Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
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Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks	)	EB Docket No. 06-119 WC Docket No. 06-63
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T-MOBILE COMMENTS IN SUPPORT OF PETITIONS FOR RECONSIDERATION

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T-MOBILE COMMENTS IN SUPPORT OF PETITIONS FOR RECONSIDERATION

T-Mobile USA, Inc. ("T-Mobile") respectfully submits these comments in support of reconsideration of the rule adopted by the Commission in the above captioned proceedings providing that carriers "should maintain emergency back-up power for a minimum of twenty-four hours for assets inside central offices and eight hours for cell sites, remote switches and digital loop carrier system remote terminals that normally are powered from local AC commercial power."[1/] Although this rule originally was to go in effect on August 10, 2007, the Commission extended that date to October 9, 2007. The Commission explained that this extension would "provide the Commission with additional time to consider the issues raised by CTIA in its Motion for Administrative Stay and to hear from other concerned parties on those

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1/ S*ee* Order, *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, FCC 07-107, EB Docket No. 06-119 and WC Docket No. 06-63, ¶ 77 (rel. June 8, 2007) ("*Katrina Order*").

issues."[2/] T-Mobile applauds the Commission's decision to delay the effective date while it considers the issues raised by CTIA, and files these comments in response to the Commission's invitation for input from concerned parties and in support of the petitions for reconsideration filed with respect to the rule.[3/]

As explained further below, the rule as written would present a variety of practical, technical, and legal obstacles – obstacles that would take months to navigate and that, at a number of T-Mobile's and other carriers' cell sites, likely would prove insurmountable regardless of the deadline for compliance. Installing back-up power at a cell site or mobile switching center ("MSC") is a complex task that requires a careful evaluation of the best method for providing power given the characteristics of the site at issue. In many cases, the addition of back-up power could require acquisition of more space because of physical constraints and/or regulations concerning the placement of power sources. Such space may not be available and, even if it were, securing it could require a lengthy negotiation process. In the case of rooftop and certain other sites, the issue may be more than space: some sites may not support the additional weight of batteries or other back-up power sources and, therefore, complying with the rule could require reinforcing or otherwise re-engineering the site – if such options are even available. These and other changes to cell sites would in most cases require regulatory approval by zoning

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2/ S*ee* Order, *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, FCC 07-139, EB Docket No. 06-119 and WC Docket No. 06-63, ¶ 3 (rel. Aug. 2, 2007) ("*Extension Order*").

3/ *See, e.g.*, Petition for Reconsideration of CTIA – The Wireless Association, EB Docket No. 06-119, WC Docket No. 06-63, at 13-21 (filed August 10, 2007) ("CTIA Petition"); Petition for Reconsideration of MetroPCS Communications, Inc., EB Docket No. 06-119, WC Docket No. 06-63, at 8-13 (filed August 10, 2007) ("MetroPCS Petition"); Petition for Reconsideration of NextG Networks, Inc., EB Docket No. 06-119, WC Docket No. 06-63, at 12-17 (filed August 10, 2007) ("NextG Networks Petition"); Petition for Reconsideration of PCIA – The Wireless Infrastructure Association, EB Docket No. 06-119, WC Docket No. 06-63, at 6-13 (filed August 10, 2007) ("PCIA Petition").

boards and other local bodies. Such approval may be necessary in some cases simply to install generators (and attendant fuel tanks) or battery cabinets, even if no other changes to a cell site were needed. And where cell sites or MSCs are located on private property (which is often the case), T-Mobile would likely have to renegotiate its leases. At best, such approval and renegotiation processes would be lengthy, and there is no guarantee that there would be a successful resolution permitting the installation of new back-up power facilities.

