

Florida Public Service Commission's 2011 Storm Preparedness Workshop

May 4, 2011

Summary

- AT&T understands the great importance of emergency preparedness.
- Emergency preparedness is not a last minute endeavor; it is part of our business.
- AT&T's long-standing dedication to comprehensive storm preparation and prompt restoration, coupled with its national pool of resources, places AT&T in a good position to protect its network from storm damage, repair facilities and restore service efficiently following severe weather events.

Order of Presentation

In today's presentation, AT&T will discuss:

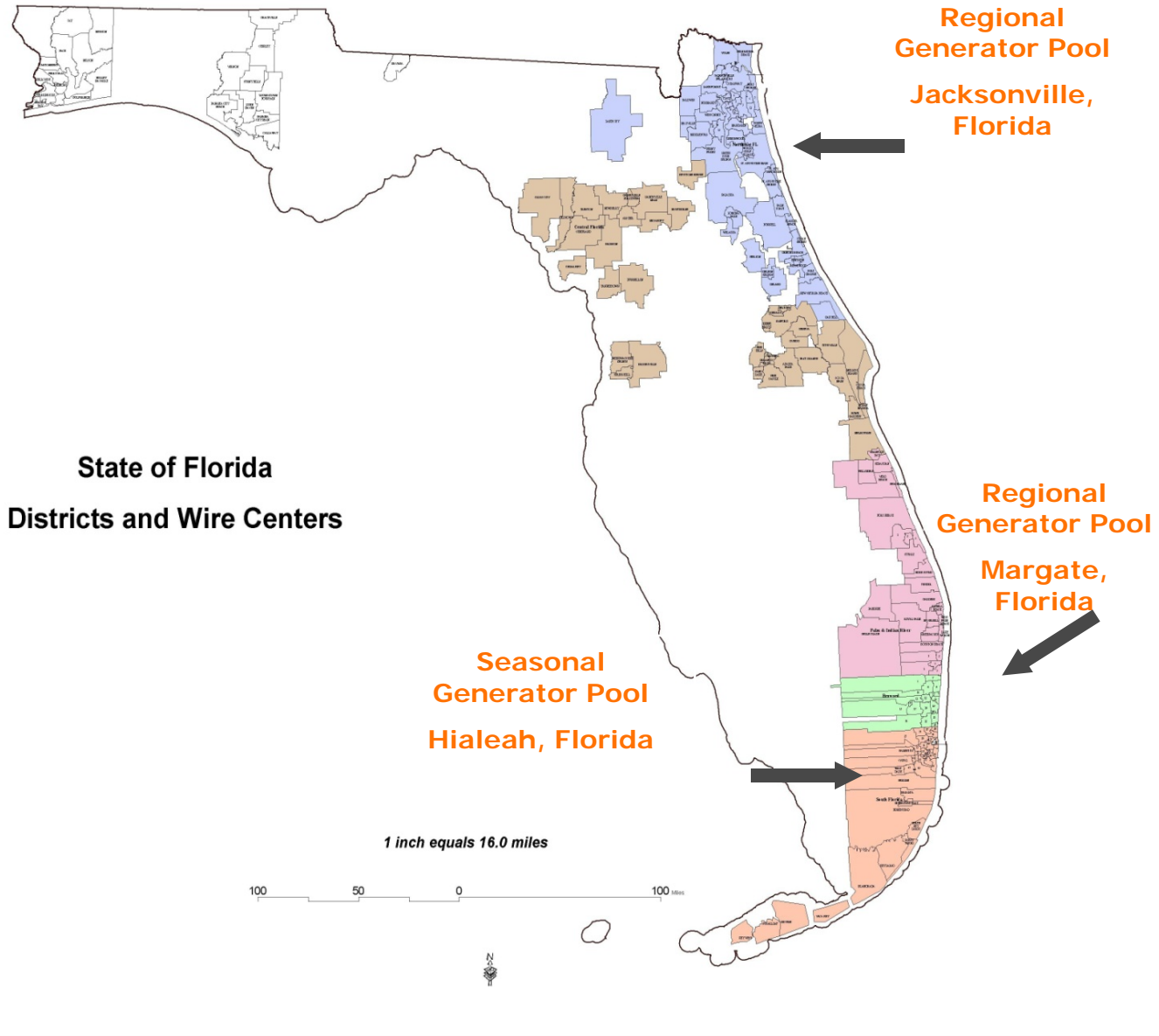
- Its pole inspection program, pole replacements and coordination with other utilities on storm hardening efforts;
- Its increased generator inventory;
- An overview of AT&T's preparation and restoration processes for both wireline and wireless facilities, and;
- The hierarchy of support within the AT&T, from the local level to the AT&T's Global Network Operations Center (GNOC).

