

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION**

**IN RE: INDEPENDENT PANEL REVIEWING  
THE IMPACT OF HURRICANE KATRINA ON  
COMMUNICATIONS NETWORKS**

**DA 06-371**

**COMMENTS OF CELLULAR SOUTH, INC. AND  
CELLULAR SOUTH LICENSES, INC.**

Cellular South, Inc. and its wholly owned subsidiary, Cellular South Licenses, Inc. (collectively, “Cellular South”), by counsel and pursuant to the Federal Communications Commission’s (“FCC”) Public Notice of the FCC’s Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks hereby submits comments in the above-captioned proceedings.

**I. Introduction and Background**

Cellular South provides commercial mobile radio service<sup>1</sup> throughout the State of Mississippi and parts of Tennessee, Alabama and Florida.”

The recent events surrounding Hurricane Katrina vividly illustrate the important role of wireless communications in natural and man-made disasters. Wireless telecommunications service was virtually the only form of communications available to individuals in the areas affected after Hurricane Katrina. Due to adequate preparation for emergencies such as this, Cellular South played a vital role in providing communications during and following Hurricane Katrina’s landfall on the Mississippi Gulf Coast. Cellular South never completely lost its network on the Mississippi Gulf Coast following Hurricane Katrina; in fact, because Cellular South’s Code Division Multiple Access 1XRTT (“CDMA”) network proved to be the only network available to much of the

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<sup>1</sup> 47 C.F.R. § 20.9.

Mississippi Gulf Coast, Cellular South donated over 500 handsets in the days immediately following the disaster to emergency responders. This ability to remain functional in the most critical of emergencies provided an essential outlet not only for victims in attempting to locate family members, but also for emergency responders, governmental agencies and relief workers in providing aid to those affected by the storm. Cellular South has since reflected on lessons learned throughout various stages of its response to Hurricane Katrina and is of the opinion that these insights can be beneficial to the telecommunications industry in preparing a comprehensive communications response plan.

## **II. The Impact of Hurricane Katrina on the Telecommunications Infrastructure and the Sufficiency and Effectiveness of the Recovery Effort**

### **A. Functionality Throughout the Storm**

The key components of a wireless telecommunications system are: (a) a functioning Mobile Switching Office (“MSO”); (b) functioning cell sites and the ability to interconnect cell sites with the MSO; (c) access to handsets that function with the appropriate technology (e.g., CDMA); and (d) connectivity to the recipient of a call, either by the Public Switched Telephone Network (“PSTN”) or through direct connection. The vulnerability of the Gulf Coast to inclement weather such as hurricanes and tornados prompted Cellular South to carefully consider each of these components in structuring its network to remain functional in emergencies.

Because Cellular South’s MSO for the Mississippi Gulf Coast is located in downtown Jackson, Mississippi, Cellular South’s MSO and Network Operations Center were unaffected by the landfall of Hurricane Katrina. By locating its MSO out of the zone of immediate danger of a hurricane making landfall, Cellular South was able to

ensure that its switching capability remained uninterrupted during the storm. Problems experienced by other carriers in the aftermath of the storm were likely due to damage suffered to major switches and central office facilities located in flood zones, as well as the lack of access to those switches and facilities in the days following Hurricane Katrina.

In addition, Cellular South never completely lost its network on the Mississippi Gulf Coast during Hurricane Katrina's landfall. In fact, some of its cell sites continued to function throughout the storm. This was in large part due to the fact that Cellular South's towers in hurricane-prone areas were built to withstand hurricane force winds, and as a result, Cellular South did not lose any towers on the Mississippi Gulf Coast during Hurricane Katrina.

**B. Repair and Restoration**

By the end of the second day following landfall, Cellular South had restored 60% of its footprint in the six most southern Mississippi counties. By September 9, 2005, only eleven days after Hurricane Katrina's landfall, Cellular South had restored 100% of its footprint in those counties. In order to achieve restoration quickly, Cellular South focused its efforts primarily on repair of physical damage and restoration of power. In anticipation of the storm, Cellular South positioned crews in southwest Alabama in order to be in a position to begin repair efforts immediately following the storm. Within hours following Hurricane Katrina's landfall, these crews deployed to begin the physical repair of antennas and other equipment damaged at cell sites. In addition, the restoration of power to the cell sites was accomplished almost exclusively through the use of pre-positioned portable generators.

The final component of repair to cell sites was the restoration of connectivity to the MSO. Under normal operating conditions, cell sites are connected to the MSO by means of landline circuits. Damage to these circuits caused by the storm as well as power losses made many of the circuits inoperable in the days immediately following the storm. Cellular South addressed this issue by using microwave transmission facilities having T-1 (the equivalent of 24 telephone lines) capacity. By means of microwave transmission, Cellular South was able to reconnect its cell sites to the MSO.

