State of Florida

Public Service Commission

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-M-E-M-O-R-A-N-D-U-M-

DATE: September 12, 2007

TO: Lisa Polak Edgar, Chairman
Matthew M. Carter II, Commissioner
Katrina J. McMurrian, Commissioner
Nancy Argenziano, Commissioner
Nathan A. Skop, Commissioner

FROM: Tripp Coston, Operations Review Specialist, Division of Competitive Markets & Enforcement

RE: 2007 Florida ILEC and CLEC Storm Preparedness

In January 2006, the Federal Communications Commission (FCC) established an independent panel (Katrina Panel) to review the impact of Hurricane Katrina on the telecommunications infrastructure. The FCC's goal was to take lessons learned from that disaster and build on them to promote more effective, efficient response and recovery efforts, as well as heightened readiness and preparedness. Testimony before the Katrina Panel revealed that industry sectors had not adequately prepared for a disaster of Hurricane Katrina's magnitude. In June 2006, the Katrina Panel made recommendations to the FCC on how to improve the industry's preparedness and the reliability of its infrastructure. On June 8, 2007, the FCC issued an Order implementing the Katrina Panel's recommendations.

In preparation for the 2007 storm season, the Bureau of Performance Analysis has performed a review of the tropical storm and hurricane preparation efforts of Florida telephone companies. Beginning in April 2007, staff sent data requests to Florida's three largest incumbent local exchange carriers (ILEC) asking each company to describe its efforts in preparing for the upcoming hurricane season and to provide a copy of its current storm preparedness plan. In June, this request for hurricane preparation plans was extended to the other Florida ILECs and four larger CLECs. All ten ILECs and the four CLECs were also asked to attest to their adherence with the hurricane preparation guidelines of their trade organization, the Alliance for Telecommunications Industry Solutions (ATIS). Staff found that all the companies that responded have in place either a Storm Recovery plan or specific storm recovery procedures and guidelines. Nearly all confirmed their adherence to the ATIS checklist.

Storm Preparedness Plans

The Katrina Panel also recommended that business continuity plans be developed and tested. Hurricane storm preparedness plans provide a foundation to prepare for and recover from a major storm. A well-developed plan allows management to effectively disseminate the

necessary preparation and recovery tasks within the organization. At a minimum, staff believes that a hurricane preparedness plan should include the following elements:

- storm monitoring,
- emergency governance,
- standard operating procedures for emergencies,
- business unit preparedness plans,
- asset preparation,
- asset inventory,
- contractor and vendor lists,
- recovery/restoration efforts, and
- plan testing.

AT&T does not maintain a single document containing its storm preparedness plan. Rather, the company submitted several procedures and guidelines for preparing and recovering from a hurricane. The company states it does not have an inclusive preparedness plan in place, but incorporates its procedures within each of its business units.

Embarq has a separate plan for each of its regions within Florida. The company provided a copy of its Fort Myers district plan as an example. The plan includes the before-, during-, and after-storm checklists, a daily report form, and district-wide contact information. The company also provided a copy of its *Enterprise Incident Management Plan*. This plan outlines the corporate business functions and protocols during an emergency event.

The Verizon plan is a regional plan that details the business contingencies for the Southeast. The plan includes references for emergency governance, the standard operating procedures during an emergency event, emergency services and response organizations, contractors and vendor lists, and asset inventories.

Six of the seven smaller ILECs (Fairpoint, NEFCom, ITS, Smartcity, TDS, Windstream) and the larger CLECs (Nuvox Communications, Cleartel/Supra/IDS Telcom, XO, and PAETEC/US LEC) provided copies of their storm preparedness plans. Frontier states that the company is in the process of updating its plan, and will supply a copy when complete. These plans vary in detail and content and are summarized in Attachment 1, *Florida Telecommunications Companies Storm Preparedness Plan Elements*.

ATIS **Hurricane Checklist**

The Katrina Panel recommended that the FCC encourage industry sectors to develop a disaster readiness "checklist" based on relevant industry best practices.[1] ATIS has developed, through its Network Reliability Steering Committee (NRSC), one such Hurricane Preparedness Checklist. This checklist makes "general recommendations regarding possible steps that should be

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[1] FCC 07-107. EB Docket No. 06-119, WC Docket No. 06-63, Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks. Released June 8, 2007. ¶ 8.

considered by telecommunications companies in preparation for a hurricane."[2] Staff asked each Florida ILEC and selected larger CLECs to attest to their adherence to the checklist and to note any variations within their overall hurricane preparedness efforts. Attachment 2 summarizes which companies have attested to adherence to the ATIS Hurricane Checklist and which have provided copies of their 2007 storm plans.