Facility Inspections

- AT&T has 467,855 poles in Florida. We are inspecting these poles on an 8 year cycle.
- For joint use poles, AT&T has prioritized joint inspections with power companies in areas with coastal exposure and other critical infrastructure.
- AT&T has inspected 254,475 poles through year end 2010.
- More than 12,500 poles have been inspected in 2011. We anticipate inspecting approximately 42,000 additional poles before the end of the year.
- AT&T has replaced 7,220 poles in Florida since 2006.

Emergency Restoration

- AT&T has added a significant number of portable generators to support Digital Loop Carrier sites.
- A 'regional' generator pool is maintained in Jacksonville and a 'seasonal' generator pool is stationed in Hialeah.
- A third 'regional' generator pool has been established in Margate, Florida.
- AT&T has adopted a change in type of battery used in Digital Loop Carrier sites. Nickel cadmium batteries are being deployed to increase the reliability of back-up power.
- AT&T has 2,028 Digital Loop Carrier sites with permanent generators. 1,441 of these are in Florida.
- Nationally, AT&T has approximately 10,000 portable generators available for storm recovery efforts.



Permanent Generators for Digital Loop Carrier Sites



Protective Wraps for Digital Loop Carrier Sites



Human Resources

- Our greatest asset is our people.
- AT&T prepares and supports its employees so that they can concentrate on restoring service to our customers.
- Employee awareness meetings are held to prepare employees for emergencies.
- Initiatives are in place addressing the security and safety of employees prior, during, and after emergency conditions:
 - Toll free numbers established to provide information to employees, and so that employees can report their well-being to the Company
 - Localized employee care in impacted geographic location

Preparedness

- Annual preparedness meetings are conducted by each business unit.
- Periodic exercises are conducted to test emergency plans.
- AT&T participates with State and local authorities, as well as with other utilities, in emergency preparedness initiatives.

Restoration

- AT&T is prepared to mobilize restoration teams within hours of any emergency.
- AT&T's Supply Chain Management has partnered with suppliers to ensure adequate supplies and equipment are available for restoration activities.
- Staging areas are readied with supplies and equipment as a storm's landfall is identified.
- Sweep Teams are dispatched shortly after emergencies to identify restoration requirements.
- AT&T has partnered with local businesses to house and feed out-of-town restoration crews.
- Retainer contracts with suppliers are in place to provide fuel for our fleet with tanker truck deliveries directly to our field work centers, and advance bulk fuel purchases are also made.

AT&T Disaster Response Process

- AT&T is prepared to address emergency operations prompted by both severe weather conditions and Homeland Security events.
- Hierarchy of Support for Emergency Operations:
 - Local Response Centers (LRC) in Miami and Jacksonville
 - Regional Emergency Operations Center (EOC) in Atlanta with a back-up center in Birmingham
 - Global Network Operations Center (GNOC)

AT&T Local Emergency Operations

- AT&T has 2 LRCs representing the 2 Network Districts in the State: South Florida and North Florida.
- If an individual LRC needs support during an emergency, it engages the EOC, located in Atlanta.
- The LRCs are interdepartmental management organizations representing each business unit within the corporation.

LRC Support

- Geographic Information Systems Mapping
 - HURRTRAK/RM PRO Storm Tracking Maps
 - HURRTRAK PRO Slosh Maps for Central Office Impact Forecasting
 - HURRTRAK PRO Slosh Maps for Remote Terminal (RT) Impact Forecasting
- Network Reliability Centers – Charlotte & Nashville
 - Storm Reporting Analysis
- Safety Strike Team
- Generator Strike Team
- Cell Site Strike Team
- E911 Strike Team
- Damage Prevention Strike Team
- If a LRC needs additional resources from outside of Florida, it engages the Southeast EOC and the Global Network Operations Center (GNOC).

AT&T'S Global Network Operations Center (GNOC)

The condition of AT&T's global network is continually monitored in our GNOC. When an anomaly occurs that threatens or actually impacts the performance of our network, the GNOC coordinates the network incident response across AT&T organizations, assessing the impact of the event in near-real time and prioritizing the restoration efforts.

In response to a catastrophic event, the GNOC would activate AT&T's Network Disaster Recovery Team and would monitor its response.



