

Florida Public Service Commission's 2012 Storm Preparedness Workshop

May 9, 2012



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:

- An overview of AT&T's preparation and restoration processes for both wireline and wireless facilities, and;
- Its increased generator inventory;
- The hierarchy of support within the AT&T, from the local level to the AT&T's Global Network Operations Center (GNOC).



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.



Preparedness

- AT&T is committed to providing reliable communications before, during and after a storm. We have one of the industry's largest and most advanced disaster response programs to help ensure the flow of both wireless and wireline communications during times of natural or man-made disasters.
- AT&T is proud to be the first private sector company in the United States to be certified under the Department of Homeland Security standards for disaster preparedness. The certification, under the DHS Voluntary Private Sector Preparedness Program (PS-Prep), reflects AT&T's commitment to keeping our networks up and running in the face of a disaster so consumers, businesses and emergency responders can communicate during and after these events.
- For AT&T, it's all about providing a reliable, advanced network with fast disaster recovery so we can help people by providing vital communications connections even during the worst times.
- We have invested more than \$600 million in our Network Disaster Recovery program since it was launched. AT&T's NDR function includes more than 320 technology and equipment trailers that can be quickly deployed to respond to disaster situations such as severe hurricanes.
- AT&T has five Network Disaster Recovery warehouses in the U.S., two of which are located in the Southeast region.



Preparedness

- From 2009 to today, AT&T has continued to demonstrate its core belief in business continuity and disaster recovery through continued capital investments to upgrade crucial capabilities, including:
- The addition of new equipment to the NDR fleet in the US and most of the world, including new technology recovery trailers, a van-based NDR command center, power distribution trailers, and administrative trailers.
- The evolution of AT&T's NDR recovery engineering application, which improves the NDR team's ability to restore the services of AT&T network offices that have been damaged by a man-made or natural disaster.
- New Emergency Communications Vehicles (ECVs), upgrades to existing ECVs, and the addition of several portable emergency communications satellite units.
- Developing an industry-first certification program for telecom hazardous materials specialists, in conjunction with the North Carolina Occupational Safety and Health Education and Research Center at UNC Chapel Hill. Twelve members of AT&T's hazmat team have earned this certification.
- AT&T has continued to enhance network redundancy in hurricane-prone areas by installing more back-up and permanent generators at critical cell sites and switching facilities; locating critical equipment in less vulnerable areas; upgrading electronics critical to network operations above expected flood levels; and protecting physical facilities against flooding.



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)

AT&T developed its Network Disaster Recovery (NDR) capability specifically for rapid service recovery during a wide range of disaster scenarios. Network Disaster Recovery provides business continuity and recovery capabilities for the AT&T Global Network including its networks and external clients. AT&T has invested more than \$600 Million dollars in more than 320 trailers and support vehicles supporting its NDR program, since the program's inception.

The primary role of the AT&T NDR organization is to recover the services of an AT&T network office that has been completely destroyed or compromised by a natural or man-made disaster. This type of restoration would exceed the normal capabilities of AT&T's network operations maintenance processes and would require long-term deployment of specialized equipment and resources.

The team has conducted three of four field exercises since 1992; it's last exercise was held in Hallandale Beach, FL in March/April 2012.



AT&T NDR — Emergency Communications

NDR establishes broadband and wireless voice and data connectivity from disaster sites using one or more Emergency Communications Vehicles (ECV). An ECV uses a satellite link to provide NDR with command communications during the initial phase of a recovery effort. The ECV's have also been used to provide command and humanitarian relief communications capability to other responders at the request of the federal government.

AT&T uses Cells on Wheels (COWs) and Cells on Light Trucks (COLTs), self-contained mobile cell sites, to provide extra cellular capacity to restore communications after a disaster. The mobile sites can be used to replace the service of a failed permanent cell site and they can be used to supplement the cellular capacity of an area that has increased demand. The NDR team uses Satellite COLTs to establish first-in communications when terrestrial connections to the AT&T Network are not immediately available.



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 interface includes a navigation bar with filters for Market, Manager, Opgroup, Market Area, and BTA. The main content area features a map of South Florida with various cities and sites marked. A summary bar at the top of the map area indicates: "Currently Viewing: SOUTH FLORIDA (SOUTHEAST REGION) Sites Down: 2 // Degraded Sites: 12 // Power Issues: 2 // T1's Down: 10". Below the map, there are checkboxes for "GSM Sites OOS", "UMTS Sites OOS", "GSM Sites Degraded", and "UMTS Sites Degraded", along with a "Save View" button. At the bottom of the map area, there are links for "Detail Report", "View Market Summary", "Power Alarms Detail", and "Region View". On the right side, a list of site IDs is displayed, including "Site 018-293 00698 - F098", "Site 018-293 00034 - M64", and others. The application is running in a Microsoft Internet Explorer browser window.



