



## Telecom Decision CRTC 2025-65

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Gatineau, 28 February 2025

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### **CISC Emergency Services Working Group and Network Working Group – Consensus report NTRE081 on measures to improve the resiliency of 9-1-1 and public alerting services and reduce the impacts of outages**

#### **Summary**

9-1-1 is a bridge that connects Canadians to emergency services in times of need. Federal, provincial, territorial, and municipal governments, as well as telecommunications service providers (TSPs), all play a role in ensuring that Canadians can access 9-1-1 services. The Commission's role is to regulate the TSPs that connect 9-1-1 calls to first responders.

In 2023, the Commission launched an action plan to help improve network resiliency and reliability for all telecommunications services. As part of that plan, the Commission asked the CRTC Interconnection Steering Committee (CISC) through two of its working groups, the Emergency Services Working Group (ESWG) and Network Working Group (NTWG) to provide a joint report with recommendations for improving network resiliency and reducing the impacts of outages for 9-1-1 and wireless public alerting services. To address the Commission's request, the two working groups created a joint task force, the ESWG-NTWG task force, which was composed of expert groups that play distinct roles in providing 9-1-1 and wireless public alerting services to Canadians. These groups include TSPs, emergency management organizations, public safety answering points, and Pelmorex (the National Alert Aggregation and Dissemination System administrator), among others. The joint task force then filed its report with the Commission for approval.

Through this decision, the Commission approves the consensus recommendations from the joint report and provides additional precision to the implementation of three of the recommendations. The measures approved through this decision include requiring TSPs to (i) improve the resiliency of the wireless public alerting system, (ii) prioritize 9-1-1 traffic over Internet Protocol (IP) traffic during network congestion, and (iii) provide information to the public on how to contact emergency services during outages. These measures will help improve 9-1-1 and wireless public alerting services for Canadians.

The Commission acknowledges the importance of 9-1-1 services for Canadians and will continue working within its mandate to support these services.

## Background

1. Canadians need access to reliable and high-quality 9-1-1 and wireless public alerting services. In 2023, the Commission launched an action plan to help improve network reliability and resiliency for all telecommunications services. As part of that plan, the Commission [requested](#) that the CRTC Interconnection Steering Committee (CISC) Emergency Services Working Group (ESWG) and Network Working Group (NTWG) provide a joint report with recommendations for improving network resiliency and reducing the impacts of outages for 9-1-1 and wireless public alerting services. The Commission also requested recommendations on measures to increase access to these services during outages.

## The ESWG-NTWG Report

2. On 13 December 2023, the ESWG-NTWG task force (the task force) filed for Commission approval a consensus report entitled *Recommendations for measures to improve network resiliency and reduce the impacts of outages in relation to 9-1-1 and public alerting* (NTRE081) [the ESWG-NTWG Report].
3. The task force included key stakeholders in 9-1-1 and wireless public alerting who collaborated in CISC to develop the consensus recommendations in the ESWG-NTWG Report. These stakeholders included telecommunications service providers (TSPs), emergency management organizations,<sup>1</sup> Pelmorex (the National Alert Aggregation and Dissemination [NAAD] System administrator),<sup>2</sup> and public safety answering points (PSAPs).
4. The task force's recommendations, as well as matters that were raised for further consideration, are set out in the appendix to this decision.

## Commission's analysis

5. The task force's recommendations will help enhance 9-1-1 and wireless public alerting services for Canadians once TSPs implement them. These enhancements include improving the resiliency of the wireless public alerting system, prioritizing 9-1-1 traffic over other Internet Protocol (IP) traffic during network congestion, and requiring TSPs to provide information to the public on how to contact emergency service providers during outages.

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<sup>1</sup> Emergency management organizations are part of federal, provincial, and territorial governments. These organizations are responsible for preparing for and managing emergencies and disasters, including issuing wireless public alerts.

<sup>2</sup> The NAAD System collects the emergency alerts issued by emergency management organizations and relays them to last-mile distributors (including broadcasters and wireless service providers), who distribute them to the public.

6. The task force did not provide suggested time frames for TSPs to implement the recommended measures. Therefore, the Commission has determined what it considers to be reasonable implementation time frames.
7. The Commission considers all the recommendations in the ESWG-NTWG Report to be appropriate and in the public interest. The Commission modifies recommendations 1, 3, and 5 to provide additional precision on how they will be implemented.

