



Telecom Decision CRTC 2019-120

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CISC Emergency Services Working Group – Consensus report recommending updates to the wireless 9-1-1 caller location accuracy thresholds originally approved in Telecom Decision 2017-119

Background

1. Effective access to emergency services is critical to the health and safety of citizens, and is an important part of ensuring that Canadians have access to a world-class communication system. In Telecom Regulatory Policy 2014-342, the Commission set out its 9-1-1 action plan, which included key initiatives aimed at enhancing Canadians' access to existing 9-1-1 services.
2. Through a series of decisions, the Commission established a wireless 9-1-1 location accuracy (location accuracy) monitoring process. The objective of this process is to better understand the accuracy of the location information that wireless service providers (WSPs) send to public safety answering points (PSAPs) during a 9-1-1 call, so that improvements can be made to wireless location accuracy in the future.
3. The Commission approved minimum and target thresholds that WSPs are to use to measure location accuracy performance, as well as an obligation for WSPs to file reports with the Commission that include analyses of their performance results, explanations in cases where they are not meeting thresholds, and their action plans to resolve any related issues. The Commission also requested that the CRTC Interconnection Steering Committee (CISC) Emergency Services Working Group (ESWG) conduct annual assessments of the identified thresholds to determine whether they should be adjusted.
4. WSPs have filed four sets of threshold results with the Commission, dating back to 2015. Reporting Period 1 covers 1 May to 31 July 2015, Period 2 covers 1 August to 31 December 2015, Period 3 covers 1 January to 31 December 2016, and Period 4 covers 1 January to 31 January 2017. As part of the location accuracy monitoring process, the Commission has made available aggregated results to inform the ESWG's assessments.

The ESWG report

5. On 10 December 2018, the ESWG submitted the following consensus report (the Report) for Commission approval:
 - *Recommended Updates to the Wireless Location Accuracy Thresholds Approved in Telecom Decision 2017-119*, 31 October 2018 (ESRE0084)¹
6. In the Report, the ESWG assessed the current location accuracy minimum and target thresholds on the basis of the Commission's aggregated results from Periods 3 and 4. The latest results demonstrated that most of the WSPs were exceeding the minimum required location accuracy thresholds and attaining the target thresholds.
7. As a result, the ESWG reviewed the appropriateness of adjusting the thresholds for location accuracy and recommended that the Commission (i) approve the revised thresholds to be used for Period 5² (as shown in the Appendix to this decision), which would replace those previously approved in Telecom Decision 2017-119; and (ii) reiterate the ESWG's obligation to continue the process of assessing the Commission's aggregated results and recommending future adjustments to the thresholds as required. These recommendations were agreed upon by key stakeholders, including WSPs and PSAPs.

Commission's analysis and determinations

8. The Commission is continually looking for ways in which emergency telecommunications services can be improved. Enhancing WSPs' location accuracy performance constitutes such an improvement.
9. The Commission has analyzed the ESWG's proposed minimum and target thresholds compared to the WSPs' performance results for Periods 3 and 4, and finds that the thresholds are fair and reasonable. Additionally, the methodology used by the ESWG to determine the proposed thresholds is appropriate since it is (i) based on the approved monitoring process using standard mathematical concepts, (ii) repeatable, and (iii) auditable.
10. A comparison with the Period 4 performance results indicates that the proposed thresholds are appropriate, since
 - only a small number of WSPs would potentially not be able to meet the proposed minimum thresholds;

¹ The Report can be found under the "Reports" section of the ESWG page, which is available under the CISC section of the Commission's website at www.crtc.gc.ca.

² Reporting Period 5 covers 1 January to 31 December 2018.

- the WSPs that are not currently meeting the proposed target thresholds are distributed evenly across all provinces and categories, demonstrating that meeting these target thresholds would require efforts by many WSPs; and
 - the WSPs that participated in preparing the Report have demonstrated that they wish to improve their performance results by agreeing to the proposed thresholds.
11. The Commission reiterates that WSPs that do not meet the minimum thresholds must provide explanations and develop action plans for meeting or exceeding these thresholds in the future.
12. In summary, the location accuracy monitoring process is working well, as demonstrated by WSPs' actions to improve their performance results and the significant increases in the proposed thresholds.
13. In light of the above, the Commission **approves** the recommendations set out in the Report, and
- **directs** WSPs to use the revised minimum and target thresholds (shown in the Appendix to this decision) as the basis for measuring their location accuracy performance for Period 5, and for subsequent reporting periods;
 - requests that the ESWG continue to (i) annually assess WSPs' location accuracy results, and (ii) report to the Commission if and when it deems any adjustment to the thresholds to be appropriate; and
 - requests that the ESWG continue to monitor and report on technical and standards developments in the wireless industry that could lead to improved location accuracy results.

Secretary General

Related documents

- *CISC Emergency Services Working Group – Consensus report regarding updates to the wireless 9-1-1 caller location accuracy thresholds*, Telecom Decision CRTC 2017-119, 28 April 2017
- *9-1-1 action plan*, Telecom Regulatory Policy CRTC 2014-342, 25 June 2014

Appendix to Telecom Decision CRTC 2019-120

Recommended updates to the wireless 9-1-1 caller location accuracy thresholds approved in Telecom Decision 2017-119, as per Consensus Report ESRE0084

Uncertainty Threshold ³	<150m for Rural / Small PSAPs		<150m for Large / Metro PSAPs		<1000m for Rural / Small PSAPs		<1000m for Large / Metro PSAPs	
	Periods 3 & 4	Period 5	Periods 3 & 4	Period 5	Periods 3 & 4	Period 5	Periods 3 & 4	Period 5
Minimum threshold⁴	50%	60%	50%	60%	65%	72%	75%	82%
Target threshold⁵	65%	74%	65%	72%	80%	85%	90%	92%

³ Uncertainty thresholds are measures, expressed in percentages, that represent the number of 9-1-1 calls delivered by WSPs to PSAPs within a defined radius at a given level of confidence.

⁴ The minimum threshold is the point below which a WSP is outside the normal range of performance (more than two standard deviations), indicating a need for location accuracy improvement.

⁵ The target threshold is the mean performance of WSPs and is an aspirational target that all WSPs should strive to reach.