

ARTICLE III. SPECIAL REQUIREMENTS, CONDITIONAL USE PERMITS AND  
PARALLEL CONDITIONAL USE DISTRICTS

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Sec. 21-60. Conditional use requirements for specific uses.

The following criteria shall be used in evaluating specific conditional use permit applications. If no specific requirements are listed for a specific use, then only the general criteria will be used in evaluating the application.

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(3) *Broadcast towers: SIC 4832 radio and SIC 4833 television broadcasting.*

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add the following:

j. *Special Emergency Provisions for Cellular Communications Towers and Facilities.* Cellular communications provide voice and data telecommunications which are essential to the function of society. This is especially true in the case of emergency situations. Ready access to communications is a critical component of maintaining public order in emergency circumstances.

1. *Applicable facilities.* Any and all facilities and equipment necessary to support and maintain voice and data cellular telephone communications functionality are covered by this regulation.

2. *Functionality.* All facilities must incorporate the following minimal capabilities:

i. A co-located secondary or backup electrical power generation source capable of supporting full operation of the facility for a minimum of 100 hours in the event of the loss of commercial electrical service for any reason.

ii. Facility operators must demonstrate and maintain the ability to service all facilities so as to insure continuous, ongoing, uninterrupted operation in the event that the duration of any loss of commercial power exceeds 100 hours.



FEB 25 2005

Federal Communications Commission  
Washington, D.C. 20554

February 8, 2005

The Honorable Howard Coble  
US House of Representatives  
2468 Rayburn House Office Building  
Washington, DC 20515

Dear Congressman Coble:

Thank you for your November 3, 2004 letter to the Department of Homeland Security on behalf of your constituent, Rick Hudson. The Department of Homeland Security has referred your letter to the Federal Communications Commission (Commission) for consideration. In his letter to your office, Mr. Hudson suggests that the Commission mandate that all commercial cellular providers equip transmission and relay facilities with backup electrical power capability sufficient to allow full operation of the applicable facility for a minimum of 100 continuous hours in the event of a commercial electrical power outage. Additionally, Mr. Hudson proposes that all operators be required to demonstrate the ability to maintain facilities so as to ensure continuous, uninterrupted operation in the event of a commercial power outage having a duration in excess of 100 hours.

Referencing recent commercial power outages such as those occurring in the northeastern United States in 2003 and in hurricane-afflicted areas in 2004, Mr. Hudson states that there are currently no standards that mandate standby power capability at wireless communication assets. He argues that the critical role that wireless services have assumed in our lives necessitates a more sophisticated approach by regulatory agencies to ensure the uninterrupted availability of such services, especially in unusual or emergency situations.

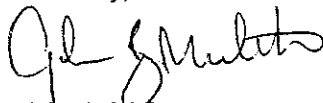
Although there are no current Commission rules requiring wireless providers to maintain redundant power sources at each cell site, the Commission considers the issue of network reliability to be of paramount importance. Indeed, one of the Commission's strategic goals is to promote the reliability and security of the Nation's communications infrastructure. To fully and effectively carry out its role in promoting homeland security, network protection, interoperability and reliability, the Commission has established a number of key objectives: 1) Evaluate and strengthen measures for protecting the Nation's communications infrastructure; 2) Facilitate rapid restoration of the U.S. communications infrastructure and facilities after disruption by a threat or attack; and, 3) Develop policies that promote access to effective communications services by public safety, public health, and other emergency and defense personnel in emergency situations. The Commission has recently taken several steps in furtherance of these objectives including the adoption of rules requiring wireless, wireline, cable, and satellite telecommunications providers to report significant disruptions or outages to their communications systems.

Further, the Commission has established an advisory committee, the Network Reliability and Interoperability Council (NRIC). First chartered in 1992, NRIC was formed to bring together leaders of the telecommunications industry and telecommunications experts from academic, consumer, and other organizations to explore and recommend measures that will insure optimal reliability, security, interoperability and interconnectivity of public telecommunications networks and the Internet. NRIC was specifically rechartered in January 2004 to provide the Commission with recommendations to ensure the reliability and evolution of emergency services networks as well as continue important work in other

areas. Among its tasks, NRIC is charged with developing and refining recommendations and Best Practices aimed at improving the reliability of wireless networks. Pursuant to a review of existing Best Practices, NRIC's Wireless Network Reliability Focus Group has recently identified two areas relating to electrical power for which new wireless Best Practices should be established: 1) emergency power for cell sites (emergency power for backhaul equipment as well as extended backup power for base station equipment; and, 2) priority restoration of commercial power to cell sites. The task force is continuing to review these issues and is expected to issue a report recommending Best Practices later this year.

I hope this information has been helpful. Additional information regarding the Commission's homeland security and network reliability efforts is available from the Commission's Homeland Security Policy Council. Also, further information regarding NRIC can be found at [www.nric.org](http://www.nric.org).

