Telecom Decision CRTC 2017-389

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Reference: Telecom Regulatory Policy 2016-165

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CISC Emergency Services Working Group – Consensus report ESRE0076 – 9-1-1 Service Outage Notification Processes

*The Commission **directs** 9-1-1 network providers and telephone service providers to implement the ESWG's consensus report recommendations regarding 9-1-1 service outage notification processes, within **three months** following the date of this decision, and encourages public safety answering points (PSAPs) to implement the recommendations that apply to them within the same time frame. The Commission also encourages 9-1-1 network providers and PSAPs to adopt, as appropriate, the best practices recommended in the report that are related to notification processes. The Commission requests that the ESWG review and update, as required, the 9-1-1 service outage notification processes once the next-generation 9-1-1 trial stage is substantially complete.*

Background

1. In Canada, when a call to 9-1-1 is made, the call travels from the network on which it was placed (the originating network)[1] to the local specialized 9-1-1 network.[2] The 9-1-1 network determines which 9-1-1 call centre, also known as a public safety answering point (PSAP), serves the area from which the call was placed and directs the call to that PSAP. The appropriate emergency responders, such as fire, police, or ambulance services, are then identified and dispatched as required.

2. The Commission conducted a public proceeding on matters related to the reliability and resiliency of 9-1-1 networks in Canada, resulting in the publication of Telecom Regulatory Policy 2016-165. The Commission found that overall, the 9-1-1 networks in Canada are reliable and resilient, resulting in very few 9-1-1 network outages that have impacted the delivery of 9-1-1 calls.

3. The Commission also found that although 9-1-1 network providers already had some 9-1-1 service outage notification processes in place in the event of a 9-1-1 network

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[1] Originating networks include traditional wireline, wireless, and local voice over Internet Protocol (VoIP) telephony networks, as defined in Telecom Regulatory Policy 2016-165.

[2] 9-1-1 networks are defined in Telecom Regulatory Policy 2016-165 as beginning at the interconnection point with the originating network and ending at the demarcation point with the primary public safety answering point (PSAP).

outage, these processes were not consistent nationally. The Commission therefore requested that the CRTC Interconnection Steering Committee's Emergency Services Working Group (ESWG) develop 9-1-1 service outage notification processes and mechanisms for 9-1-1 network providers and telephone service providers (TSPs).

The ESWG report

4. The ESWG submitted the following consensus report for Commission approval:

  - *9-1-1 Service Outage Notification Processes*, 25 May 2017 (ESRE0076)

5. The report is based on the views of 9-1-1 stakeholders, including 9-1-1 network providers, PSAPs, and TSPs. It can be found under the "Reports" section of the ESWG page, which is available in the CISC section of the Commission's website at www.crtc.gc.ca.

6. The ESWG recommended 9-1-1 service outage notification processes, including stakeholder responsibilities; triggers and timelines for initial, follow-up, and service restoration notifications; mechanisms for notification (i.e. telephone, email); maintenance of up-to-date contact information; escalation processes; plans for notifying the public of alternative means to seek emergency assistance; and post-outage reviews.[3]

7. The ESWG also recommended that the Commission encourage 9-1-1 network providers, TSPs, and PSAPs to review and adopt, as applicable, certain industry best practices related to the reliability and resiliency of 9-1-1 networks, originating networks, and PSAP systems, as well as interconnection, contingency planning, and outage notification processes for the public and for affected stakeholders.

8. The ESWG further recommended that it perform a subsequent review of the 9-1-1 outage notification processes when the next-generation 9-1-1 (NG9-1-1) trial stage is substantially complete,[4] to address any new issues and include new tools that may become available at that time.

9. Finally, the report included recommendations on items that were out of scope from the Commission's original request, related to originating network outage notification processes.

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[3] Refer to section 2 of the report for further details on the recommended notification processes.

[4] NG9-1-1 comprises modernized 9-1-1 networks that are based on Internet Protocol (IP) as well as possible new, enhanced, and innovative 9-1-1 services offered over these networks. In June 2017, the Commission published Telecom Regulatory Policy 2017-182, in which it determined that NG9-1-1 networks are to be built. NG9-1-1 Voice (IP-based voice calls) and NG9-1-1 Text Messaging will be offered by the end of 2020, as PSAPs launch the services in their areas.

Commission's analysis and determinations

10. The Commission considers that there was appropriate stakeholder representation in the development of the 9-1-1 service outage notification processes. The 9-1-1 network providers each submitted a contribution related to their existing notification processes, and there was consensus within the ESWG in developing the recommendations.

