telecommunications service of high quality that respond to the economic and social requirements of users can only be ensured when telecommunications networks are resilient and robust.

4. In the 9-1-1 context, the Commission's role is to exercise regulatory oversight over the telecommunications access provided by TSPs that enables Canadians to contact 9-1-1 call centres, also known as public safety answering points (PSAPs). This oversight includes determining national policies, standards, conditions of service, agreements with carriers, and eligibility to operate, and approval of tariffs for telecommunications services. The Commission also establishes regulatory measures needed to ensure that public alerts are delivered during emergencies, including over wireless networks.
5. Innovation, Science and Economic Development Canada (ISED) is the federal department responsible for fostering a robust and reliable telecommunications system to safeguard, enrich, and strengthen the social and economic fabric of Canada. During a crisis or disaster, ISED acts as a liaison with the telecommunications industry to support federal, provincial, and territorial industry planning and as a liaison with federal, provincial, and territorial emergency management officials and organizations. Under Public Safety Canada's Federal Emergency Response Plan, ISED is responsible for the emergency support function for telecommunications, which includes the following:
  - coordination with the telecommunications industry;
  - restoration and expansion of telecommunications infrastructure and services;
  - safeguarding and restoration of national telecommunications-related cyber and information technology resources;
  - coordination of federal actions to provide the required temporary emergency telecommunications and restoration of the affected telecommunications infrastructure.<sup>2</sup>
6. Amendments to the Act are being considered to provide ISED with additional responsibilities and powers to improve the resiliency of Canada's telecommunications infrastructure.<sup>3</sup>
7. To address telecommunications resiliency, ISED co-chairs the Canadian Security Telecommunications Advisory Committee (CSTAC), a voluntary working group that

---

<sup>2</sup> See [Emergency telecommunications: how we prepare, respond and work with partners during a crisis or disaster](#).

<sup>3</sup> These amendments are being considered as part of Bill C-26, *An Act respecting cyber security, amending the Telecommunications Act and making consequential amendments to other Acts*, 1st Sess, 44th Parl, Canada, 2022.

provides a forum for federal government and industry stakeholders to analyze, develop, and implement measures to protect critical telecommunications infrastructure. As requested by the Minister of Innovation, Science and Industry, major wireless service providers have signed a memorandum of understanding (MoU) to provide emergency roaming, mutual assistance, and communications to the public and governmental authorities during a critical network failure.<sup>4</sup> ISED has also issued a [Telecom Reliability Agenda](#) to improve the reliability of telecommunications in Canada.

8. Other relevant authorities include provincial, territorial, and municipal governments responsible for establishing and operating PSAPs, which dispatch emergency first responders. These authorities also play an active role in informing the public of alternative means to reach emergency services during service outages.

### **Commission proceedings**

9. The Commission considers that more must be done to improve the reliability and resiliency of telecommunications networks to ensure that all Canadians can count on their telecommunications services when they need them. Building on actions taken by ISED and CSTAC, the Commission is enhancing the existing regulatory requirements and developing a regulatory framework to improve the reliability and resiliency of telecommunications networks through a consultation process.
10. As an initial step, to build on the MoU agreed to at CSTAC by 12 carriers at the request of the Minister of Innovation, Science and Industry, the Commission is imposing interim notification and reporting requirements on all Canadian carriers. In this notice of consultation, the Commission is seeking input from Canadians on the nature and scope of permanent notification and reporting requirements. As its next step, the Commission will initiate a public proceeding to address network reliability and resiliency in broader terms, including issues relating to resiliency principles, emergency services (9-1-1), public alerting, consumer communication, the impact of outages on the accessibility of telecommunications services, consumer compensation, technical measures, and the imposition of administrative monetary penalties.
11. In connection with this more general proceeding on network reliability and resiliency, the Commission will seek assistance from third-party experts to help inform what further regulatory action is needed. Specifically, to that end, the Commission will take input from CSTAC's report to the Minister<sup>5</sup> containing a set of recommendations to improve the reliability of Canada's telecommunications networks and from the CRTC

---

<sup>4</sup>See [Memorandum of Understanding on Telecommunications Reliability](#). "Critical Network Failure" and "Impactful Emergency" are defined terms in the MoU.

<sup>5</sup> In his [Letter to Canadian Telecommunications Security Advisory Committee \(CSTAC\) Industry Members](#), the Minister requested that CSTAC produce a report setting out recommendations for improving the reliability of Canada's telecommunications networks. This report will also be shared with the Commission to inform its upcoming consultations.

