



Network Reliability and Interoperability Council and its replacement, the Communications Security, Reliability and Interoperability Council, have developed and endorsed a series of 911 route diversity best practices including one that “specifically identifies the need for diversity in equipment and lines used to provide 9-1-1/E9-1-1 communications services.”<sup>4</sup> The Bureau, in turn, has emphasized that route diversity “contribute[s] directly to the fundamental public safety precepts of redundancy and resiliency” and has recognized satellite technology as a way to achieve this path diversity.<sup>5</sup>

Satellite is an important, reliable and proven technology platform to achieve physical route diversity. As part of the Commission’s first hearing examining reliability and continuity following Superstorm Sandy, Hughes Network Systems, an EchoStar company, highlighted the unique capabilities that satellite offers:

Satellite [] serves as an instrumental communications path in times of emergency or disaster and in their immediate aftermath. Satellite coverage is uniformly high quality, offering a true alternate communications platform — which is so important for emergency response and recovery activities when disaster strikes and terrestrial wireline and wireless broadband networks are most vulnerable.<sup>6</sup>

---

<sup>4</sup> FCC Public Safety & Homeland Security Bureau, “FCC’s Public Safety and Homeland Security Bureau Reminds Telecommunications Service Providers of Importance of Implementing Established 9-1-1 and Enhanced 9-1-1 Services Best Practices,” *Public Notice*, DA 12- 891, 27 FCC Rcd 6085 (PSHSB rel. June 6, 2012). NRIC Best Practice 8-7-0566 states: “Network Operators and Service providers should consider placing and maintaining 9-1-1 circuits over diverse interoffice transport facilities (e.g., geographically diverse facility routes, automatically invoked standby routing, diverse digital crossconnect system services, self-healing fiber ring topologies, or any combination thereof).” NRIC Best Practice 8-7-0566, *available at* <https://www.fcc.gov/nors/outage/bestpractice/ProcessBestPractice.cfm?RequestTimeout=500>.

<sup>5</sup> FCC Public Safety & Homeland Security Bureau, “Tech Topic 14: Diversity, Redundancy, and Resiliency – in that Order,” *available at* <http://transition.fcc.gov/pshs/techttopics/techttopics14.html>.

<sup>6</sup> Presentation by Tony Bardo, Vice President, Hughes Network Systems, LLC, an EchoStar Company, “Assessing Network Resiliency – Lessons Learned From Sandy” Panel, FCC Superstorm Sandy Field Hearing, PS Docket No. 11-60, at 1 (Feb. 4, 2013).

Hughes also provided examples of how satellite played “a vital role in keeping emergency responders, businesses and people connected during the storm and in its aftermath” when the terrestrial infrastructure was unavailable.<sup>7</sup>

Time and time again, satellite technology has demonstrated its ability to offer true path diversity to enable the continued availability of communications services. This ability to provide true path diversity is of particular importance to the nation’s 911 system. When a natural or man-made disaster wipes out landlines, cell towers, and/or backhaul, satellite infrastructure is “generally unaffected” and provides for robust, redundant back-up operations.<sup>8</sup> The Commission should continue to highlight satellite infrastructure for route diversity, particularly in the 911 system where diversity is critical. Accordingly, 911 service providers should be encouraged as part of best practices to incorporate satellite into their route diversity plans, enabling seamless conversion of 911 communications to satellite links in the event of disaster.

Respectfully submitted,

**ECHOSTAR CORPORATION**

By: /s/ Dean A. Manson  
Dean A. Manson  
Executive Vice President, General Counsel,  
and Secretary  
EchoStar Corporation  
Hughes Network Systems, LLC  
11717 Exploration Lane

May 13, 2013

---

<sup>7</sup> *Id.* at 2-4.

<sup>8</sup> Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, *Order*, EB Docket No. 06-119, WC Docket No. 06-63, 22 FCC Rcd 10541, ¶ 11 n.9 (2007).