AT&T Network Disaster Recovery Team (NDR Team)

The NDR Team is composed of AT&T managers, engineers, and technicians who have received special training in the physical recovery of the AT&T Network. Members participate in several recovery exercises each year to sharpen their skills using the disaster recovery equipment and processes. The most recent exercise was held in March 2011 in Dallas.

AT&T's NDR Infrastructure organization provides infrastructure support to AT&T Network offices that are at risk or that have been impacted by a disaster. It has over 190 generators deployed around the United States, ranging in capacity from 30kW to 2,000kW (over 75 megawatts of total capability). The group has over thirty-five large HVAC units, totaling over 3,500 tons of capacity, that can be used to support a network office if its HVAC plant is damaged or destroyed.



AT&T NDR — Emergency Communications

NDR establishes broadband voice and data connectivity from disaster sites using one or more Emergency Communications Vehicles (ECVs). Once deployed, the ECV provides a recovery site with a mix of 96 voice/data channels and IP connectivity to the AT&T Network.



AT&T Mobility Disaster Response Process

- AT&T Mobility has more than 2,500 cell sites in Florida.
- 50% of the Florida cell sites have permanent generators.
- AT&T Mobility and Wireline emergency recovery operations are collectively managed out of the LRCs in North and South Florida, as well as the EOC in Atlanta and the GNOC if assistance is needed outside of Florida.
- The Mobility Network Operations Center (MNOC) in Atlanta supports the emergency operation centers by providing 7x24x365 remote restoral and surveillance of all Mobility network elements.

After a storm, databases such as S.M.A.R.T. (Site Management and Recovery Tool) and CTS (Centralized Ticketing System) help track the operational status of the cell sites. Daily status reports are provided to the FCC.

The screenshot displays the S.M.A.R.T. (Site Management and Recovery Tool) web application. The browser window title is "S.M.A.R.T. - Microsoft Internet Explorer". The address bar shows the URL: <http://at-mad23-gl-virtual.wnsnet.attws.com/smart/se/DR.php?mkt=SFFlorida>. The application interface includes several filter menus: "Edmarket: Select a Market To Begin", "Manager: Filter By Manager", "Opgroup: Filter By Opgroup", "Market Area: Filter By Market Area", and "BTA: Filter By BTA".

The main content area features a map of South Florida with various cities labeled, including Tallahassee, Jacksonville, Orlando, and Miami. A legend at the bottom of the map area shows:

- GSM Sites OOS:
- UMTS Sites OOS:
- GSM Sites Degraded:
- UMTS Sites Degraded:
- Power Issues:
- Operator Alarms:
- T1 OOS:

 A "Save View" button is also present.

Navigation links at the bottom of the map area include: "Detail Report", "View Market Summary", "Power Alarms Detail", and "Region View". Below these links, there are options for "Stop Auto Refresh" and "Log Out".

On the right side of the interface, a list of OOS sites is displayed:

- Site OOS: 293.00698 - EOPS
- Site OOS: 293.00334 - M64
- Site OOS: 293.00334 - PFD4
- Site OOS: 293.00614 - OXVZ
- Site OOS: 293.00614 - OXVZ
- Site OOS: 293.00783 - EOPSW
- Site OOS: 293.00916 - CDZ
- Site OOS: 293.00922 - CT1_X (F1.76)
- Site OOS: 469.01082 - AYAW

At the bottom of the application, a status message reads: "Site OOS/Site Degraded: Site Outage Printouts run every 15 min.(NGSM: ZEEI) | (EGSM: RLCRP) | (SGSM: Alarm Type 247) | (UMTS: Degraded Sectors[EUMTS: et Utrancell];LUMTS: list-lcell)."

The Windows taskbar at the bottom shows the system time as 3:23 PM and includes icons for the Start menu, S.M.A.R.T. - Micro..., #symbol=T,range..., Most Viewed News..., Inbox - Microsoft O..., Desktop, Microsoft PowerPol..., and Local intranet.

AT&T Mobility Emergency Restoration

- In addition to its own employees, AT&T Mobility has contractors on retainer to assist with post-storm damage analysis, restoration work, generator deployment, refueling and debris clearing.
- AT&T Mobility has approximately 170 portable generators staged in Lakeland, Florida, and more than 300 portable generators staged through the Southeast.
- An inventory of 330 Cells on Wheels (COW) and Cells on Light Trucks (COLT) are available for use across AT&T Mobility's 28 markets, including satellite COLTs that can provide coverage during disaster recovery in remote areas. Approximately 15 of these mobile towers are permanently staged in Florida.