In light of these and other hurdles, T-Mobile would not be able to ensure that eight hours of back-up power was available at each and every one of its over 37,000 cell sites.[4/] To be sure, T-Mobile recognizes the importance of having appropriate back-up power. Long before the rule was issued, T-Mobile already had begun installing such power at its cell sites across the country, based upon need. Thus, in many sites in the Gulf region – which are particularly vulnerable to weather-related power failures – T-Mobile has installed more than eight and sometimes even up to twenty-four hours of back-up power. However, as to the many sites where T-Mobile does not already have eight hours of back-up power, compliance with the Commission's existing rule would not be possible in at least some cases. T-Mobile thus could be put into an untenable situation in which it would have to choose between (1) failing to comply with the requirement to add even more hours of back-up power, (2) potentially ignoring state and local laws, private lease terms, and fundamental safety and structural concerns, or (3) taking "non-compliant" cell sites out of operation, in an effort to comply with the eight-hour back-up power requirement. And that does not even account for the extraordinary costs T-Mobile would incur where compliance *would be* possible, costs that could run into the hundreds of millions of dollars.

[4/] The total of more than 37,000 sites includes all of T-Mobile's different types of sites, including its Distributed Antenna Systems (DAS).

In these circumstances, T-Mobile respectfully suggests that the current back-up power rule is not supported by the facts and the law and is not in the public interest. It looks forward to working with the Commission in the re-opened proceeding to determine, based on a full airing of all relevant facts and considerations, an alternative means to fulfill the shared goal of assuring that critical communications services are available to the public in times of emergency. While such an alternative might well require carriers to develop plans to facilitate the availability of emergency backup power, it should also take account of the need for flexibility in light of the wide range of differences in both the ability to provide back-up power at particular sites and the need for such power. For example, a greater supply of back-up power may be advisable for those areas particularly vulnerable to outages as compared to those that are not. Further, back-up power might not be necessary for *all* cell sites given that service can be maintained throughout a community during an emergency with fewer than 100% of a carrier's cell sites and that, in any carrier's network, some cell sites (e.g., those high atop a utility pole or inside a church steeple) cannot be physically equipped with back-up power. And some of the resources that might otherwise be devoted to back-up power might be better focused on other steps to support critical communication services given that service can be disrupted in emergencies for numerous reasons other than the lack of back-up power. Reconsideration will give the Commission the opportunity to consider these and other factors in formulating a more appropriate back-up power rule.

BACKGROUND

Following Hurricane Katrina, the FCC commissioned a panel of experts to assess the disaster preparedness of the nation's communications infrastructure and make recommendations for improvements. On June 12, 2006, the Independent Panel Reviewing the Impact of Hurricane Katrina issued a report containing a series of recommendations. The panel's recommendations included the following:

> [I]n order to ensure a more robust E-911 service, the FCC should *encourage* . . . [s]ervice providers, network operators and property managers [to] ensure availability of emergency/back-up power (e.g., batteries, generators, fuel cells) to maintain critical communications services during times of commercial power failures, including natural and manmade occurrences (e.g., earthquakes, floods, fires, power brown/blackouts, terrorism). The emergency/back-up power generators should be located onsite, when appropriate.[5/]

The FCC issued a Notice of Proposed Rulemaking seeking comment on the Panel's general recommendations on June 19, 2006.[6/] The Commission did not propose or seek comment on any specific back-up power requirements for communications facilities, but instead sought comment on the Katrina Panel's general recommendations. Nor did the Commission suggest that it intended to impose specific mandatory requirements. To the contrary, it characterized the panel's recommendations as "best practices" and asked how the Commission could "encourage" adoption of such practices.[7/]

In its subsequent Report and Order, the Commission adopted most of the panel's recommendations as goals or guidelines for the industry or directions to the Public Safety and Homeland Security Bureau to work with the public safety community and carriers to collect

