Tropical Storm Irene Hearing Questions

Leaders and Members of the Energy & Technology, Public Safety & Security, Planning & Development and Labor and Public Employees Committees thank you for inviting Verizon to participate in today's hearing, "After Irene: State's Readiness and Response." Prior to the storm, Verizon took many steps to make sure our networks would perform well. During the storm all of our central offices and most of our cell sites that lost commercial power continued to serve customers as designed thanks to our backup batteries and generators. We also provided customers and the general public with free charging and domestic calling options within our stores in some of the most severely impacted communities impacted by the storm. Additionally, we supported emergency officials and first responders in their recovery efforts. Verizon made a $100,000 donation to the National Red Cross so we could help assist victims of the storms throughout the east coast, including Connecticut. Making sure that our network is prepared 365 days of the year allows us to respond quickly and to keep our customers connected when they need their service most. We are proud of how our networks performed and how the company responded to the situation, but as with any situation like this, we always take it as an opportunity to learn, so we can do better the next time. Thank you for making this a priority for CT.

Utility Companies (And Telecommunications)

- ***Preparation***
    - ***What are the best practices for readiness? Response?***

National Industry Best Practices:

Industry best practices have been developed at the national level. The Alliance for Telecommunications Industry Solutions (ATIS) Network Reliability Steering Committee (NRSC) was formed to monitor network reliability utilizing major outage reports for the Federal Communications Commission CC Docket No. 91-273. See http://www.atis.org/nrsc/index.asp for more information.

In the wake of Hurricane Katrina in 2005, the NRSC developed a list of proactive steps that could be taken by a telecommunications service provider to prepare for a hurricane. The checklist was also submitted as part of the FCC proceeding requesting comments on the Hurricane Katrina.

Panel.Readiness – Wireless:

- **Network Testing -** We use the results of our frequent network tests to maintain and fine-tune our network on a regular basis as part of our ongoing quality maintenance programs. Each year, Verizon Wireless conducts hundreds of emergency exercises, simulating events such as natural disasters, transportation disruptions, and power outages. We have invested more than $65 billion to build and maintain the Verizon Wireless network nationwide since the company was first formed in 2000. Teams of engineers go out to cell sites on a regular basis to adjust and maintain cell site equipment to ensure optimum performance and the best service for our customers.
- **Crisis Management Teams -** Verizon Wireless has crisis management teams across the country. These cross functional teams lead the company's response to disasters in their area. They enable quick sharing of information, decisive response, and coordination with local authorities.
- **Disaster Recovery Plans -** Verizon Wireless has hundreds of business continuity/disaster recovery plans, covering the company's most critical business functions. These plans and investments help keep Verizon Wireless operational through emergency situations.
- **Network Reliability -** The Verizon Wireless network is built for reliability in emergencies, with battery back-up power at all facilities and for additional reliability, generators installed at all switching facilities, and many cell site locations. The company also owns a fleet of portable generators that can be deployed to provide emergency power during extended power outages to those cell sites without permanent generators.
- **24/7 Network Operations Centers** - Verizon Wireless has two network operations centers located in New Jersey and Texas, to monitor all cell sites and switches across its nationwide network.
- **Rapid Disaster Response - Verizon Wireless Ready to Deploy**
  - **COLTs:** Verizon Wireless "Cell on Light Trucks" (COLTs) can process thousands of calls every hour in the event cell sites or other key communications equipment are damaged or disabled by a community disaster. The 25,000- pound vehicle features two retractable masts, a microwave antenna to link network components, an emergency power generator and a small office. The COLT is also fully equipped with resources needed during emergencies including equipment, fuel, electrical generators, food, water and cots.
  - **COWs – Portable Cell Sites:** Verizon Wireless "Cell on Wheels" (COW) are fully functional, generator-powered mobile cell sites that enhance coverage and capacity in a given area. It can accommodate both voice and CDMA data services.
- **Tips for Customers -** Provided advance information and usage tips to customers and businesses prior to the storm

Readiness - Wireline:

