Canadian Radio-television and Telecommunications Commission
Conseil de la radiodiffusion et des télécommunications canadiennes

Telecom Decision CRTC 2014-662

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CISC Emergency Services Working Group – Consensus report regarding the location of small cell antennas for 9-1-1 services

*The Commission **approves** the recommendations made by the CRTC Interconnection Steering Committee's (CISC) Emergency Services Working Group (ESWG) on how to identify the location of small cell antennas to 9-1-1 call takers. The Commission **directs** all wireless carriers to implement the recommendations as expeditiously as possible, and no later than **30 September 2015**.*

The Commission also requests that the ESWG continue its research into identifying the possible location of Femto cell antennas and to provide its recommendations to the Commission within a reasonable time frame or, at the very latest, in advance of the initial deployment of Femto cell antennas in Canada.

Background

1. Wireless carriers are beginning to deploy small cell technologies in their networks. Small cells cover a smaller geographic area than traditional wireless towers, and are less costly, less obtrusive, and easier to install. Some common small cell technologies include Micro, Pico, and Femto cells.[1]

2. Small cells are used to provide service to remote locations, extend service coverage, or expand data capacity in congested urban centres. Small cell antennas are commonly installed on utility poles, street lights, billboards, bridges, flag poles, and in tunnels, homes, businesses, malls, and sports stadiums.

3. The location of small cell antennas is useful information for 9-1-1 call takers and can assist them in the effective dispatch of emergency responders. However, there are challenges in identifying the location of small cell antennas for 9-1-1 service purposes. As well, there is a lack of consistent standards for identifying the location of small cell antennas in Canada, as each wireless carrier may identify the location of these antennas in a different manner.

[1] Micro and Pico cells have a typical cell radius of 500 and 70 metres, respectively. Unlike Micro and Pico technologies, which are used by wireless carriers, Femto cells are deployed by home and business owners and thus can be easily moved to different locations; this causes additional location identification challenges as compared to Micro and Pico cells.

4. Given that wireless carriers have begun to deploy small cell technology in Canada, the CRTC Interconnection Steering Committee (CISC) Emergency Services Working Group (ESWG) initiated a task in July 2013 to identify and recommend standards and/or methods for wireless companies to identify the location of small cell antennas to 9-1-1 call takers.

The ESWG Report

5. On 11 July 2014, the CISC ESWG submitted consensus report *Small Cell Site Addressing Report*, 10 July 2014 (ESRE0066) [the Report] to the Commission for approval.

6. This 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.

7. In the Report, the ESWG noted that it analyzed a number of Micro/Pico cell location identification methods and, in consensus, recommended a standardized, accurate, and effective method for all wireless carriers.

8. The Report addresses only Micro and Pico cell deployments, as viable Femto cell location identification solutions have not yet been identified by the industry.

9. The ESWG recommended that all wireless carriers identify the location of each Micro/Pico cell antenna to 9-1-1 call takers using a civic address or Global Positioning System (GPS) latitude/longitude coordinates. As well, it was recommended that wireless carriers use a new naming convention to identify to 9-1-1 call takers whether a 9-1-1 call is from a Micro or Pico small cell antenna, and whether the small cell antenna is indoors or outdoors.

Commission's analysis and determinations

10. Given the increasing popularity of small cell technologies, the development of consistent standards for identifying the location of small cell antennas is necessary and timely. The recommended approach creates an accurate and consistent way for wireless carriers to identify the location of Micro and Pico small cell antennas to 9-1-1 call takers.

11. The Commission notes that, while wireless carriers have not deployed Femto cell antennas in their networks, it is still important for the industry to continue its research into identifying the possible location of Femto cell antennas and to provide its recommendations to the Commission, in advance of any wireless carrier deploying Femto cell antennas in Canada.

12. Based on its review of the Report, the Commission **approves** the recommendations set out therein. All wireless carriers are **directed** to implement the recommendations included in the Report as expeditiously as possible, and no later than **30 September 2015**.

13. The Commission also requests that the ESWG continue its research into identifying the possible location of Femto cell antennas and to provide its recommendations to the Commission within a reasonable time frame or, at the very latest, in advance of the initial deployment of Femto cell antennas in Canada.

Secretary General