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5/ Report and Recomms. to the FCC, Indep. Panel Reviewing the Impact of Hurricane Katrina on Commc'ns Networks, at 39 (filed June 12, 2006) ("Katrina Report") (emphasis added). The Katrina Panel's recommendation was based on guidelines issued by the National Reliability and Interoperability Council ("NRIC"). NRIC had recommended as one of its "best practices" guidelines that service providers "ensure availability of emergency/back-up power . . . to maintain critical communications services during times of commercial power failures." NRIC VII Recommendation 7-7-5204 (emphasis added); *see id.* ("Service providers, network operators and property managers should ensure availability of emergency/back-up power (*e.g.*, batteries, generators, fuel cells) to maintain critical communications services during times of commercial power failures, including natural and manmade occurrences (*e.g.*, earthquakes, floods, fires, power brown/blackouts, terrorism)").

6/ Notice of Proposed Rulemaking, *Recomms. of the Indep. Panel Reviewing the Impact of Hurricane Katrina on Commc'ns Networks*, 21 FCC Rcd 7320 (2006).

7/ *Id.* at 7326 (¶ 16).

information or assess certain concerns. The sole instance in which the Commission adopted a substantive mandatory rule was in the case of back-up power. In that one case, the Commission stated that ". . . CMRS providers should maintain emergency back-up power for a minimum of twenty-four hours for assets inside central offices and eight hours for cell sites, remote switches and digital loop carrier system remote terminals that normally are powered from local AC commercial power."[8/] The rule was supposed to go into effect on August 10, 2007.

On August 2, the Commission released a further order in which it extended the effective date of the back-up power rule to October 9, 2007.[9/] The Commission noted that this extension would "provide the Commission with additional time to consider the issues raised by CTIA in its Motion for Administrative Stay and to hear from other concerned parties on those issues."[10/] Since that time, various parties – including CTIA, , PCIA, MetroPCS, and and NextG Networks – have filed petitions seeking reconsideration of the Commission's back-up power rule, and T-Mobile files these comments in support of those petitions.

DISCUSSION

T-Mobile is committed to supporting public safety and to providing its customers with the best possible service in the event of natural disasters and other emergencies that could lead to

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8/ 47 C.F.R. § 12.2. The rule's statement that carriers "should" provide the specified amounts of backup power could be read as simply hortatory rather than providing a mandatory requirement. *See, e.g.*, *Culbert v. Young*, 834 F.2d 624, 628 (7th Cir. 1987) ("[t]he word 'should,' unlike the words 'shall,' 'will,' or 'must,' is permissive rather than mandatory"); *McDonnell Douglas Corp. v. Islamic Republic of Iran*, 758 F.2d 341, 347 (8th Cir. 1985) (holding that in context the term "should" meant a recommendation, not a mandate). That is particularly true given that the Katrina Panel recommended the installation of back-up power as a best practice, not a mandate. If the Commission intended the rule to be interpreted in this fashion and as not imposing any mandatory requirement as to the amount and location of back-up power, it should make that clear on reconsideration.

9/ *Extension Order* ¶ 3.

10/ *Id.*

a large-scale loss of service. To that end, T-Mobile provides varying degrees of battery or generator supported back-up power at approximately 95% of its cell sites, but a substantial majority of these have less than the 8 hours of back-up power the Commission's new rule would require. Some have more: T-Mobile conducted an analysis and found that certain cell site locations, particularly those in the southern region of the country around the Gulf and other coastal areas, are particularly vulnerable to service disruption due to weather-related causes. Based on its findings, T-Mobile further strengthened its power reserves in this region and maintains about eight hours of back-up power at many of these sites, and sometimes up to 24 hours of back-up power. Furthermore, most of T-Mobile's MSCs have at least twelve hours of back-up power. In total, T-Mobile's efforts to provide sensible levels of back-up power based on the likelihood of outages and other relevant factors are in keeping with NRIC's recommendations that providers ensure they can provide back-up power to critical services in times of emergency.