AT&T and Verizon responded that both are members of ATIS and NRSC, and both adhere to the checklist. Each company stated that while the categorizations may differ, the overall preparation actions they take are comparable. Embarq responded that it also believes its Disaster Recovery process and plans adhere to the ATIS checklist. Embarq states its plans use "Professional Practices" of the Disaster Recovery Institute International. All of the smaller ILECs within Florida responded that each believes its current preparedness plan is in adherence with the ATIS guidelines.

Staff also requested this information from each of the larger CLECs operating within Florida. Nuvox Communications, Cleartel/Supra/IDS Telcom, XO, and PAETEC/US LEC were asked to verify their adherence to the ATIS checklist. XO and PAETEC/US LEC responded that they adhere to the guidelines. Cleartel stated that it currently complies with most of the sections, and is "reconsidering the guidelines prepared by ATIS." Nuvox provided a copy of its preparedness plan, but did not make assertions as to its adherence to the ATIS checklist.

2007 Specific Preparations (Major ILECs)

Staff's April 2007 data request sought information from the major ILECs regarding specific preparations they made for the 2007 hurricane season. Many of the 2007 preparations resulted from lessons learned in previous years. The Katrina Panel report identified three major problems that caused the majority of communication network interruptions:

- flooding,
- lack of power/fuel, and
- failure of redundant pathways for communications traffic.[3]

The following paragraphs discuss what actions the three major ILECs have specifically taken in 2007 to address these particular causes of interruptions. Other ILEC best practices are also identified.

AT&T

Flooding. In preparation for the 2007 storm season, AT&T conducted inspections of its pole facilities, central offices, and vaults. The company elevated its coastal remote terminals, and other critical equipment, to reduce flood damage. AT&T also reinforced cabinet doors and

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[2] Alliance for Telecommunication Industry Solutions. *ATIS Hurricane Checklist.* Retrieved April 2007, from, http://www.atis.org.
[3] Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks. *Report and Recommendations to the Federal Communications Commission*. June 12, 2006.

purchased covers for its remote terminal sites, which should deter wind and water damage during a storm.

Lack of power/fuel. AT&T increased its portable and permanent generator fleet, and secured fleet fuel needs through new vendor contracts. The company has also improved its generator tracking system to better monitor and locate its emergency generators during a storm.

Failure of redundant pathways for communications traffic. To improve communication pathways during and after a storm, AT&T has a fleet of emergency communication vehicles that can establish post-storm command and communication centers. The vehicles are equipped with generators and satellite uplink facilities and are fully self-sufficient. Each will allow for LAN connectivity and include a PBX phone system, as well as room for 30 technical staff. Along with these large communication vehicles, the company also has smaller Disaster Recovery Emergency vehicles that can be deployed to establish voice and data communications to a recovery site using a satellite link to the AT&T network.

Other best practices. AT&T has reviewed its storm procedures and incorporated "lessons learned" from recent storm events. A severe weather central office checklist has been created to help secure the company's facilities prior to a storm. The company has implemented E911 and cell site strike teams to assess the post-storm damage. A new advanced mapping and tracking system was installed to assist in evaluating the areas of impact after a storm. The company also conducts a "table top" simulation drill of its Emergency Command Center to help evaluate the overall company's preparedness. Management has worked to improve communications between its staff and local, state, and other utility personnel to better collaborate on recovery efforts.

Embarq

Flooding. Embarq has also conducted pole, central office, and remote terminal inspections to prepare for any flooding during the 2007 storm season. The company has conducted visual inspections and evaluations of its central offices and work centers to ensure all necessary equipment is secure and in place. Embarq also has continued to evaluate the impacts of storm surge and excessive wind on its existing facilities. Monitoring devices have been installed inside remote terminals, allowing the company to more easily locate terminals buried by sand and storm surge. Also, the company has repositioned its network interface devices on low-lying homes to reduce damage caused by flooding. When feasible, the company is making efforts to bury aerial cables and replace copper wires with fiber.

Lack of power/fuel. Embarq has purchased additional generators to improve response times during power outages. The company has conducted a test run on its emergency generators and verified that necessary fuel levels are in place for each unit. The company assigned critical functions such as fuel monitoring, housing, and coordination of restoration duties prior to the storm season to ensure the coverage of all critical areas. Generators are staged prior to a storm to ensure timely distribution during restoration efforts.

