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June 17, 2013

Via Email

Jeffery Goldthorp
Chief, Communications Systems Analysis Division
Public Safety and Homeland Security Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: NRSC Bulletin No. 2012-001 on Wireless Outages

Dear Jeff:

This letter is sent in response to your questions regarding NRSC Bulletin No. 2012-001 on Wireless Outages, which was issued in December of 2012. The NRSC appreciates the opportunity to provide additional information regarding this bulletin and on the significant work that has been undertaken by the NRSC Wireless Outages Subteam to evaluate wireless network outages.

In the Bulletin, the Subteam analyzed outage data during the 31-month period from January 2010 through July 2012 to identify trends in the number and duration of wireless outages reported to the Commission via the Network Outage Reporting System (NORS). Among the Subteam's findings:

- The duration of wireless outages did not appear to be increasing;
- 65% of wireless outage reports were sympathy reports (outages that "occurred in another company's network") and that the leading cause of those outages was cable damage; and
- The primary cause of wireless outages across the industry was in the Procedural-Service Provider-Other cause group and 88% of these events contained the words "planned" or "maintenance," indicating that these events likely occurred during a maintenance window.

In your email sent on February 27, 2013, you raised questions related to an apparent discrepancy between how the NRSC Subteam was viewing network outage data and how the Commission views this same data. This difference is illustrated in the charts below:

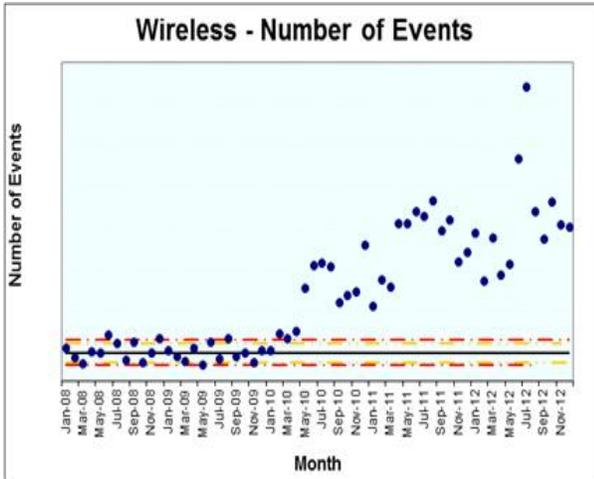


Figure 1 – Commission Chart (April 2013)

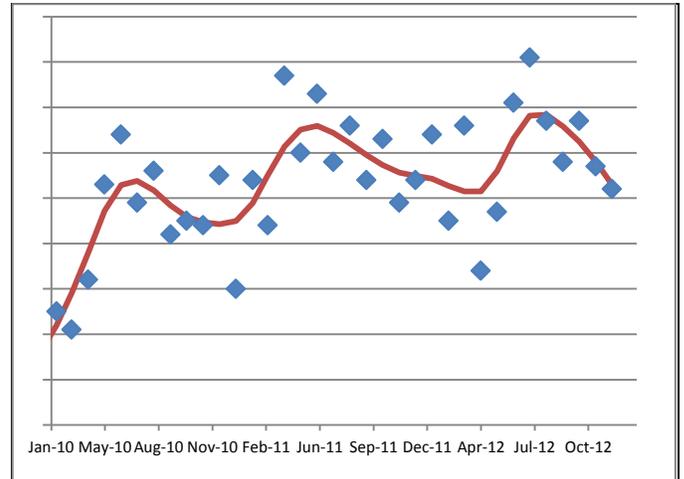


Figure 2 –Analysis of NRSC Member Data without Sympathy Reports (Jan 2010 – December 2012)

Based on this difference, you posed questions regarding the team’s findings: (1) if the current high number of wireless outage reports is primarily the result of 4G upgrades, when does the NRSC believe the level of these outages will return to something close to what the FCC saw during the 2008/2009 timeframe; (2) if the NRSC does not believe these outages will return to the 2008/2009 level, what sustainable level of outages does the NRSC predict will be reported after the 4G upgrade is completed; and (3) why didn’t the industry experience a similar surge of wireless outages when the 3G conversion happened. Subsequently, you raised other issues for consideration by the NRSC Wireless Outages Subteam, including why network upgrades and maintenance activity don’t impact wireline companies the same way as wireless networks, and whether the NRSC would be willing to extend the investigation to include data from September 2012 to present. In response to these questions, the NRSC provides the information below:

Question 1: *If the current high number of wireless outage reports is primarily the result of 4G upgrades, when does the NRSC believe the level of these outages will return to something close to what the FCC saw during the 2008/2009 timeframe?*

NRSC Response: The NRSC notes that the Commission’s chart includes sympathy reports, while the NRSC’s analysis specifically excludes these reports. The NRSC believes that excluding sympathy reports results in a more accurate analysis of network events and overall depiction of network reliability.

The NRSC does not believe that wireless outages will return to the same levels that the Commission saw during the 2008/2009 timeframe for two main reasons. First, wireless networks and the number of wireless customers have grown significantly over the last five (5) years. The NRSC anticipates that the increased demand for smart devices and enhanced data services will continue to drive growth in the network(s) in terms of the number of sites and the amount of equipment and facilities necessary to provide those

enhanced services. Such growth will necessitate work that will likely result in reported outages. Second, some companies have modified the manner in which outages are reported. It is important to note that Enforcement Bureau activity, which was substantial in 2011, resulted in some communication providers modifying the manner in which they report outages to the Commission. The impact of this modification has resulted in a dramatic increase in the number of wireless outages reported. At least one (1) NRSC member company has been reporting a significantly larger number of outages since May 2010 as a direct result of Commission inquiries.

Question 2: *If the NRSC does not believe these outages will return to the 2008/2009 level, what sustainable level of outages does the NRSC predict will be reported after the 4G upgrade is completed?*

NRSC Response: This is a difficult question to answer. As mentioned above, wireless networks and their customer bases have expanded significantly over the last five (5) years. These trends are likely to continue as additional 4G/LTE services are rolled out. Moreover, pending clarification and/or modification of the Commission's outage reporting requirements in the anticipated Part 4 review rulemaking, it is impossible to predict how reporting of wireless outages will be affected.

Question 3: *Why didn't the industry experience a similar surge of wireless outages when the 3G conversion happened?*

NRSC Response: As mentioned earlier, operating companies have significantly changed the manner in which they report outages, so comparing reports from the 3G conversion to reports from the 4G conversion is likely to show very different results.

Question 4: *Why don't network upgrades and maintenance activity impact wireline companies the same way?*

NRSC Response: The NRSC Wireless Subteam focused only on wireless outages and did not investigate wireline outages.

Question 5: *Would the NRSC be willing to extend the investigation to include an additional date range (e.g., September 2012 to current)?*

NRSC Response: Yes and, in fact, the NRSC already extended the investigation through December 2012 (which was current at the time of the inquiry). The additional data confirmed the findings of the NRSC Wireless Bulletin as well as identified the additional points outlined in answers to Question 1 above.

Letter to J. Goldthorp
June 17, 2013
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The ATIS NRSC appreciates the opportunity to provide this information. If you have any questions, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas Goode". The signature is written in a cursive style with a large initial "T" and a long, sweeping underline.

Thomas Goode
General Counsel