The current back-up power rule would go beyond this considered level of preparedness and mandate back-up power requirements that would unduly burden carriers without yielding a corresponding public benefit. T-Mobile's nationwide wireless network contains over 37,000 cell sites that would be subject to this rule. It would take months for T-Mobile to (1) assess whether and how it could bring these cell sites into compliance with an eight-hour back-up power requirement and (2) to obtain the necessary approvals to install such power where possible to do so. Moreover, it would not be possible for T-Mobile to bring some of its cell sites into

compliance with the rule at all – for example, at sites such as poles and church steeples where there simply is inadequate space to install the necessary equipment.[11/]

The Commission's Order here fits squarely within those circumstances in which the Commission has recognized that reconsideration of a rule is appropriate. In particular, as set forth below, there are "substantial or material questions of fact that were not considered and that otherwise warrant [the] review of [the] prior action."[12/] Indeed, as the petitions for reconsideration explain, the back-up power rule was adopted without the adequate notice and record support required by the APA.[13/]

Further, compliance with the Commission's rule would be "difficult, if not impossible."[14/] And more generally, "reconsideration is in the public interest."[15/] It will allow

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11/ Indeed, T-Mobile faces particular challengesas the fourth-largest national carrier. It often is required to place cell sites at less than optimal locations, where collocating with other carriers is not possible. Compliance with the FCC's rule will be even more difficult in these locations. The same is true where T-Mobile has, for competitive reasons, placed cell sites in more remote locations than some of its competitors. And finally, as a carrier that holds PCS (1.9 GHz) and AWS spectrum (1.7/2.1 GHz), T-Mobile simply requires more cell sites than its 850 MHz competitors, given the propagation characteristics of its spectrum. This, too, increases the burden – and the challenge –for T-Mobile in particular.

12/ Order, *Lancaster Communications, Inc. Request for Waiver*, 22 FCC Rcd 2438, 2446 ¶ 20 (2007) (citing Order on Reconsideration, *Definition of Markets for Purposes of the Cable Television Broadcast Signal Carriage Rules*, 16 FCC Rcd 5022, 5028 ¶ 18 (2001)).

13/ Rather than reiterate these arguments here, T-Mobile incorporates CTIA's discussion of these points by reference. CTIA Petition at 9-13; *see also* PCIA Petition at 18-19; NextG Networks Petition at 17-19.

14/ Memorandum Opinion and Order, *Amendment of Part 76 of the Commission's Rules to Add Frequency Channelling Requirements and Restrictions and to Require Monitoring for Signal Leakage from Cable Television Systems*, 101 F.C.C.2d 117, ¶¶ 21, 29 (1985) (granting petitions for reconsideration where petitioners could not comply due in part to their inability to obtain the equipment necessary to comply with the Commission's new interference rules because suppliers could not provide the required equipment by the rule's effective date).

communications services to continue unabated, without disruptions due to cell site closures or moves in areas where space limitations, lease restrictions, or regulatory requirements would make compliance with the existing rule either impossible or overly protracted. It also will ensure that – in hurrying to comply with the current rule – carriers and site managers do not rush structural or health and safety analyses and install back-up power equipment that could pose a danger to the community. The Commission should take the opportunity to either rescind its rule or adopt guidelines in its place that give carriers the necessary flexibility to establish workable best practices that enable them to effectively manage their network resources during emergencies.

I. RECONSIDERATION IS WARRANTED BECAUSE CARRIERS ATTEMPTING TO COMPLY WITH THE BACK-UP POWER RULE WOULD FACE SUBSTANTIAL IMPEDIMENTS AND COSTS THAT WOULD PREVENT FULL COMPLIANCE.

The installation of back-up power is a complex process that would have to be undertaken on a site-by-site basis for those cell sites that do not currently have eight hours of back-up power – the large majority of T-Mobile's 37,000 sites. That process, which requires navigating a series of technical, practical, and legal obstacles, would take months at minimum. Even then, compliance would not be possible for at least some of T-Mobile's sites, given obstacles such as lack of space or lease provisions at individual sites. As CTIA's petition explains, in this respect, T-Mobile is typical of many other wireless carriers, who would face similar obstacles to compliance with the existing rule.[16/]

15/ Fourth Order on Reconsideration, *In re Numbering Resource Optimization*, 22 FCC Rcd 8047, 8050 ¶ 5 (2007).