Interconnection Steering Committee (CISC)<sup>6</sup> in the context of improving the resiliency of 9-1-1 services and public alerting. In addition, the Commission will, in collaboration with ISED, commission an expert report on the regulatory measures employed by international communications regulators that are applied to TSPs in order to make telecommunications networks more reliable and resilient against vulnerabilities and threats that may lead to a service outage. These reports will be placed on the public record.

12. In the proceeding initiated by Telecom Notice of Consultation 2022-147, the Commission is also examining what actions it should take to make Internet and home telephone service in the Far North more reliable and of higher quality to ensure that people in the Far North are not excluded from social or economic opportunities.
13. The Broadband Fund could be leveraged to improve the reliability and resiliency of networks in rural and remote Canada, in particular the transport component of these networks. The objective of the Broadband Fund is to fund projects to build or upgrade access and transport infrastructure for fixed and mobile wireless broadband Internet access services to achieve the universal service objective, in order to close the gap in connectivity in underserved areas.<sup>7</sup> Therefore, the Commission is considering options to leverage the Broadband Fund to improve network reliability and resiliency in rural and remote areas of Canada.

## **Service outage notification and reporting**

### **Current reporting procedures**

14. The 12 carriers that are part of the MOU agreed to inform the public and governmental authorities about key network outage information in accordance with their respective action plans. Other Canadian carriers have, in some cases, proactively notified the Commission about major service outages; however, in many cases, the Commission has first learned about an outage through news reports or complaints from Canadians.
15. In response to major service outages, the Commission typically follows up with the carrier to understand what is happening, the expected time frame for recovery, and the specific impact on emergency services, including 9-1-1 and public alerting. In many instances, the Commission has also requested that the affected carrier submit a report about, among other things, the root cause of the outage, the measures taken to restore service, and the steps taken to avoid future outages.

---

<sup>6</sup> CISC is an organization established by the Commission to assist in developing information, procedures, and guidelines as may be required in various aspects of the Commission's regulatory activities.

<sup>7</sup> The universal service objective, as set out in Telecom Regulatory Policy 2016-496, is as follows: Canadians, in urban areas as well as in rural and remote areas, have access to voice services and broadband Internet access services, on both fixed and mobile wireless networks.

16. In the case of outages of the dedicated 9-1-1 networks, the Commission requires 9-1-1 network providers to notify PSAPs and affected originating network providers of these outages. However, at the time 9-1-1 network outages occur, neither the originating network providers nor the 9-1-1 network providers are currently required to notify the Commission, ISED, or other relevant authorities of these outages.

**Mandatory service outage notification and reporting – Preliminary view and interim measures**

17. In the Commission's preliminary view, it would be appropriate to require all Canadian carriers to provide notification of every major service outage and submit post-outage reports, and to impose such a requirement as a condition of providing telecommunications services pursuant to section 24 of the Act. Such a requirement would ensure that service outage notification and reporting is provided in a consistent manner according to standard procedures. Timely notification of a major service outage would enable the Commission and relevant authorities to coordinate efforts to reduce the impact of the outage, such as informing the public about the outage and the measures individuals may take to reduce its impact. In addition, the provision of reports containing post-mortem analyses of the root causes of these outages would help the Commission and relevant authorities to devise regulatory measures or best practices that may be required to mitigate the impact and likelihood of future outages.
18. The Commission acknowledges the efforts of CSTAC to develop an approach for outage reporting. A Commission notification requirement would complement the requirements to provide information to governmental authorities and the public, as set out in the MoU recently signed by the major wireless service providers. Whereas the obligations under the MoU would apply only to the carriers that signed the MOU and would apply in the context of a critical network failure, the requirement proposed by the Commission would extend to all Canadian carriers and apply for all major service outages (as that term may be defined in this proceeding). Furthermore, this proceeding will help formalize the service outage notification format and procedures, including who will be notified and when.
19. The Commission notes that the top priority for a carrier during a service outage is to restore service to its customers as soon as possible, which is in the public interest. The carrier's technical and management team that would be responsible for reporting the outage can be expected to be fully engaged in the service restoration process at the time of the outage. Accordingly, the initial service outage notification procedures should not be complicated or onerous, in particular for small carriers.
20. Given that the existing requirements for 9-1-1 network outages do not require carriers to notify the Commission or ISED at the time of the event or to submit post-outage reports to them (but do require an annual report to the Commission),<sup>8</sup> the Commission

---

<sup>8</sup> See paragraph 95 of Telecom Regulatory Policy 2016-165. Annual reports on 9-1-1 network outages are available on the Commission's [website](#).

is of the further preliminary view that the notification and reporting requirements proposed above should also apply to all 9-1-1 network outages.