The final element of restoring communications is access to the call recipient. Where the call recipient is another Cellular South customer, the call is completed through Cellular South's MSO without the need for access to any other carrier's switch or the PSTN. This connectivity can be improved between and among Cellular South and other wireless carriers by their entering into interconnection agreements directly with each other. Additionally, Cellular South experienced some problems in connecting to its long distance providers because of the damage suffered by another carrier in New Orleans. Cellular South alleviated this problem by re-routing its long distance calls through other Points of Presence ("POPs") of its long distance carriers, such as Memphis, Tennessee.

Because Cellular South's CDMA network emerged as the best and, often, only network available on the Mississippi Gulf Coast, many first responders and governmental agencies who were not Cellular South customers sought access to the network. Cellular South alleviated this problem by distributing over 500 handsets in the days immediately following the disaster to first responders, governmental agencies and relief workers. Although this was no substitute for having Cellular South service in place prior to the

storm, it provided a crucial communications outlet for relief workers in the days following Hurricane Katrina.

**III. Ways to Improve Disaster Preparedness, Network Reliability and Communications Among First Responders.**

**A. Wireless Telecommunications Service Should Be Designed and Delivered in a Manner that Minimizes its Vulnerability to Disruption and Allows for Quick Restoration.**

Cellular South's success in maintaining a large portion of its network throughout the storm and quickly restoring service was due largely to its positioning of its major switches and facilities far from areas prone to suffer flood damage. Cellular South proposes that network structuring should be the central concern of wireless carriers in evaluating their ability to function in emergencies.

In addition, wireless carriers should focus on highlighting alternative methods to change or reroute traffic within the network. Cellular South was successful in establishing microwave connections on an ad hoc basis immediately following Hurricane Katrina. However, to better prepare for such requirements, Cellular South is installing a permanent microwave network connecting its towers on the Gulf Coast. The presence of these permanent facilities should speed recovery efforts in the aftermath of the next major storm.

**B. Wireless Service Should Be a Key Component in Achieving Interoperability.**

The need for interoperability of communications between and among responders has been well documented and is still being addressed. FCC Chairman Martin explained that an interoperable system should have two main features: first, it should function in a way that all types of emergency responders are able to communicate with each other

immediately; and second, the system must be able to be utilized and restored quickly.<sup>2</sup> Although to some extent emergency responders can and will rely upon two-way radio communications, wireless service has materialized as an essential component of communications because it allows victims and citizens to communicate with first responders on their own cellular phones. Additionally, a functioning wireless telecommunications system such as Cellular South's is indispensable to personnel who are not within the range of traditional two-way communications, and many of those who have responded in the wake of Hurricane Katrina have used Cellular South's network for this purpose.

**C. Wireless Telecommunications Networks Which Demonstrate the Ability to Withstand Emergencies Should Be Favored in Receiving Resources.**

Since Hurricane Katrina made landfall, Cellular South has invested very significant resources and time in making its capabilities known. Even so, many FEMA officials were unaware of the availability of Cellular South's network on the Mississippi Gulf Coast. First responders, governmental agencies and victims need to know when and where wireless telecommunications services are available.

Cellular South proposes that part of the disaster planning process should include an evaluation of each wireless telecommunications network's potential to respond to emergencies such as Hurricane Katrina. Based on this evaluation, those carriers which have the greatest potential to respond in emergencies should be given priority when receiving resources such as fuel. In addition, responders should be able to utilize technology which is compatible with those carriers who demonstrate an ability to remain

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<sup>2</sup> Written Statement of Kevin J. Martin, Chairman, Hearing on Public Safety Communications from 9/11 to Katrina: Critical Public Policy Lessons, Before the Subcommittee on Telecommunications and the Internet Committee on Energy and Commerce, United States House of Representatives.

functional in emergencies. Following Hurricane Katrina, the Cellular South CDMA network proved to be the best and only network on the Mississippi Gulf Coast; however, those who used other carriers with technology that was incompatible with the CDMA technology were unable to use the Cellular South network.

Finally, it is important to note that Cellular South<sup>3</sup> has been designated as an Eligible Telecommunications Carrier (“ETC”) pursuant to 47 U.S.C. § 214(e)(2), and it receives Universal Service Fund (“USF”) cost recovery for the construction and operation of telecommunications facilities in rural, high-cost areas of Mississippi and Alabama. Cellular South has used USF to deploy and operate Cellular South’s CDMA network in rural, high-cost areas of Mississippi and Alabama, including many of the areas affected by Hurricane Katrina. Without USF, Cellular South’s response to Hurricane Katrina and the access and capacity that Cellular South provided to first responders and CDMA users would have been significantly reduced.

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<sup>3</sup> Cellular South Licenses, Inc. is the ETC designee.

#### **IV. Conclusion**

Wireless telecommunications providers can and must play a key role in all aspects of communications in the aftermath of natural and man-made disasters. Cellular South's success in providing communications capability to first responders and other CDMA users following Hurricane Katrina provides a workable model for all wireless telecommunications carriers. Wireless telecommunications systems can be designed to minimize their vulnerability to disruption. Wireless telecommunications services can also provide interoperability to first responders. Consequently, wireless telecommunications providers whose networks can demonstrate these capabilities should be given priority in the allocation of resources.

Respectfully submitted,

**CELLULAR SOUTH, INC. and  
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