16/ *See* CTIA Petition at 13-21; *see also* MetroPCS Petition at 8 ("[T]he Commission overlooked a series of factors which make compliance the rule impractical in most situtations and impossible in many situations.").

Cell sites are located at numerous different types of locations that impose a variety of constraints on the types and amounts of equipment that can be installed. Numerous sites, for example, are located in places with very little space, such as in church steeples or on poles. Others are located in places such as schools or roofs of residential buildings in which significant safety concerns would arise from, for example, the placement of a large tank containing liquid propane fuel. Thus, there is no cookie-cutter solution to providing back-up power. Rather, if the existing rule were to remain in place, the first step would be to conduct a detailed analysis of each site to decide whether it is even possible to install back-up power and, if so, the appropriate source of that power – such as battery, generator (which in turn can by fueled by liquid propane, diesel, or natural gas), fuel cells, or solar. Trained personnel familiar with the site in question would have to conduct this analysis. Whatever option was even potentially available, in virtually all cases, T-Mobile would have to work around various constraints and obstacles. These likely would be insurmountable at some sites and would take months at others.

Space Constraints. One common problem that would have to be overcome before installing back-up power is finding adequate space. Adding back-up power takes space, whether for a battery cabinet or for a generator and fuel tank. Yet many sites do not have space available, particularly those located in areas where space is highly constrained (such as rooftops or poles). Moreover, in addition to physical constraints, regulatory and other requirements would make finding space at a cell site for a back-up power source even more difficult. For example, in the metropolitan area surrounding Washington, DC, some local governments limit the area that can be used to house battery cabinets or back-up power equipment to 25% or less of the total surface

of a rooftop.[17/] T-Mobile is already pushed to the space limit at many buildings in the Washington metro area, and this has resulted in rejection of collocation requests in the past.

Federal and local rules also would create specific space challenges for the use of generators: for example, in the case of liquid propane-fueled generators, OSHA requirements mandate a 10-foot-radius clearance between the liquid propane fuel tank and its ignition source.[18/] This type of of public health and safety restriction can substantially increase the amount of space needed to install a back-up power source.

The required space may not be available in many cell sites. In some cases, T-Mobile might be able to acquire more space, either on the site itself or at a nearby location that can be connected to the cell site (assuming the latter is permissible under the rule). But such space might not be immediately available for rent or sale and – even if it were – acquiring it would require time-consuming negotiations without any guarantee of success.

Weight. Another obstacle carriers would have to overcome at some sites before installing back-up power is constraints related to weight. The batteries used to generate back-up power weigh over 100 pounds each, and multiple batteries are required to provide the eight hours of power mandated by the new rule. Therefore, in many cases T-Mobile would be required to negotiate approvals from private landlords or from zoning boards to place 600-1,000 pounds of additional weight at many cell sites. These issues would prove even more difficult at multi-

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17/ *See, e.g.*, Fairfax County Zoning Code § 2-5141.J; Montgomery County Zoning Code § 59-A-6.14(a).

18/ OSHA Health & Safety Construction-related Regulations – Fire prevention § 1926.151 (c)(5) ("No combustible material shall be stored outdoors within 10 feet of a building or structure.")

carrier sites, where compliance could require the addition of several thousand pounds of additional weight.

Building codes can restrict the weight of equipment placed on roofs, thereby limiting T-Mobile's ability to add batteries or other back-up power sources to rooftop cell sites and/or requiring it to go through a permitting process.[19/] In other cases, lease restrictions mandated by private landlords do not permit additional weight to be added to rooftop cell sites. Even where such modifications are permissible, T-Mobile would have to spend the time to analyze whether a roof site would support the additional weight and, if not, provide additional structural or roof supports (if possible). This process would be even more complicated in the case of multi-carrier sites.