### **Recommendation 1**

8. Recommendation 1 states:

Mandate that following the first implementation of the emergency roaming solution<sup>[3]</sup> a [post-incident review] be conducted to assess the efficacy and implementation of the emergency roaming solution and identify any areas of potential improvement. Included in this is the potential need for methodologies to address situations of core network failures and resulting requirements to disable associated radio networks to prevent devices attempting to reconnect to a network that is down.

9. Wireless service providers (WSPs) are already subject to specific reporting requirements following an emergency roaming event through the [Memorandum of Understanding on Telecommunications Reliability](#) (the MoU). WSPs involved in an emergency roaming event must submit an emergency roaming report within 30 days of the event. Given this existing reporting requirement, the Commission considers that WSPs should continue to use this process to conduct their post-incident reviews and report on emergency roaming events as recommended in the ESWG-NTWG Report. The details of post-incident reviews are to be included in the WSPs' emergency roaming reports.
10. The Commission considers that WSPs involved in the first implementation of the emergency roaming solution after the publication of this decision should provide in their emergency roaming reports a post-incident review that includes (i) an assessment of the efficacy and implementation of the emergency roaming solution, and (ii) any areas of potential improvement.
11. Core network failures that require turning off associated radio networks to allow subscribers to emergency roam onto other WSPs' networks are rare. The Commission considers that post-incident reviews identifying the methodologies and measures implemented to address this scenario should be submitted as part of the WSPs'

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<sup>3</sup> This solution, which requires no action by the end-user, provides a method by which a wireless service provider (WSP) undergoing a substantial network outage can reach out to other WSPs that serve the same affected geographic region and implement roaming for its customers. This means that the affected customers will be able to, among other things, reach 9-1-1 with full location information and receive all wireless public alerts.

emergency roaming reports after the first instance of an emergency roaming event that includes this scenario.

12. These methodologies and measures could also benefit the industry, allowing other WSPs to review and implement the measures in their networks. The Commission considers that WSPs involved in this scenario should provide CISC with an abridged version of their emergency roaming reports.

### **Recommendation 3**

13. Recommendation 3 states:

Mandate [that] all TSPs ensure that 9-1-1 traffic is prioritized over their IP traffic to prevent interruption due to network congestion.

14. The Commission considers that TSPs should prioritize 9-1-1 traffic over their IP traffic to prevent interruption due to network congestion. However, this requirement should be modified to apply only when it is technically feasible, because some TSPs may not have the technical ability to prioritize 9-1-1 traffic over their IP traffic in all situations.

### **Recommendation 5**

15. Recommendation 5 states:

Clarify with authorized initiators of public alerts that the WPA [wireless public alerting] system is not [to] be used to inform the public of an ONP [originating network provider] network outage.

16. The Commission clarifies that emergency management organizations should not use the wireless public alerting system to inform the public of an ONP network outage. The Commission will also be launching a public consultation later this year to gather views on how it can improve consumer protections in the event of service outages. In that proceeding, the Commission will consider communication requirements for TSPs to inform the public when an outage does happen, and what form this should take. Additionally, the Commission will consider the need to require TSPs to provide rebates following an outage.

### **Conclusion**

17. The Commission approves all recommendations in the ESWG-NTWG Report, with modifications to recommendations 1, 3, and 5 to add precision on how TSPs will implement these recommendations.
18. With respect to the first emergency roaming event after the publication of this decision, the Commission directs the WSPs involved to include in their emergency roaming reports a post-incident review that:

- assesses the efficacy and implementation of the emergency roaming solution; and
  - identifies any areas of potential improvement.
19. With respect to the first emergency roaming event after the publication of this decision for an outage involving a core network failure that requires a WSP to turn off its associated radio network, the Commission directs the WSPs involved to:
- include, in the post-incident review portion of their emergency roaming reports, the methodologies and measures implemented to address this scenario; and
  - share public or abridged versions of these emergency roaming reports with CISC for consideration.
20. The Commission also directs all WSPs to implement an adequate combination of best practices for interconnection to the wireless public alerting environment, as set out in paragraph 2 of the appendix to this decision, by **28 August 2025**.
21. The Commission directs all TSPs to:
- prioritize 9-1-1 traffic over their IP traffic to prevent interruptions due to network congestion whenever it is technically feasible, by **28 May 2025**; and
  - devote page(s) on their websites to outage best practices, by **28 August 2025**. These webpages must provide information to customers on how they can best contact (and be contacted by) emergency service providers in the event of an outage.
22. The Commission also clarifies that emergency management organizations should not use the wireless public alerting system to notify the public of an ONP network outage, and finds that it would not be appropriate at this time to mandate the delivery of wireless public alerts via alternative networks, like Wi-Fi and satellite.
23. Finally, the Commission encourages:
- 9-1-1 authorities and their PSAPs to consider answering calls on each other's behalf and dispatching emergency responders for those emergency calls when making contingency arrangements with partner agencies; and
  - emergency management organizations to ensure that they:
    - have dual and redundant interconnections to the public alerting system (whether through web or direct access);
    - can generate alerts from various distinct locations (ensuring geo-redundancy);

- have trained staff who can back up and replace each other; and
- have continued training on the public alerting interface with Pelmorex Corp.