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.

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](#)

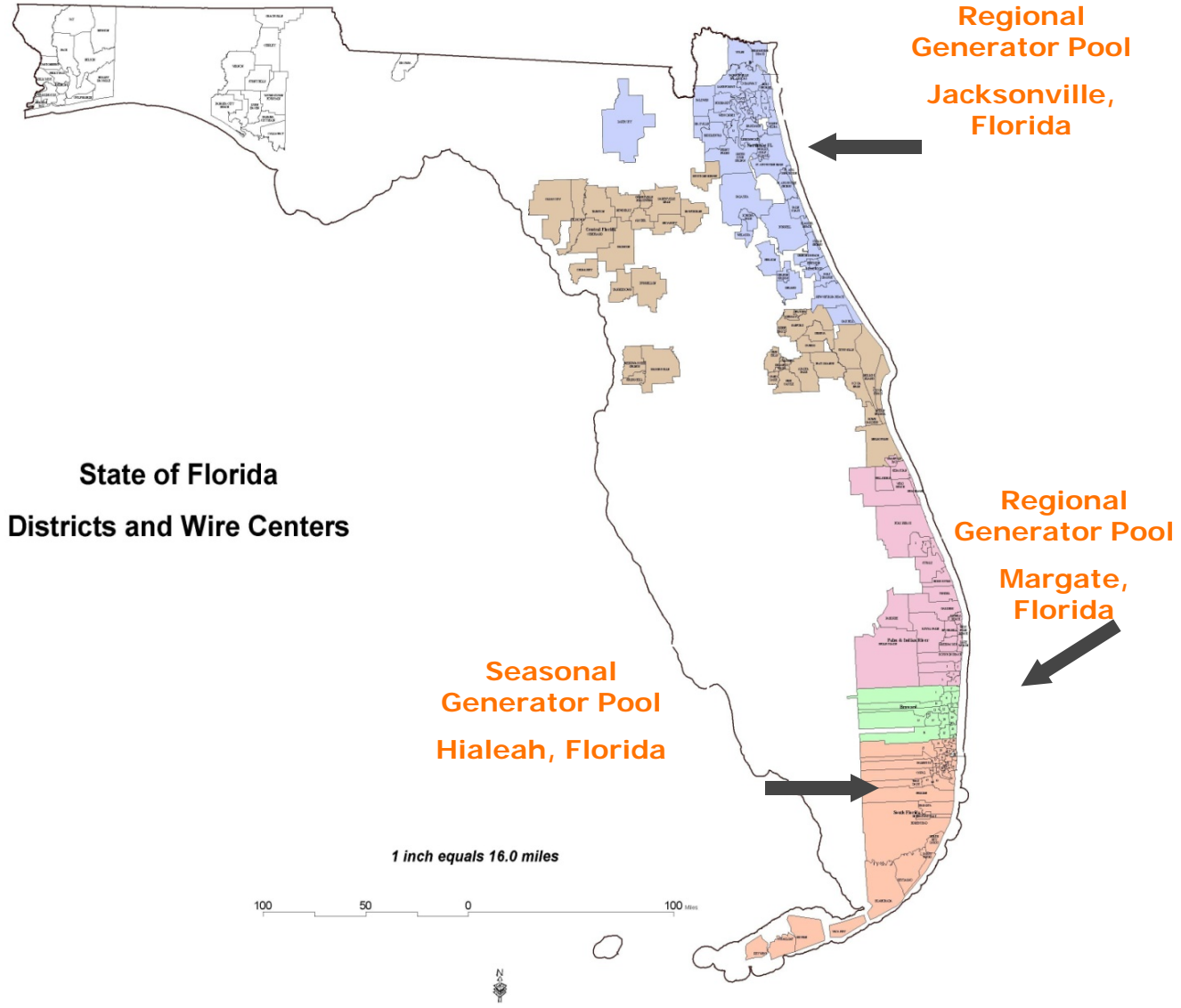
Sector	Status	BSC/BCF	Alarm Time	Alarms Information	Notes
293G0320B	DOWN	BSF16/2	4/20/2009 3:58:13 PM	BCCH MISSING	
293G0737B	DOWN	MIAMBSC04/209	4/3/2009 7:06:56 AM	BTS O&M LINK FAILURE	
293G0787C	DOWN	BSF20/99	4/20/2009 12:57:04 PM	BTS O&M LINK FAILURE	
293G0160A	UP	BSF25/157	4/20/2009 3:38:59 PM	COMMERCIAL 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			



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



**AT&T is
prepared.**