Regulatory Permits and Approvals and Lease Re-Negotiations. In numerous jurisdictions, T-Mobile would have to seek approval from local zoning boards to add generators, additional battery back-ups, or other back-up power sources such as natural gas line feeds or fuel cells. Local officials often deem the addition of new equipment a "material change" to an existing, approved cell site plan, and require T-Mobile to seek new approvals for these changes. In New Jersey, for example, depending on the scope of the changes needed at a particular site to install back-up power, T-Mobile might have to return to the land use planning boards in up to 566 municipalities. In a condition typical of many other localities, the approval for T-Mobile's special permit to place a cell site in Mount Vernon, NY provides that "[n]o additional and/or

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19/ *See, e.g.*, New York City Admin. Code § 27-561(d)(5) ("Where equipment is placed on roofs, the design shall provide for the support of such equipment."); *Id.* at § 27-557(b)(2) ("Floors that support any items of machinery, electrical or mechanical equipment, or other concentrated live load in excess of one thousand pounds (including the weights of pads or bases) shall be designed to support such weight as a concentrated load or group of concentrated loads.") (applicable also to roofs, via § 27-561(c)).

different equipment and/or devices *of any kind* shall be installed at the facility site without the prior approval of the Planning Board. If such additions occur the special permit shall be revoked."[20/] That requirement would appear on its face to cover generators or battery cabinets. To the extent T-Mobile needed to make major changes in addition to new equipment – such as re-engineering a site, or adding space – or to the extent it might even need to acquire a new cell site, such local authorization would be even more inevitable.

Obtaining approval for changes to cell sites from local zoning boards is a time-consuming exercise, and approval is not guaranteed. T-Mobile would have to apply on a site-by-site basis, and the process might require the preparation and submission of detailed construction plans (as well as environmental and noise level studies) for review.[21/] All of this would present a serious roadblock to compliance with the Commission's rule – and the Commission provided no guidance regarding how local and other federal laws might affect carriers' obligations. If the Commission intended to preempt other legal requirements, it did not make that clear.

T-Mobile has been working over the last couple of years to include or enhance back-up power resources on many of its cell sites. In this process, it has often faced resistance from zoning boards and members of the public when seeking approval for changes to its cell sites or

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[20/] Condition 3, *Resolution of the City of Mount Vernon Planning Board Approving the Special Permit Application of T-Mobile dba Omnipoint Communications*, Resolution No. 18-2004 (2004) (emphasis added).

[21/] In municipalities near Philadelphia, Pennsylvania, for example, local ordinances require that T-Mobile prepare and submit an amended site plan to local zoning boards prior to installing any new back-up power sources at its cell sites. And, in some cases, the ordinances may also require T-Mobile to obtain a Special Exception or Conditional Use Approval before installing additional back-up power sources at sites. Pennsylvania's municipal zoning system means that T-Mobile's attempts to add additional back-up power at its cell sites could be subject to approval under differing regimes established by the 2,565 separate municipalities with zoning authority in the state.

permission to add additional sources of back-up power, such as generator fuel-tanks, batteries, or fuel cells. That is particularly true where cell sites are located on school properties or other similar sites. If a zoning board or local authority refused to permit T-Mobile to make the required changes, that might raise difficult issues of preemption in which the Commission would have to get involved.

Even apart from the need for permits and approvals, the back-up power rule would require T-Mobile to re-negotiate numerous leases for buildings and other locations in which it leases space from private landlords. For example, T-Mobile estimates that the majority of the leases at such cell sites currently do not allow for the installation of permanent generators. T-Mobile undoubtedly would encounter resistance as it negotiated the right to add batteries or generators in such spaces, and there would be no way to compel such landlords to agree to the requisite modifications. Lease negotiations would also be necessary to the extent more space were required from existing landlords.