Sincerely,

A handwritten signature in black ink, appearing to read "John B. Muleta". The signature is fluid and cursive, with the first name "John" being the most prominent.

John B. Muleta

Bureau Chief

Wireless Telecommunications Bureau

## **Rationale for Mandating a Backup Power Capability for Cellular Communications Facilities**

A growing range of issues must be included while considering the scope of ordinances governing cellular communications, i.e. wireless, towers. It is no longer sufficient to restrict deliberation simply to matters dealing with the impact - physical, environmental or economic - of the facility on its immediate surroundings. It is critical that issues pertaining to functional impact be studied as well. This need stems from the growing importance of wireless communications in our daily lives and the impact on the maintenance of public order in unusual circumstances.

Over the past decade cellular telephones have evolved from mere novelties into ubiquitous, necessary elements in our daily lives. In all probability, mobile phones will eventually replace the familiar wired, "land line" phones which have been a fixture in our homes and businesses for more than a century. Indeed, companies offering cellular services have geared their marketing efforts toward the goal of supplanting "land line" phones - particularly with regards to residential users. Recent modifications in FCC regulations and polices, such as that permitting number portability, will only serve to accelerate such shifts.

The critical role that wireless services have assumed in our lives necessitates a more sophisticated approach by regulatory agencies at all levels towards insuring the uninterrupted availability of those services - especially in unusual or emergency situations.

Nowhere has the need for this guaranteed availability been more apparent than as a result of lessons learned during numerous readiness exercises undertaken in the wake of the 9/11 attacks. Many activities aimed at training and preparation for biological, chemical or other terrorist attacks as well as honing the responsiveness of agencies deal with natural events - such as ice storms - have been undertaken in recent years.

On more than one occasion, communications failures and incompatibilities between the communications equipment used by different organizations have plagued these activities. The usual recourse for participants has been to fall back on personal cell phones in order to continue operations. However, in a real emergency, an interruption of commercial electricity over a wide area - such as the Southeast experienced during the ice storm of 2002, the conditions experienced by the northeastern US during the power failure of 2003 or during events this year in the wake of the devastating hurricanes in Florida - could and will disable the cellular communications network. Cellular systems over wide areas were indeed disabled during these events.

Our conventional land line telephones are, to a considerable degree, more dependable than the commercial power grid and the current cellular systems due to the fact that most telephone systems are equipped with a central, independent provision for backup electricity and are usually serviced - unlike most cellular towers - by a primary power

trunk line. As a result hard wired telephones usually continue to function even when the lights go out. The ease in which wireless telephones have replaced the wired variety has contributed to a sense of complacency in the mind of the public that their cell phones will, just as their land lines have in the past, be there in any emergency. This faith is, at present, in error.

A necessary step towards correcting this situation on the part of regulatory agencies, especially those agencies at the local level, lies in mandating that all wireless towers be equipped with a backup electrical power capability. This requirement must be detailed and specific as to the system's nature and performance criteria. For example, a system should be able to allow for a minimum of 100 hours of full operation with no degradation of service without refueling or maintenance.

Such provisions will necessitate additional considerations with respect to site selection and management. For example, issues such as providing safe, on-site, EPA compliant fuel storage as well as provisions for any additional public services will have to be evaluated. The prevailing backup power technology uses a conventional generator fueled by propane or natural gas. This avoids concerns arising out of the need to store and maintain on-site diesel fuel but places the burden on public agencies which may need to extend gas lines and other services to remote sites.

For both the public and private sectors, these requirements will entail additional costs in tower construction and operation. But if cellular providers wish to garner a greater market share as opposed to their land line competition, then it is a responsibility they must be willing to accept. Low interest loans, guaranteed at the local government level, possibly funded through Disaster Mitigation Grants via the Department of Homeland Security represent but one avenue to be explored.

Currently, many areas - Charlotte-Mecklenburg being one in particular - are forming Regional Radio Communications Interoperability Programs. These are largely funded by Urban Area Security Grants. The objective is to identify and address communications deficiencies which inhibit critical communications among essential agencies.

Insuring guaranteed availability of commercial cellular and the other technologies which make up our wireless infrastructure can become a critical component of assured official communications. Interestingly enough, existing protocols already provide such features as the prioritization of communications traffic based on source and/or destination. These could be used to flag and route priority essential messages and voice traffic - even in times of excessive system traffic as would be expected during an emergency.

There are side benefits to be realized. Emphasis on an emergency-hardened wireless communications network will reduce the cost and simplify the employment of auxiliary personnel for emergency services, such as the Citizens' Corps concept under review by numerous localities.

If a hardened, secure cellular network were in place, localities could, at the very least, begin to investigate the potential to move official traffic over to portions of that network. This could open the possibility of cost savings over operating and maintaining dedicated communications infrastructures.

It is especially true that access to assured communications in emergency situations by a large part of the population is a critical component in maintaining public order and cohesion.

A progressive attitude towards essential communications would also make this county a model for others and, hence, a more attractive place in which to operate.