The best practices for readiness is to take both managerial and operational steps to insure that command and control functions as well as necessary equipment will continue to function to the maximum extent possible during an emergency. Verizon Telecom's Northeast Area Preparedness Plan, which is on file with the Public Utility Regulatory Authority, addresses command and control of Verizon's workforce during all phases of emergency management,

as well as effective communication during such emergencies both internally and externally (*i.e.*, with Federal, State, and Local governmental and regulatory agencies). An important means for insuring that telecommunications facilities will continue to operate during an emergency is to design a telecommunications network a series of "back stops" to maximize the network's survivability. This is accomplished in a number of ways throughout the Verizon network. Loss of power is the most significant problem that can lead to telecommunications service outages during emergencies. Best practices for landline is the deployment of battery back-up units within telecom central offices that provide initial power back-up in the event of a power failure that is fairly short in duration. To protect the network against power outages that are longer in duration, back-up generators are also deployed. These generators are tested monthly, and advance arrangements are made with fuel suppliers to insure that these generators will be refueled as necessary during any emergency. Where flooding is a potential issue, advance steps must be taken to insure that essential company vehicles, as well as fuel delivery vehicles and facilities are moved to locations not prone to flooding (if they are not already located in such areas).

Response:

Best practices for response include close coordination with power utilities for pole replacement and area safety purposes for restoration. Activation of the company's emergency management center where appropriate to facilitate centralized planning and implementation of emergency response.

- ***How did you fare for readiness? Response?***

Verizon took the actions mentioned above in order to prepare for this storm. Our network performed well throughout the storm and afterward. Through the use of backup batteries and generators, many cell sites in communities that lost commercial power continued to serve customers.

- What was the damage from Tropical Storm Irene? How many lines were affected? How many customers were affected?

Approximately 1% of Verizon's landline customers had a pending trouble during the height of restoration efforts. (Specific numbers are proprietary). A small fraction of Verizon Wireless's CT cell sites were out of service due primarily to lack of available commercial power to interconnecting landline telecommunications equipment. Primary power was initially lost to several cell sites, but they continued to operate with power from back-up generators.

Additionally, we have learned from past situations such as Hurricane Katrina in 2005 and other major storms. After any storm, Verizon will assess restoration efforts and make changes so we can be better prepared for the next storm.

- ***What was the extent of your disaster preparedness plan? Please provide details. See above. Consistent with best practices.***
  - ***Were we prepared for a category 1 hurricane?***
  - ***What damage could have been done?***
  - ***Where/how could we have done better?***

- ***What lessons did you learn?***

Our experience with Hurricane Irene reinforced the continued importance of coordinated efforts with power companies. We also observed benefits by establishing telecommunications task force. Cell towers should be prioritized for commercial power restoration if generated power is not in place.

We learned that we could work better together to establish priorities in reestablishing power. Some established central points of communication would be very helpful moving forward. With the many people involved from local municipalities, FEMA, the DEEP and various power companies; having established single points of contact would be beneficial. We appreciate the efforts of Commissioner Etsy and DEEP to try to organize these central points of contact. There seems to be an opportunity here to review this situation after today and have an ongoing response team made up of public and private entities for future situations.

- ***What are your standards in regards to tree trimming? Have these standards changed over the past 10 years?***

Verizon's landline outside plant has minimally potential exposure to damage from fallen branches. For that reason, only limited tree trimming is done by Verizon technicians.

- ***Staffing/Labor***

  - ***How many line crews were deployed during peak restoration?***

During the height of restoration efforts, the Verizon's normal landline work force was augmented almost three fold.

- ***How many line crews were brought in from other places, if any?***

Landline technicians normally assigned in the Westchester area were reassigned to Greenwich.

- ***How many line crews are employed by your company now vs. 2000?***

Data not available.

- ***What are your policies/standards regarding hours of work (hours/shift)?***

Declared a State of Emergency on 9/1/11. This action – consistent with the existing contractual agreement allowed the company's landline operations to enforce emergency work protocols.

- ***Communication***
  - ***How was the communication between your company and municipalities?***
    - ***What worked? What didn't?***

Very good. Task force calls, data provided to DEEP and daily updates to Greenwich officials.

    - ***How could this communication be improved?***

Establishing more single points of contact between various parties.

- ***How was the communication between your company and your customers?***
    - ***What worked? What didn't?***

Prior to the storm Verizon Wireless listed tips on our website as to how customers could prepare for the storm. We also communicated through media outlets and twitter to our customers. We offered to our customers that they could go in to our stores to charge devices and access the internet so they could keep up with everyday activities, like checking their bank accounts and communicate with loved ones. We also kept our customer service centers open.

    - ***How could this communication be improved?***

As the existing communications process worked well, we have no suggested improvements at this time.