In even the best-case scenario, the process of obtaining the requisite approvals from land use boards and similar local authorities and re-negotiating leases could take months if not years. In certain locations, such approvals can often take in the range of 18 to 36 months. And even then T-Mobile almost certainly would not succeed in securing approvals for the necessary modifications to all its cell sites.

Public Health and Safety Issues. Because power sources involve lead (in the case of batteries) or the storage and burning of fuel, the back-up power rule also would implicate a myriad of statutes and codes designed to deal with public health and safety issues. At the very least, these laws also impose additional hurdles that T-Mobile would have to clear before installing back-up power. For example, local building codes impose detailed requirements for

plans and permits related to the construction of fuel-burning equipment or fuel storage.[22/] Similarly, many state and local governments have laws that require carriers to obtain permits before installing new diesel generators (or any other source of regulated pollutants) at cell sites.[23/] Virtually all localities have ordinances that limit or regulate the amount of noise that can emanate from power sources such as generators. Further, the installation of back-up power can implicate various federal environmental statutes such as the Clean Air Act, the Clean Water Act, and the Emergency Planning and Community Right-to-Know Act. Once again, these various requirements would block T-Mobile from being able to comply at some sites and, at the very

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[22/] *See, e.g.*, New York City Admin. Code § 27-182 ("[A]pplications for equipment work permits shall be accompanied by plans in the following cases and in accordance with the following requirements: … (c) Fuel-burning and fuel-oil storage equipment. Plans for fuel-burning equipment and fuel-oil storage equipment shall contain at least the following data and information: (1) The kind or grade of fuel to be used. (2) The location, arrangement, size, load, and maximum capacity of the burning, storage and fuel-pumping equipment. (3) The method or means of providing air to the equipment space, showing duct and opening sizes. (4) The location, size, and materials for all breechings; the height and size of all chimneys and gas vents; the thickness and type of all insulation materials; and the clearances from combustible walls, partitions, and ceilings.(5) Diagrams of all piping, including vent and fill piping for oil systems, and all safety cut-off and relief devices and valves in piping.")

[23/] In California, for example, companies must demonstrate compliance with the State's emission limits for stationary diesel generators prior to installing certain diesel generators. *See* Cal. Code Regs. tit. 17, § 93115(e)(4). Pursuant to that law, many local air quality districts in California require that such generators receive a permit before installation. *See, e.g.*, San Diego Air Pollution Control District, Rules and Regulations, Rules 10, 10.1, 11(a)(5), *available at* http://www.sdapcd.org/rules/rules/REG2.html (last visited August 31, 2007). Many town and city governments require permits for the installation of diesel generators of any size. *See, e.g.*, City of Rockville, Emergency Generator Installation Requirements, *available at* http://www.rockvillemd.gov/residents/inspections/generator.htm (last visited August 31, 2007).

least, slow the process by which T-Mobile could lawfully modify sites to support the equipment required by the current back-up power rule.[24/]

II. ON RECONSIDERATION, THE COMMISSION SHOULD ADOPT A MORE FLEXIBLE ALTERNATIVE.

Installing and maintaining eight hours of back-up power at every cell site would not only be extraordinarily burdensome and costly, but it is not necessary to fulfill the goal of supporting critical communications services during an emergency. As described above, T-Mobile has determined based on its experience and analysis that the need for back-up power varies based on numerous factors. For example, certain cell sites, such as those along evacuation routes or in likely emergency shelter areas, might be truly critical and warrant substantial back-up power. Conversely, 100% cell-site coverage is often not necessary to continue to provide service to an affected area because service can be maintained with fewer, and in many cases far fewer, than all of a carrier's cell sites. The FCC Network Reliability and Interoperability Council – NRIC –