Failure of redundant pathways for communications traffic. Embarq has an ongoing battery replacement project to install longer-life batteries in its digital loop carriers supporting critical services. The company has also purchased and distributed high-bandwidth portable microwave

radio communication devices for each district. This should reduce the voice service restoration time to damaged digital loop carriers that serve critical customers.

Other best practices. Embarq's other best practices include partnering with local utility companies and authorities to assist in prioritizing restoration efforts. Embarq is carefully assessing engineering designs of outside plant additions to account for storm surge and excessive wind. They are also evaluating the replacement of copper lines with fiber optics on a case by case basis.

Verizon

Flooding. Verizon believes that its efforts to deploy a new fiber optic network within Florida will allow the company to be more resistant to the damaging effects of hurricanes. The company states its fiber-optic system is more reliable and less affected by wind and flooding. Along with this initiative, the company has also conducted inspections of its pole facilities and has identified 29 percent of its existing poles need to be hardened or replaced. A sandbagging and flood-control plan has also been implemented for the company's low-lying facilities. The company places extra nitrogen tanks on pressurized cables to ensure positive pressure and reduce water intrusion during and after a storm.

Lack of power/fuel. To assist in restoration efforts, Verizon has increased the number of emergency generators on hand and has staged practice drills to test its recovery preparedness. Verizon deploys six portable fuel tanks during a storm to support fleet operations. Verizon also has six 100 gallon fuel tanks that are carried on selected vehicles to fuel small portable generators.

A 2005 Verizon policy is to not deploy generators until 24 hours after a storm passes through an area (except for critical locations). This allows the utility companies the ability to stabilize power in an area, and allows Verizon to strategically locate generators through its territory. The company also places around-the-clock security personnel at generator locations to safeguard the equipment.

Failure of redundant pathways for communications traffic. Verizon partners with Verizon Wireless to share resources in emergency situations and assist with communication restoration efforts. The company also uses portable cell sites (cell-on-wheels and cell-on-light-trucks) to provide back-up communication resources during recovery efforts. These units are fully functional generator-powered sites that can replace or enhance the network's coverage.

Other best practices. Pole replacements are being performed with stronger poles than required, and most new facilities are being placed underground. Verizon annually updates it Regional Emergency Preparedness Plan and conducts annual planning exercises to practice storm plan implementation. It evaluates all critical offices for damage potential. Verizon also partners with state, local, and utility officials to coordinate recovery efforts.

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Company	Storm Monitoring	Emergency Governance	Standard Operating Procedures—Emergency Event	Business Unit Preparedness Plans	Physical Assets Preparation	Contractor, Vendor, Suppliers Contact List	Recovery / Restoration (Post-storm)	Asset Inventory	Plan Testing
Florida Telecommunications Companies Hurricane Preparedness Plan Elements									
ILECs									
AT&T	*Does not maintain a single document containing its storm preparedness plan*								
Embarq	✔	✔		✔	✔	✔	✔	✔	✔
Verizon	✔	✔	✔	✔	✔	✔	✔	✔	✔
Fairpoint	✔	✔	✔	✔	✔	✔	✔	✔	
Frontier	*Plan being updated, will provide at a later date*								
ITS	✔	✔			✔	✔		✔	
NEFCOM	✔	✔	✔	✔	✔	✔	✔	✔	✔
Smart City	✔		✔		✔		✔	✔	
TDS		✔	✔		✔		✔		
Windstream		✔				✔	✔		
Larger CLECs									
Cleartel/Supra /IDS Telcom	✔	✔	✔	✔	✔	✔	✔		
NUVOX		✔	✔	✔	✔		✔	✔	
XO	✔	✔		✔	✔	✔	✔	✔	✔
PAETEC/ US LEC					✔	✔	✔	✔	

Florida Telecommunications Companies Hurricane Preparedness 2007 Documentation Provided		
Company	**Statement of Adherence to the ATIS Hurricane Checklist**	**Storm Plan**
ILECs		
AT&T	✔	
Embarq	✔	✔
Verizon	✔	✔
Fairpoint	✔	✔
Frontier	✔	
ITS	✔	✔
NEFCOM	✔	✔
Smart City	✔	✔
TDS	✔	✔
Windstream	✔	✔
Larger CLECs		
Cleartel/Supra/IDS Telcom	✔	✔
NUVOX		✔
XO	✔	✔
PAETEC/ US LEC	✔	✔