9-1-1 outage notification processes

11. The recommended notification processes, as developed by the ESWG and intended for TSPs, 9-1-1 network providers, and PSAPs (including both primary and secondary PSAPs, as appropriate), will achieve the objectives set out in Telecom Regulatory Policy 2016-165, namely of ensuring that (a) parties that are directly required to take action to restore service will be able to do so quickly, and (b) parties can inform the public of alternative measures to access emergency services if the time to repair the outage is lengthy. Further, the recommended processes will ensure that all parties are aware of their notification responsibilities.

12. In addition, formalizing and standardizing notification processes for national consistency will ensure that 9-1-1 network providers, TSPs, and PSAPs across the country are receiving the same information related to 9-1-1 network outages, which will assist them in providing consistent services to Canadians.

13. Although the ESWG did not recommend implementation timelines in the report, the Commission considers it reasonable to mandate implementation of 9-1-1 service outage notification processes within three months of the publication of this decision. Because the notification processes are already largely in place, namely for the 9-1-1 network providers, implementation is not expected to be burdensome on the parties involved. Further, a three-month deadline will ensure that Canadians benefit from a consistent notification process as soon as possible.

14. In light of the above, the Commission **directs** 9-1-1 network providers and TSPs[5] to implement the ESWG's recommendations regarding 9-1-1 service outage notification processes, as outlined in the report, within **three months** following the date of this decision. The Commission also encourages PSAPs to implement the recommendations that apply to them within the same time frame.

Industry best practices

15. In the report, the ESWG recommended best practices that are appropriately related to 9-1-1 network outage notification. These are set out in the Appendix to this decision. To the extent that best practices related to notification processes apply to 9-1-1 network providers and PSAPs, the Commission encourages their review and adoption, as appropriate, as recommended in the report.

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[5] TSPs include traditional wireline, wireless, and local VoIP service providers.

16. In Telecom Regulatory Policy 2017-182, the Commission tasked the ESWG with recommending industry best practices related to the reliability and resiliency of NG9-1-1 networks, by 31 December 2017. That exercise will provide a further opportunity for the Commission to review and amend these practices.

Subsequent review

17. The transition to NG9-1-1 may require modifications to the proposed notification processes and may provide opportunities to develop new notification tools. Further insight will be gained during the NG9-1-1 trials, and that would be an opportune time to review the notification processes. The Commission therefore requests that the ESWG review and update, as required, the 9-1-1 service outage notification processes once the NG9-1-1 trials are substantially complete.

Originating network outage notification processes

18. The ESWG's recommendations related to originating network outage notification processes are not within the scope of the Commission's original request, as set out in Telecom Regulatory Policy 2016-165 and as reproduced in the ESWG's task description. Therefore, the Commission excludes these recommendations from its determinations at this time.

Secretary General

Related documents

- *Next-generation 9-1-1 – Modernizing 9-1-1 networks to meet the public safety needs of Canadians*, Telecom Regulatory Policy CRTC 2017-182, 1 June 2017

- *Matters related to the reliability and resiliency of the 9-1-1 networks*, Telecom Regulatory Policy CRTC 2016-165, 2 May 2016

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Industry best practices for 9-1-1 network outage notification, as set out in the report[6]

The following are two industry best practices, based on the *verbatim* output from the United States Federal Communications Commission's Communications Security, Reliability and Interoperability Council (CSRIC). These best practices are an amalgamation of the work of such 9-1-1 standards bodies as the National Emergency Number Association (NENA), the American National Standards Institute (ANSI), and the Association of Public-Safety Communications Officials (APCO).

- Service Providers, Network Operators, Public Safety, and Equipment Suppliers should develop and practice a communications plan as part of the broader Incident response plan identifying key players to include as many of the following items as appropriate: contact names, business telephone numbers, home telephone numbers, pager numbers, fax numbers, cell phone numbers, home addresses, internet addresses, permanent bridge numbers, etc. Notification plans should be developed prior to an event/incident happening where necessary. The plan should also include alternate communications channels (e.g., alpha pagers, internet, satellite phones, VOIP, private lines, smart phones) balancing the value of any alternate method against the security and information loss risks introduced.[7]

- Service Providers and Public Safety organizations should jointly develop a response plan to notify the public, through the broadcast media, of alternate means of contacting emergency services during a 9-1-1 outage.[8]

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[6] Refer to section 2.8 of the ESWG report.

[7] Refer to CSRIC best practice 9-9-8068.

[8] Refer to CSRIC best practice 9-7-3201.