Secretary General

## Appendix to Telecom Decision CRTC 2025-65

### **Consensus recommendations from the Emergency Services Working Group (ESWG) and Network Working Group (NTWG) in *Recommendations for measures to improve network resiliency and reduce the impacts of outages in relation to 9-1-1 and public alerting* (NTRE081) [the ESWG-NTWG Report]**

1. Mandate that, following the first implementation of the emergency roaming solution by wireless service providers (WSPs), a post-incident review will be conducted by the WSPs involved to assess the efficacy and implementation of the emergency roaming solution and identify any areas of potential improvement. Included in this review is the potential need for methodologies to address situations of core network failures and resulting requirements to disable associated radio networks to prevent devices from attempting to reconnect to a network that is down.
2. Direct all WSPs to implement an adequate combination of best practices for interconnection to the wireless public alerting environment, including the following:
  - (a) Redundancy: Deploy, at a minimum, one Broadcast Message Controller (BMC) pair and interconnect each BMC to the National Alert Aggregation and Dissemination (NAAD) System points of interconnection.
  - (b) Diversity:
    - (i) Ensure the BMCs are geo-redundant.
    - (ii) If technically feasible, use more than one vendor for the four links providing interconnection to the public alerting system to provide enhanced interconnection redundancy, resiliency, and diversity.
    - (iii) Deploy two BMC pairs, each serving different regions of the country and each being able to communicate with all the cellphone towers of the WSP nationally in the event of failure.
  - (c) Testing: As per the Commission [letter](#) dated 3 October 2018, WSPs shall participate in the biannual national test days.
  - (d) Monitoring: Implement robust monitoring systems to help detect outages and other network issues early, allowing quicker response times and minimizing the impact on mobile wireless service end-users.
  - (e) Training: Ensure that WSPs' technical staff are properly trained on the wireless public alerting system ecosystem to help minimize the impact of outages. This training can include regular training on disaster recovery procedures, communication protocols, and other relevant topics.

- (f) Cybersecurity: Implement robust cybersecurity measures to help prevent outages caused by cyber attacks. The measures can include implementing firewalls, intrusion detection systems, and other security measures.
3. Mandate that all telecommunications service providers prioritize 9-1-1 traffic over their Internet Protocol traffic to prevent interruption due to network congestion.
  4. Mandate that all telecommunications service providers, regardless of size, devote page(s) on their website to outage best practices that provide information to customers on how best to contact (and be contacted by) emergency service providers in the event of an outage. These best practices should be published on their website within six months of the Commission's decision.
  5. Clarify that emergency management organizations should not use the wireless public alerting system to inform the public of an originating network provider network outage.
  6. Recommend against mandating the delivery of wireless public alerts via alternative networks, like Wi-Fi and satellite.
  7. Encourage 9-1-1 authorities and their public safety answering points, when making contingency arrangements with partner agencies to answer calls on each other's behalf, to consider including the dispatching of emergency responders related to those emergency calls.
  8. Encourage the Commission to consider using its influence to encourage emergency management organizations that originate public alerts to ensure they:
    - (a) have dual and redundant interconnections to the public alerting system (whether through web or direct access);
    - (b) can generate alerts from various distinct locations (ensuring geo-redundancy);
    - (c) have trained staff who are able to back up and replace each other; and
    - (d) have continued training on the public alerting interface with Pelmorex Corp.

### **Matters for further consideration within CISC in the ESWG-NTWG Report**

1. Standards are continually evolving, and both the ESWG and NTWG should continue to remain vigilant for the development and commercial deployment of solutions that may positively impact the reliability and resiliency of telecommunications networks, 9-1-1 services, and/or wireless public alerting.
2. Due to the special expertise within the ESWG, the ESWG-NTWG joint task force will submit a letter to the ESWG for its consideration that will include:

- the implications of processing 9-1-1 calls over Wi-Fi during network outages (especially for those areas only served by a single wireless service provider); and
- the efficacy and ubiquitousness of 9-1-1 over satellite solutions as an alternative method to reaching public safety answering points to help form future policy.