
CRTC INTERCONNECTION STEERING COMMITTEE (CISC)

REPORT to the CRTC

by the

Emergency Services Working Group (ESWG)

Report Number: ESRE0094

**Recommended Updates to the Wireless Location Accuracy
Benchmarks Approved in Telecom Decision 2019-120**

December 9, 2021

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WIRELESS TEST CALLS TO PSAPS

Report by the ESWG

Task ID	ESTF0069
Task Name	Wireless Phase II Location Accuracy Requirements in Canada
Task Owner	Chris Kellett, Alberta E9-1-1 Advisory Association (AEAA)
Task Team	Emergency Services (9-1-1) Working Group (ESWG) members

Task Description

(Specific to this item)

As detailed at paragraph 13 of CRTC Telecom Decision 2019-120 issued on April 26, 2019, the Emergency Services [9-1-1] Working Group (ESWG) is directed to “... and (ii) report to the Commission if and when it deems any adjustment to the thresholds to be appropriate;”.

1 INTRODUCTION

The 9-1-1 wireless Phase II location capability was implemented across Canada in all areas that support Enhanced (E9-1-1) service in 2010, per the direction issued in [Telecom Regulatory Policy CRTC 2009-40](#).

In May 2011, the Emergency Services [9-1-1] Working Group (ESWG) undertook the follow-up activities required to create the Wireless Location Accuracy Requirements for Canada through the sub-committee work detailed in [Task Identification Form - ESTF0069](#). The results of this requirements work were detailed in [ESRE0064](#), which was approved by the CRTC in [Telecom Decision 2014-415](#).

The CRTC further tasked ESWG with an annual review of Benchmarks, including proposing changes to Thresholds in order to continue improving wireless accuracy results delivered to Public Safety Answering Points (PSAPs).

In October 2016, ESWG filed [ESRE0075](#) proposing updated Benchmarks, these changes were approved by the CRTC in [Telecom Decision 2017-119](#).

In November 2018, ESWG filed [ESRE0084](#) proposing update Benchmarks, these change were approved by the CRTC in [Telecom Decision 2019-120](#).

After reviewing the 2019 and 2020 results, ESWG is submitting this report proposing the changes detailed next.

2 CURRENT AND NEWLY PROPOSED BENCHMARKS (THRESHOLDS)

Since 2019 the ESWG wireless location accuracy task sub-group has continued to review and analyse the results from reporting periods 6 (01 January 2019 to 31 December 2019) and 7 (01 January 2020 to 31 December 2020). Based on this extensive evaluation, the ESWG is recommending the following changes to the thresholds for use during reporting period 8 (01 January 2021 to 31 December 2021):

	<150m for Rural / Small PSAPs			<150m for Large / Metro PSAPs			<1000m for Rural / Small PSAPs			<1000m for Large / Metro PSAPs		
	P6	P7	New	P6	P7	New	P6	P7	New	P6	P7	New
Minimum threshold	60%	60%	65%	60%	60%	65%	72%	72%	75%	82%	82%	86%
Target threshold	74%	74%	76%	72%	72%	74%	85%	85%	87%	92%	92%	93%
National Averages	77.7%	77.5%		75.5%	76.2%		88.8%	88.4%		94.8%	94.8%	

The proposed increase to the Minimum thresholds is based on continued positive aggregated results for reporting periods 6 and 7; with the understanding that all Wireless Service Providers (WSPs) should be able to meet this Minimum threshold for reporting period 8 (2021 annual results). The change to the Target thresholds is based on the National aggregated averages shown at the bottom of the table above; with the understanding that on average 50% of the WSP actual results will be above and 50% below the newly proposed Target threshold for reporting period 8.

It is important to note that the continued improvement in wireless location accuracy results is attributable to two factors: a major consumer shift to smart phones with enhanced location capabilities, and the ongoing network improvement and validation testing by WSPs. However, the positive impact of 5G voice implementation for 9-1-1 is not expected to be available until 2024 onward (only 5G data is being rolled out currently, this does not improve location accuracy).

3 CONCLUSION

The newly proposed thresholds (*highlighted in yellow in the table above*) are considered incremental based on the work required to stabilize the existing 4G voice network, with the ongoing goal to continue providing 9-1-1 Public Safety Answering Points (PSAPs) with the best possible location information from emergency callers using wireless (WSP) handsets.

4 RECOMMENDATIONS

Based on the reasoning detailed in this report, the ESWG has the following recommendations:

1. Expedited approval of the updated Wireless Location Accuracy Benchmarks (Thresholds) approved in CRTC Telecom Decision 2019-120; to be used as the new reporting criteria for WSP Reporting Period 8 (01 January 2021 to 31 Dec 2021) which is due by the end of February 2022:

	<150m for Rural / Small PSAPs	<150m for Large / Metro PSAPs	<1000m for Rural / Small PSAPs	<1000m for Large / Metro PSAPs
Minimum threshold	65%	65%	75%	86%
Target threshold	76%	74%	87%	93%

2. This incremental change is proposed for Period 8 (2021) only, and ESWG will file updated benchmarks for Period 9 (2022).
3. That the ESWG continue the process of receiving and assessing the results of the CRTC aggregated wireless accuracy reporting and analysis, and as needed file a future report(s) with recommended adjustments.

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