Our Operating Support System tools assist us in tracking the status of each cell site until restoration is completed, including status of repairs and fueling history.

Nokia OSS Site Status Page - Microsoft Internet Explorer

Address: http://ral2fweb1/nokia-status/oss_site_status.asp?ops_zone=SF_Ops

Network Console | Search | RF Eng Tools | Reporting | Mapping Tools

Quick Search: Go! Format: 074P0001

Choose Maintenance Region
SF_Ops - (Atlanta4)

Alarms were pulled from the OSS at 4/20/2009 3:58:15 PM
This page will refresh every 10 minutes
[Nokia Cell-Site MAP](#)
[OSS Summary Page](#)

Reports
[Outages](#) [Gold Report](#) [Summary](#) [SIR Notification](#)

Sector	Status	BSC/BCF	Alarm Time	Alarms Information	Notes
293G0320B	DOWN	BSF16/2	4/20/2009 3:58:13 PM	BCCH MISSING	
293G0737B	DOWN	MIAMBSC04/209	4/3/2009 7:06:56 AM	BTS O&M LINK FAILURE	
293G0787C	DOWN	BSF20/99	4/20/2009 12:57:04 PM	BTS O&M LINK FAILURE	
293G0160A	UP	BSF25/157	4/20/2009 3:38:59 PM	COMMERCIAL POWER	
293G0783A	UP	MIAMBSC02/136	4/20/2009 1:03:01 PM	COMMERCIAL POWER	
293G1189O	UP	BSF18/246	3/30/2009 9:39:20 AM	COMMERCIAL POWER	
152G1011C	UP	WPBHBSC01/61	4/20/2009 6:48:28 AM	BTS OPERATION DEGRADED	
152G1126B	UP	WPBHBSC08/103	4/19/2009 6:49:13 PM	BTS OPERATION DEGRADED	
152G1126C	UP	WPBHBSC08/103	4/17/2009 11:49:35 AM	BTS OPERATION DEGRADED	
152P0980Y	UP	WPBHBSC04/178	4/20/2009 1:44:13 PM	BTS OPERATION DEGRADED	
152P0980Z	UP	WPBHBSC04/178	4/17/2009 4:44:10 PM	BTS OPERATION DEGRADED	
152P1113Y	UP	WPBHBSC07/220	4/3/2009 9:02:32 AM	BTS OPERATION DEGRADED	
152P1113Z	UP	WPBHBSC07/220	4/3/2009 9:02:17 AM	BTS OPERATION DEGRADED	
152P1133Z	UP	WPBHBSC07/232	4/19/2009 8:30:22 PM	BTS OPERATION DEGRADED	
293P0465Y	UP	MIAMBSC02/70	4/19/2009 3:27:52 PM	BTS OPERATION DEGRADED	
293P0613X	UP	MIAMBSC02/91	4/8/2009 9:35:10 AM	BTS OPERATION DEGRADED	
293P0653X	UP	MIAMBSC11/7	4/18/2009 3:53:20 PM	BTS OPERATION DEGRADED	
293P0665Z	UP	BSF20/217	4/20/2009 11:03:56 AM	BTS OPERATION DEGRADED	
293P0692Z	UP	BSF07/223	3/11/2009 2:20:33 AM	BTS OPERATION DEGRADED	
293P0697X	UP	MIAMBSC01/61	4/13/2009 11:17:29 AM	BTS OPERATION DEGRADED	
293P0699X	UP	BSF20/85	4/17/2009 3:54:20 PM	BTS OPERATION DEGRADED	
293P0813Y	UP	MIAMBSC10/97	4/6/2009 2:29:59 AM	BTS OPERATION DEGRADED	
293P0916Z	UP	BSF17/46	4/15/2009 2:53:55 PM	BTS OPERATION DEGRADED	
293P0942X	UP	BSF17/55	3/26/2009 10:09:09 AM	BTS OPERATION DEGRADED	
293P1095X	UP	BSF17/229	4/19/2009 11:04:53 AM	BTS OPERATION DEGRADED	
469G1150C	UP	WPBHBSC05/178	4/20/2009 1:39:02 PM	BTS OPERATION DEGRADED	
469P0908Z	UP	WPBHBSC02/43	4/16/2009 2:08:05 PM	BTS OPERATION DEGRADED	
	LOCKED	BSF22/70			

Menu ready for use

Local intranet

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**AT&T is
prepared.**