[24/] The upgrades that would be required to comply with the back-up power rule also would be prohibitively expensive. While the Commission suggested that compliance with the new rule would not pose an "undue burden" for wireless carriers, Report and Order, *Recomms. of the Indep. Panel Reviewing the Impact of Hurricane Katrina on Commc'ns Networks*, 22 FCC Rcd 10541, ¶ 78 (2007) ("*Katrina Order*"), that conclusion has no record basis. In fact, the cost of supplementing all of T-Mobile's sites to achieve eight hours of back-up power universally would be upward of $12,000 per site in capital investment – before taking into consideration recurring costs such as maintenance and fuel. Thus, the one-time cost to ensure that all of T-Mobile's cell sites have the requisite back-up power would run into the hundreds of millions of dollars. This enormous cost would be unjustified. A more cost-effective and appropriate solution might be to prioritize sites based on considerations such as likelihood of outages, which would allow resources to be better spent on other steps to address emergency preparedness and related issues.

recognized the need to focus on such critical infrastructure as well.[25/] Further, in some areas of the country, the likelihood of outages may be particularly high, warranting investment in eight hours or even more back-up power. In other areas, the absence of back-up power may not be the most likely or significant cause of lack of availability of service, and it might make more sense to focus on other potential vulnerabilities (e.g., flooding of sites). In short, there may be any number of more appropriate, better targeted alternatives that will maximize the chance of maintaining service during an emergency more effectively and efficiently than a uniform eight-hour backup power requirement.

Because a one-size-fits-all rule cannot take account of the numerous factors that help determine the appropriate amounts and locations of back-up power – and because, as described above, physical, practical, and legal constraints would prevent compliance with a uniform eight-hour rule for at least some cell sites – the Commission should adopt guidelines that provide carriers with the necessary flexibility to formulate back-up power plans that take into account conditions in the real world, while ensuring critical coverage for wireless users in the event of an emergency as the NRIC Panel recommended. Further, any guidelines the Commission does adopt must recognize that carriers may require varying amounts of time to overcome the challenges involved in bringing back-up power to some sites, and that in some cases, more creative or alternative solutions will have to be put in place for certain sites where power options

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[25/] For example, NRIC's recommendation concerning back-up power provides that "Service Providers, Network Operators, Equipment Suppliers and Property Managers should ensure that all critical infrastructure facilities, including the security equipment, devices and appliances protecting it, are supported by backup power systems (*e.g.*, batteries, generators, fuel cells). NRIC Recommendation 7-7-5058; *see also* NRIC Recommendation 7-7-5204 (" Service Providers, Network Operators and Property Managers should ensure availability of emergency/backup power (*e.g.*, batteries, generators, fuel cells) to maintain critical communications services during times of commercial power failures, including natural and manmade occurrences (e.g., earthquakes, floods, fires, power brown/black outs, terrorism).").

may be limited. The approach that would best take such considerations into account is for the Commission to embrace NRIC's general back-up power recommendation as an industry "best practice," and then to leave to individual carriers – who already have shown a profound commitment to emergency communications support – the specifics of compliance. This approach would advance the goal of supporting the availability of critical communications services during times of emergency, while taking account of the real-world constraints and costs of installing and maintaining back-up power across tens of thousands of sites across the country.

CONCLUSION

For these reasons, the Commission should reconsider the back-up power rule adopted in its *Katrina Order* and in its place, either rescind the rule altogether or adopt guidelines that give carriers the flexibility to account for the numerous relevant factors in determining the appropriate amounts and locations of back-up power.

Respectfully submitted,

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September 4, 2007

ATTESTATION OF BRIAN KING

I, Brian King, attest to the best of my personal knowledge (which includes knowledge based on information provided to me by others), the foregoing Comments of T-Mobile USA, Inc. in support of the Petition for Reconsideration filed by CTIA – The Wireless Association® in EB Docket No. 06-119 and WC Docket No. 06-63 are true and correct.

Executed on 8/31, 2007.

Brian King
Vice President, Network Operations
T-Mobile USA, Inc.