21. The Commission is of the view that it is in the public interest for all carriers to be required, as an interim measure pending the outcome of this proceeding, to report major services outages (including major outages affecting only 9-1-1 networks) to the Commission and to file post-outage reports.
22. In light of the above, the Commission **directs** all Canadian carriers (as defined in the Act), on an interim basis, to provide the following information to the Commission, effective **8 March 2023**:
  - a) Carriers must notify the Commission within two hours of when the carrier becomes aware of a “major service outage,” defined for the purposes of this interim measure, as any outage affecting (i) more than 100,000 subscribers or a material portion of the carrier’s subscribers for more than one hour, (ii) subscribers that are in a geographic area served only by the affected carrier, (iii) critical infrastructure, (iv) major transport facilities, or (v) a 9-1-1 network.
  - b) Carriers must provide to the Commission, within **14 days** of the day the Commission was notified of a major service outage (as required by item a) above), a comprehensive report detailing (i) the causes of the outage, (ii) the steps taken to resolve the outage, (iii) how emergency and accessibility services (including those tailored for Deaf, hard-of-hearing, or visually impaired persons) were specifically affected by the outage, and (iv) plans put in place to prevent similar outages in the future.
23. The Commission notes that these directions are issued on an interim basis only and will be in effect only until the Commission renders its decision in this proceeding.

### **Call for comments**

24. The Commission seeks comments on the matters below related to notification and reporting requirements for Canadian carriers in connection with major service outages.

Q1. Notification to the Commission, ISED, and relevant authorities when a major service outage is detected:

- (i) Should all Canadian carriers be required, as a condition of providing telecommunications services pursuant to section 24 of the Act, to report major telecommunications service outages (including major outages affecting only 9-1-1 networks or public alerting) to the Commission, ISED, and relevant authorities?

- (ii) What should be the scope of any such requirement? Comment on the following:
  - a) An appropriate definition for a major service outage, including a specific definition for a major 9-1-1 network outage.
  - b) The relevant authorities that carriers should notify, and an explanation as to why.
  - c) The specific information that should be provided, to the extent available. For example, the cause(s); relevant timelines, affected services, number and types of customers affected (such as customers with disabilities who use accessibility services), affected geographic areas, the steps already taken to restore services, and any factors that may affect the company's ability to repair its networks or systems to restore services.
  - d) Methods that carriers should use to provide notification about the outage.
  - e) The time frame within which the outage should be reported.
  - f) Whether and with what frequency updates should be required after the initial reporting.
  - g) The need for notification of service restoration once service is restored.

Q2. Post-outage report to the Commission:

- (i) Should all Canadian carriers be required, as a condition of providing telecommunications services pursuant to section 24 of the Act, to submit a detailed post-outage report to the Commission following a major service outage (including major outages affecting only the 9-1-1 networks or public alerting)?
- (ii) What should be the scope of any such requirement? Comment on the following:
  - a) The specific information that must be included in the report, for example, the exact root cause of the outage; the impact of the outage, including the impact on emergency services and accessibility services for people with disabilities; and the steps taken or planned to avoid an outage in the future.
  - b) The time frame for filing the post-outage report.



## Procedure

25. The *Canadian Radio-television and Telecommunications Commission Rules of Practice and Procedure* (the Rules of Procedure) apply to this proceeding. The Rules of Procedure set out, among other things, the rules for the content, format, filing, and service of interventions, answers, replies, and requests for information; the procedure for filing confidential information and requesting its disclosure; and the conduct of public hearings. Accordingly, the procedure set out below must be read in conjunction with the Rules of Procedure and related documents, which can be found on the Commission's website at [www.crtc.gc.ca](http://www.crtc.gc.ca), under "[Statutes and regulations](#)." The guidelines set out in Broadcasting and Telecom Information Bulletin 2010-959 provide information to help interested persons and parties understand the Rules of Procedure so that they can more effectively participate in Commission proceedings.
26. Interested persons who wish to become parties to this proceeding must file an intervention with the Commission regarding the above-noted issues by **24 March 2023**. The intervention must be filed in accordance with section 26 of the Rules of Procedure.
27. Parties are permitted to coordinate, organize, and file, in a single submission, interventions by other interested persons who share their position. Information on how to file this type of submission, known as a joint supporting intervention, as well as a [template](#) for the accompanying cover letter to be filed by parties, can be found in Telecom Information Bulletin 2011-693.
28. All documents required to be served on parties to the proceeding must be served using the contact information contained in the interventions.
29. All parties may file replies to interventions with the Commission by **11 April 2023**.
30. The Commission encourages interested persons and parties to monitor the record of this proceeding, available on the Commission's website at [www.crtc.gc.ca](http://www.crtc.gc.ca), for additional information that they may find useful when preparing their submissions.
31. Submissions longer than five pages should include a summary. Each paragraph of all submissions should be numbered, and the line **\*\*\*End of document\*\*\*** should follow the last paragraph. This will help the Commission verify that the document has not been damaged during electronic transmission.
32. Pursuant to Broadcasting and Telecom Information Bulletin 2015-242, the Commission expects incorporated entities and associations, and encourages all Canadians, to file submissions for Commission proceedings in accessible formats (for example, text-based file formats that enable text to be enlarged or modified, or read by screen readers). To provide assistance in this regard, the Commission has posted on its website [guidelines](#) for preparing documents in accessible formats.
33. Submissions must be filed by sending them to the Secretary General of the Commission using **only one** of the following means:

**by completing the**  
[\[Intervention form\]](#)

or

**by mail to**  
CRTC, Ottawa, Ontario K1A 0N2

or

**by fax to**  
819-994-0218

34. Parties who send documents electronically must ensure that they will be able to prove, upon Commission request, that filing, or where required, service of a particular document was completed. Accordingly, parties must keep proof of the sending and receipt of each document for 180 days after the date on which the document is filed or served. The Commission advises parties who file or serve documents by electronic means to exercise caution when using email for the service of documents, as it may be difficult to establish that service has occurred.
35. In accordance with the Rules of Procedure, a document must be received by the Commission and all relevant parties by 5 p.m. Vancouver time (8 p.m. Ottawa time) on the date it is due. Parties are responsible for ensuring the timely delivery of their submissions and will not be notified if their submissions are received after the deadline. Late submissions, including those due to postal delays, will not be considered by the Commission and will not be made part of the public record.
36. The Commission will not formally acknowledge submissions. It will, however, fully consider all submissions, which will form part of the public record of the proceeding, provided that the procedure for filing set out above has been followed.

### **Important notice**

37. All information that parties provide as part of this public process, except information designated confidential, whether sent by postal mail, fax, email, or through the Commission's website at [www.crtc.gc.ca](http://www.crtc.gc.ca), becomes part of a publicly accessible file and will be posted on the Commission's website. This includes all personal information, such as full names, email addresses, postal/street addresses, and telephone and fax numbers.
38. The personal information that parties provide will be used and may be disclosed for the purpose for which the information was obtained or compiled by the Commission, or for a use consistent with that purpose.
39. Documents received electronically or otherwise will be posted on the Commission's website in their entirety exactly as received, including any personal information

contained therein, in the official language and format in which they are received. Documents not received electronically will be available in PDF format.

40. The information that parties provide to the Commission as part of this public process is entered into an unsearchable database dedicated to this specific public process. This database is accessible only from the web page of this particular public process. As a result, a general search of the Commission's website with the help of either its search engine or a third-party search engine will not provide access to the information that was provided as part of this public process.

### **Availability of documents**

41. Links to interventions, replies, and answers filed for this proceeding, as well as other documents referred to in this notice, are available on the Commission's "[Consultations and hearings : have your say](#)" page.
42. Documents are available upon request during normal business hours by contacting:

Documentation Centre  
[Examinationroom@crtc.gc.ca](mailto:Examinationroom@crtc.gc.ca)  
Tel.: 819-997-4389  
Fax: 819-994-0218

Client Services

Toll-free telephone: 1-877-249-2782  
Toll-free TTY: 1-877-909-2782

Secretary General

### **Related documents**

- *Call for comments – Telecommunications in the Far North, Phase II*, Telecom Notice of Consultation 2022-147, 8 June 2021; as modified by Telecom Notices of Consultation 2022-147-1, 14 July 2022; and 2022-147-2, 24 October 2022
- *Modern telecommunications services – The path forward for Canada's digital economy*, Telecom Regulatory Policy CRTC 2016-496, 21 December 2016
- *Matters related to the reliability and resiliency of the 9-1-1 networks*, Telecom Regulatory Policy CRTC 2016-165, 2 May 2016
- *Filing submissions for Commission proceedings in accessible formats*, Broadcasting and Telecom Information Bulletin CRTC 2015-242, 8 June 2015
- *Filing of joint supporting interventions*, Telecom Information Bulletin CRTC 2011-693, 8 November 2011

- *Guidelines on the CRTC Rules of Practice and Procedure*, Broadcasting and Telecom Information Bulletin CRTC 2010-959, 23 December 2010